

# 2021 TAMPA BAY E-INSIGHTS REPORT



STATE OF THE  
**REGION**

THE 2021 E-INSIGHTS REPORT IS PRODUCED BY THE MUMA COLLEGE OF BUSINESS AT THE UNIVERSITY OF SOUTH FLORIDA, A PREEMINENT RESEARCH UNIVERSITY, AND IS AFFILIATED WITH THE STATE OF THE REGION INITIATIVE.

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We are excited to present the 2021 Tampa Bay E-Insights Report that unveils new research tracking the economic competitiveness and growth of the Tampa Bay region.

A companion piece to the Regional Competitiveness Report, which presents research conducted by the Tampa Bay Partnership, this report is multi-dimensional quantitative assessment that examines where we are compared to top markets nationwide and explores the steps policymakers could take to create a more vibrant, more inclusive economy. By an inclusive economy, we mean one where everyone has a chance to earn a good living and achieve their dreams, one where all have access to resources, such as transit and education, that lead to jobs where they can earn a livable wage.

This work is timely and important as it includes inquiries into two issues that dominated discussions and headlines this year. The first is the COVID-19 pandemic and its impact on the economy. The second is the social movement focusing on racial equity and inclusive growth. Our scholars used real-time big data and rigorous quantitative methods to analyze the regional economy as well as these topics.

### **What Gets Measured is What Gets Done.**

One could ask why the USF Muma College of Business has taken on this initiative. We are a business school and we focus on creating future talent by providing an outstanding business education. But we do so much more than provide information in a classroom. We equip students with the skills and knowledge needed to take leading positions in business and society. And one of the ways we do that is by focusing on analytics and creativity, using our faculty expertise to contribute to the well-being of the greater community while providing opportunities for our students to conduct relevant business research. Graduate students worked alongside our faculty on this inquiry, gathering and analyzing data and preparing this report, giving them a learning opportunity that is beyond measure.

To improve the region's health, we must know where we stand relative to similar and aspirant communities. After all, what cannot be measured cannot be improved effectively. However, we do not want to stop there. We want to take a scientific approach and work closely with the business community and policymakers to improve the economic health of the region and to make the Tampa Bay area a very attractive destination for both businesses and the people who work in them. Understanding that what gets measured is what gets done, we can then gauge our progress and make timely and effective recommendations that can lead to maximum impact. Data is the key.

### **Real-Time Signals, Real-Time Findings**

One unique feature of this project is its multi-dimensional approach to derive insights about the region. We used real-time big data signals – such as Google Trends and real-time consumer/business spending data – and statistics from traditional economic indicators to derive a holistic picture of the economic health of the region and the impact of the COVID-19 pandemic. Furthermore, we employed econometric and simulation methods to identify policy initiatives that could boost the inclusive economic growth of the region.

The analysis reveals that the Tampa Bay region is relatively less impacted by COVID-19 – at least economically – when compared to other major metropolitan statistical areas in Florida, such as Miami and Orlando.

The research also reveals that we have made some modest gains when it comes to racial inequality but we have much room for improvement, particularly as it relates to meaningful and inclusive growth.



## Improving The Tampa Bay Area's Competitive Position

From our analysis, we have identified two key areas that need the attention of policymakers: higher education and public transit infrastructure. Higher education empowers underprivileged youth with the necessary skill set and provides access to opportunities that help them improve their economic situation and, hopefully, to emerge from poverty. Adequate public transit infrastructure gives those in the lower income strata easy and affordable access to education, work and health care.

We strongly believe that the best way to predict the future is to shape it. Using the latest tools and research techniques, we can understand where we are and see how policy changes might shape our future.

Enjoy our report,

A handwritten signature in black ink that reads "Moez Limayem".

Moez Limayem,  
Lynn Pippenger Dean  
USF Muma College of Business

## About the USF Muma College of Business

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

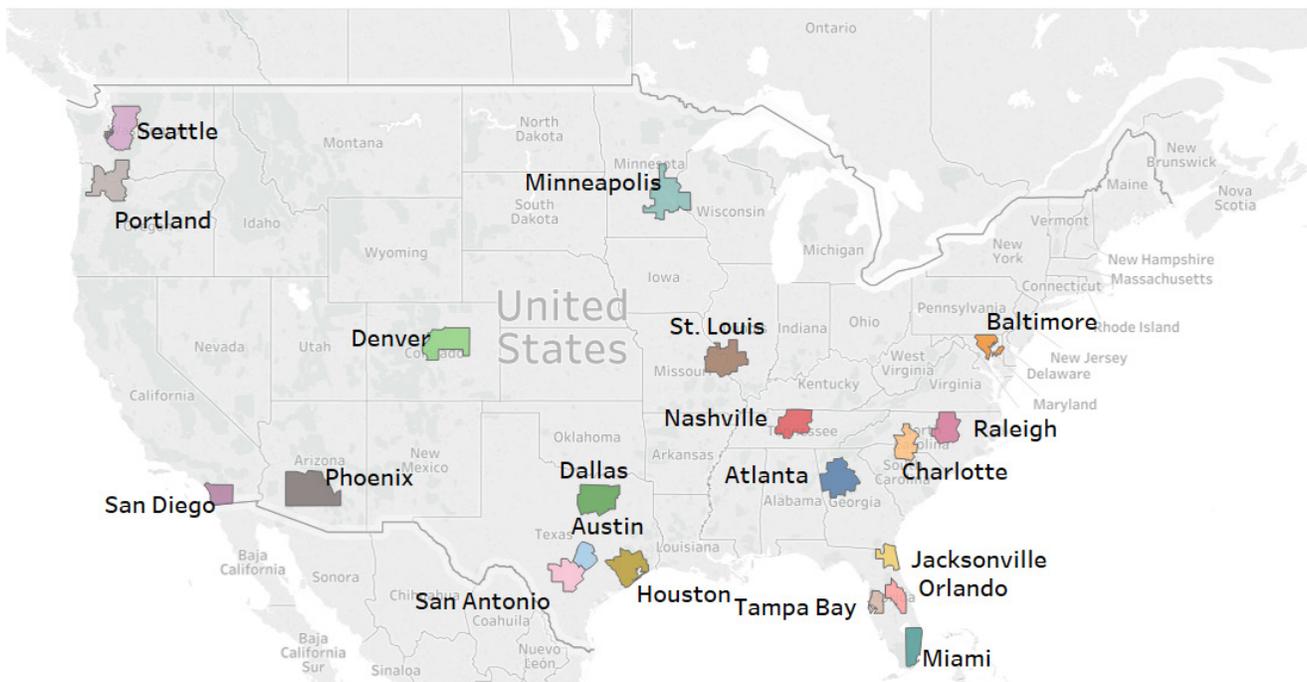
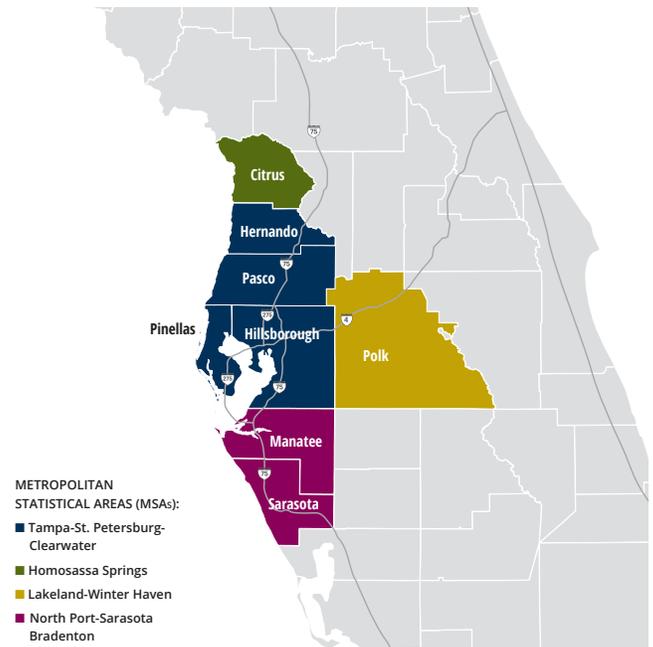
- **Mission:** We emphasize creativity and analytics to promote student success, produce scholarship with impact and engage with all stakeholders in a diverse global environment.
- **Strategic Vision:** We aspire to be internationally recognized for developing business professionals who provide analytical and creative solutions in a global environment.

# 2020 Tampa Bay E-Insights Report

Tampa Bay E-Insights report examines the economic performance of the Tampa Bay region relative to 19 other comparable Metropolitan Statistical Areas. These MSAs were selected based on factors such as demographics, 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 the Tampa Bay region.

In this report, the Tampa Bay MSA is defined as the region consisting of eight counties: Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk and Sarasota. The 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 the Tampa Bay region is aggregated for the four MSAs. All MSAs studied are shown in the map below.

This report analyzes the performance of the Tampa Bay region and presents an analysis of drivers of economic competitiveness. It consists of three distinct components: examination of economic competitiveness of Tampa Bay region, study of the impact of the COVID-19 pandemic on the economy of the Tampa Bay region, and inclusive growth and racial equity in Tampa Bay region.



# Table of Contents

**2.** Introduction

**7.** Authors

**8.** Executive Summary

**10.** Section 1: Economic Competitiveness

**11.** Unemployment Rate

**12.** GRP Per Capita

**13.** Poverty Rate

**14.** Supplemental Poverty Measure

**15.** Household Debt-to-Income Ratio

**16.** Economic Competitiveness Key Takeaways

**17.** Inclusive Growth and Racial Equity

**18.** Income Inequality (Gini Index)

**19.** Economic Mobility

**21.** Food Insecurity

**23.** Black-White Unemployment Rate Gap

**24.** Black-White Poverty Rate Gap

**25.** Black-White Labor Force Participation Rate Gap

**26.** Black-White Education Attainment Rate Gap

**27.** Black-White Digital Access Gap

**28.** Black-White Labor Transportation to Work Gap

**29.** Key Insights on Racial Equity and Inclusive Growth

**30.** Drivers of Economic Growth

**32.** Analysis of Driver Results

**33.** Business Establishment Entry Rate

**34.** Educational Attainment Rate

**35.** Labor Force Participation Rate

**36.** Median Household Income

**37.** STEM Degree Per Production Capita

**38.** Transit Availability

**39.** Section 2: Impact of COVID-19 on the Economy

**41.** COVID-19 Incidence Rate

**43.** COVID-19 Impact on Unemployment Rate - Percentage Change

**45.** COVID-19 Impact on Small Business Revenue

**47.** COVID-19 Impact on Consumer Spending

**49.** COVID-19 Impact on Urban-Suburban Rental Demand

**51.** Key Insights from COVID-19 Analysis

**52.** Signals on COVID-19 Impact from Google Trends

**53.** COVID-19 Disease Concern

**54.** Employment Concern

**55.** Local Commerce

**56.** Online Retail

**57.** Travel

**58.** Search for Assistance

**59.** Divorce Lawyers

**60.** Domestic Abuse

**61.** Family Fun

**62.** Key Takeaways from Google Trends Analysis

**63.** Real-Time Signals on Job Opportunities

**64.** Job Openings

**67.** Key Takeaways from Job Openings Analysis

**68.** Final Key Takeaways

**69.** Next Steps



# 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 three 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. One salient feature of this analysis is that it uses real-time big data signals such as Google search 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.

This year, the E-Insights report assumes more importance than ever. The COVID-19 pandemic had a significant adverse impact on the regional economies across the nation. Scholars used real-time big data signals to compare the impact of COVID-19 on the economy of Tampa Bay with 19 other MSAs. This could help the leadership of this community to take appropriate measures to bring the region out of the recession created by the pandemic.

Another issue that has dominated the headlines, conversations and actions this year is the fight for racial justice and equity. In this report, researchers also focused on the performance of the Tampa Bay region on the parameters related to racial equity and inclusive growth. This analysis could help civic leaders to channelize investment in necessary directions to bridge racial gaps.



# Authors and Contact Information

## Faculty



### **Moez Limayem**

Dean, Muma College of Business  
mlimayem@usf.edu



### **Balaji Padmanabhan**

Director, Center for Analytics & Creativity, Muma College of Business  
bp@usf.edu



### **Shivendu Shivendu**

Associate Professor, Muma College of Business  
shivendu@usf.edu

## Graduate Students



### **Roohid Syed**

Information Systems doctoral student, USF Muma College of Business  
roohidahmed@usf.edu



### **Sharon Neethi Manogna Vuchula**

MS in Business Analytics & Information Systems student, USF Muma College of Business  
vuchula@usf.edu



### **Gokul Shanth Raveendran**

MS in Business Analytics & Information Systems student, USF Muma College of Business  
gokulshanth@usf.edu



### **Yusi Wei**

MS in Business Analytics & Information Systems student, USF Muma College of Business  
yusiwei@usf.edu



### **Munja Dnyanoba Solanke**

MS in Business Analytics & Information Systems student, USF Muma College of Business  
msolanke@usf.edu

# Executive Summary

The report presents analysis along three dimensions: 1) Analysis of the performance of the Tampa Bay region relative to traditional indicators and identifying the drivers of economic growth, 2) Understanding the impact of COVID-19 on the Tampa Bay area's economy, and 3) Analysis of the performance of the region along the lines of racial equity.

It presents the key insights from the analysis by the USF team and presents both trend analysis and results of the statistical analysis identifying the drivers of economic growth. The goal of this is not mere benchmarking the Tampa Bay region with respect to other MSAs. USF researchers also identify drivers of economic growth and present policy recommendations.

As noted previously, in addition to measuring regional performance as the team has done for the last several years, this report also presents an analysis of the impact of COVID-19 on the regional economy. Other than conventional data measurers such as small business revenue, consumer spending, scholars used real-time signals such as Google search trends to observe the impact of COVID-19 on purchasing pattern of the consumers.

## **Key Takeaways: Economic Competitiveness**

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

In terms of unemployment rate and poverty rate, the Tampa Bay MSA is positioned in the bottom half of the comparison group. In terms of GRP per capita, the Tampa Bay area lands at rock bottom. It is clear that the region needs a more cohesive, stronger action plan in these areas in order to keep up with other top performing MSAs.

## **Key Takeaways: Inclusive Growth and Racial Equity**

Income inequality in the Tampa Bay region declined in 2019. The economic indicators reflect a declining racial gap over the years for all the MSAs including Tampa Bay. Also, the Tampa Bay region performs relatively better on the indicators of Black-white labor force participation gap and Black-white educational attainment gap. However, the Tampa Bay area still lags in a couple of indicators, such as the Black-white unemployment rate gap and Black-white digital access gap.

## **Key Takeaways: Drivers**

Researchers found that there are three key drivers that could lead to greater gains related to inclusive growth and racial equity. These are improvements to transit infrastructure, access to higher education and labor force participation.

## **Key Insights from the COVID Impact Analysis**

The Tampa Bay MSA has the least COVID-19 Incidence rates followed by the Orlando and Jacksonville MSAs. However in terms of unemployment rate, the Jacksonville MSA performed best, followed by

the Tampa Bay region. While the region did not fare as well as Jacksonville, the Tampa Bay MSA has been relatively less impacted by COVID-19 as compared to the Miami and Orlando MSAs. Both the COVID-19 incidence rates and unemployment rates for the Tampa Bay region have been lower than those in Miami and Orlando. All MSAs had a dip in the consumer spending and small business revenue measurements beginning in mid-November.

When it comes to small business revenue, data that is available at the city level, researchers again saw that Jacksonville had less of an impact than Tampa but that the City of Tampa fared better than the City of Orlando and City of Miami.

The analysis indicates that the Tampa Bay region is on the path of recovery. In terms of consumer spending, the Tampa Bay region has recovered to the 100 percent of January value by mid-October. The unemployment rate for all the MSAs, including Tampa Bay, is declining which is, of course, a positive sign.

One insight from the analysis worth noting is that, contrary to the popular opinion, the analysis did not show any evidence for the changing relative demand for rental properties in urban and suburban regions of MSAs.

### **Key Takeaways from Google Trends Analysis**

The Tampa Bay MSA has been moderately impacted by COVID-19 in terms of employment. Local commercial activity at the lowest level in April during the lockdown. However, Tampa Bay, along with other MSAs, is on the path of recovery. Travel activity in the region is recovering after touching the lowest point in April. Among the comparison MSAs, travel activity in the Tampa Bay region has consistently been higher than majority of the MSAs.

The popularity of search term “divorce lawyers” on Google has increased in the Tampa Bay MSA throughout 2020.

### **Key Takeaways from Job Openings Analysis**

When evaluating job openings, researchers find that the Tampa Bay MSA ranks in the lowest quantile. Researchers looked at services sector openings and found that while the number of job openings for finance, information technology and retail suffered a dip in April, these areas are also the areas with the most job openings in the area, reflecting an upward trend in the later months of 2020.

# Section 1: Economic Competitiveness

In this section, researchers analyzed the performance of the Tampa Bay region's economy, looking indicators broadly measure the economic growth and prosperity of a region. The specific indicators used were the unemployment rate, gross regional product per capita, the poverty rate, the supplemental poverty measure, and the household debt-to-income ratio, using the years 2008-2019.

The data sources for these indicators are the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis and the U.S. Census Bureau. These sources provide data at the MSA level. For 18 MSAs, researchers pulled data from directly from the sources. However, for the Raleigh-Durham MSA, which consists of two MSAs (Raleigh MSA and Durham-Chapel Hill MSA) and the Tampa Bay region, which consists of four MSAs (Tampa-St. Petersburg-Clearwater MSA, Northport-Sarasota-Bradenton MSA, Homosassa Springs, and Lakeland-Winter Haven), scholars aggregated the data from the MSA level to the regional level by taking weighted average using population as the weight. For each economic indicator, the definition and the data source are mentioned at the beginning of the page of that indicator.

Three charts are presented for each of the economic indicators. In the first chart, researchers present the snapshot of the indicator values for all the MSAs for three years: 2008, 2015 and 2019. The second chart presents the trend for four to five MSAs, including the Tampa Bay MSA. For these trend charts, researchers present the Tampa Bay MSA data alongside the best performing MSA, the worst performing MSA, and one or two MSAs that have shown moderate performance. The third chart illustrates the changes in the competitive positions of four to five MSAs, including the Tampa Bay region, over time. For determining the competitive position of a MSA in a year, researchers rank-order the MSAs based on performance of MSAs on that indicator for each year. The best performing MSA is ranked No. 1; the worst performing MSA is ranked No. 20. Finally, key takeaways are presented for each indicator after the graphical charts.

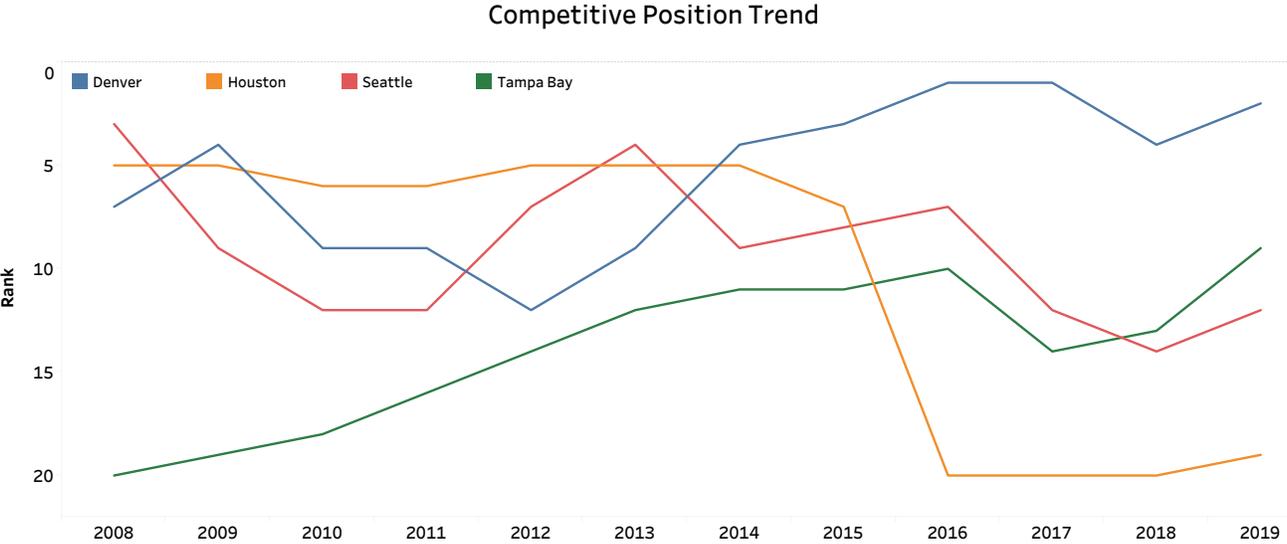
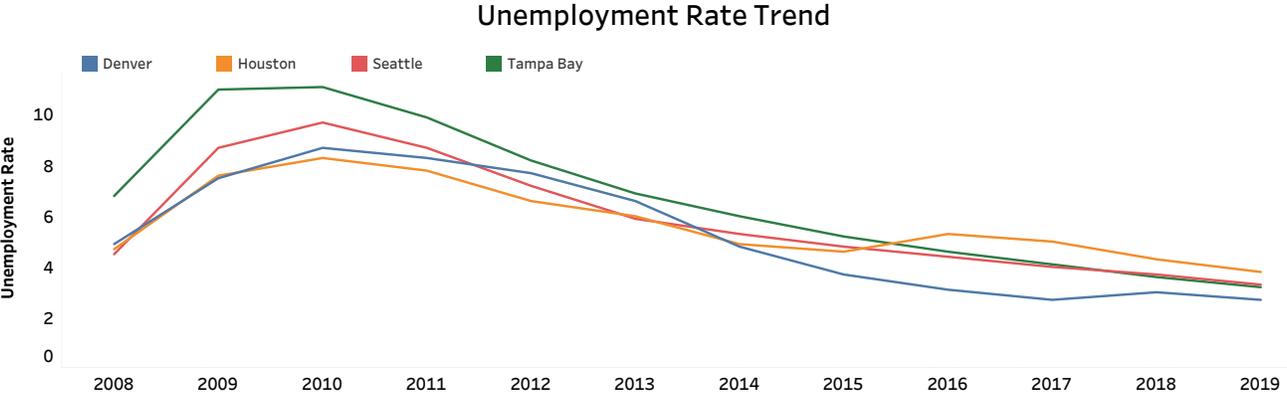
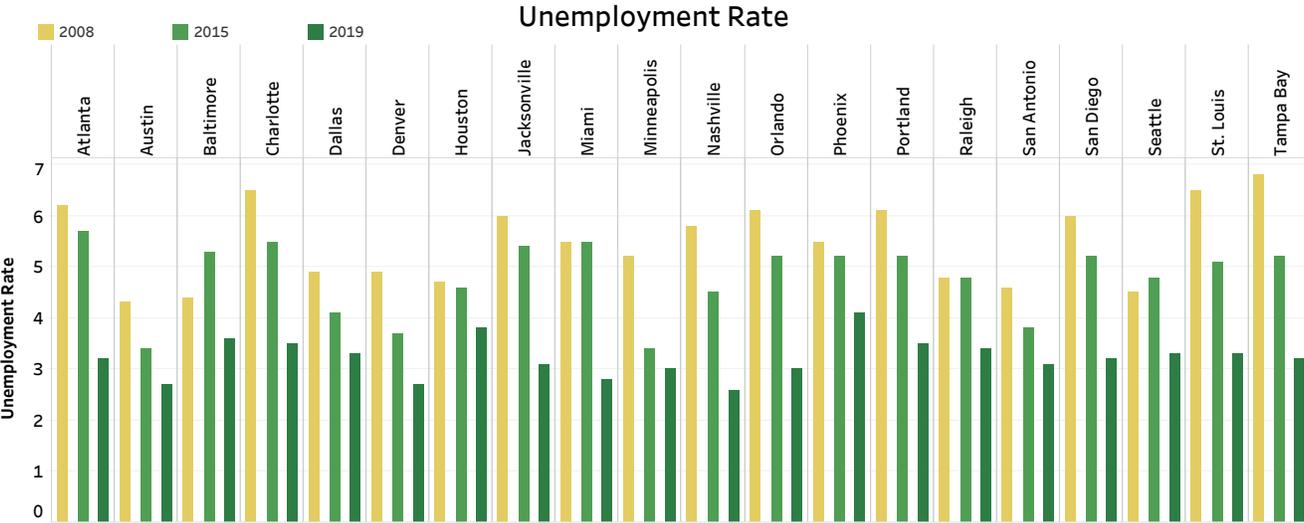


# Unemployment Rate

## Insights

- The unemployment rate for the Tampa Bay MSA, as with most of the comparison MSAs, has consistently declined since 2010.
- In terms of competitive position, the Tampa Bay MSA has registered steady increase all years except 2017.

**About:** Measures the share of the labor force that is jobless. Generally, an individual is considered unemployed if he or she is willing and able to work but unable to find a job.  
**Source:** U.S. Bureau of Labor Statistics, local area unemployment statistics.



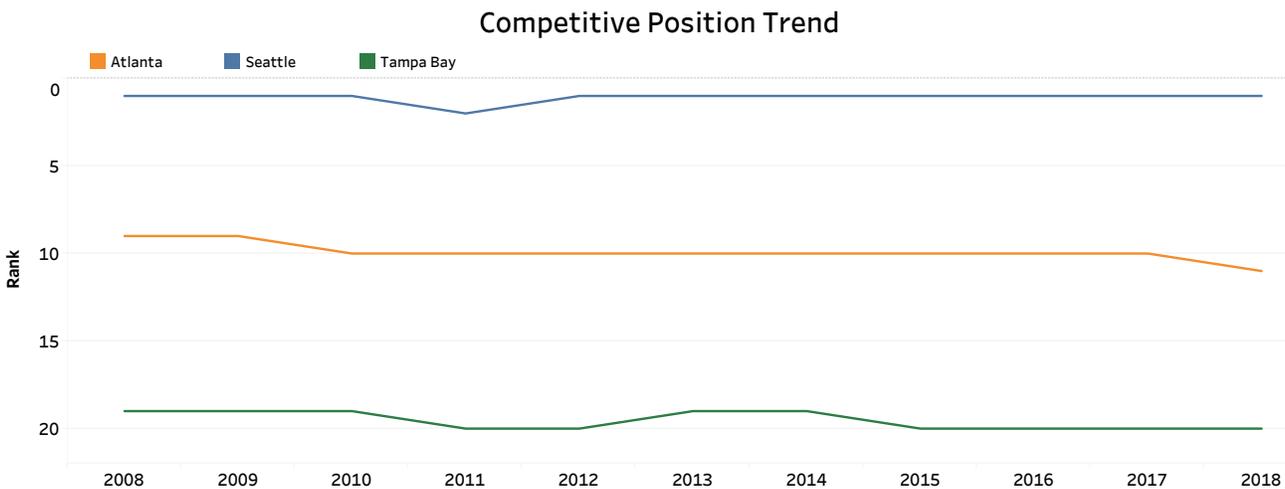
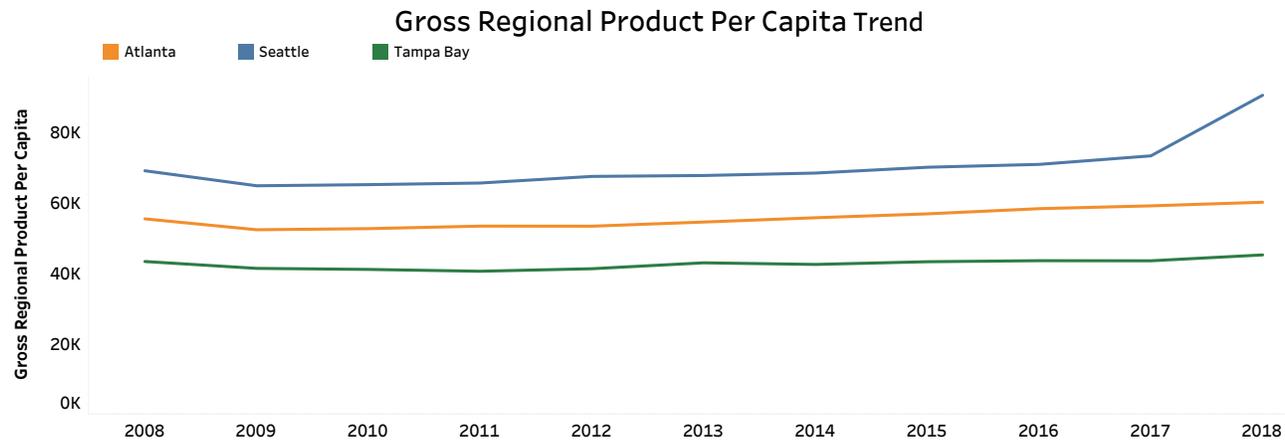
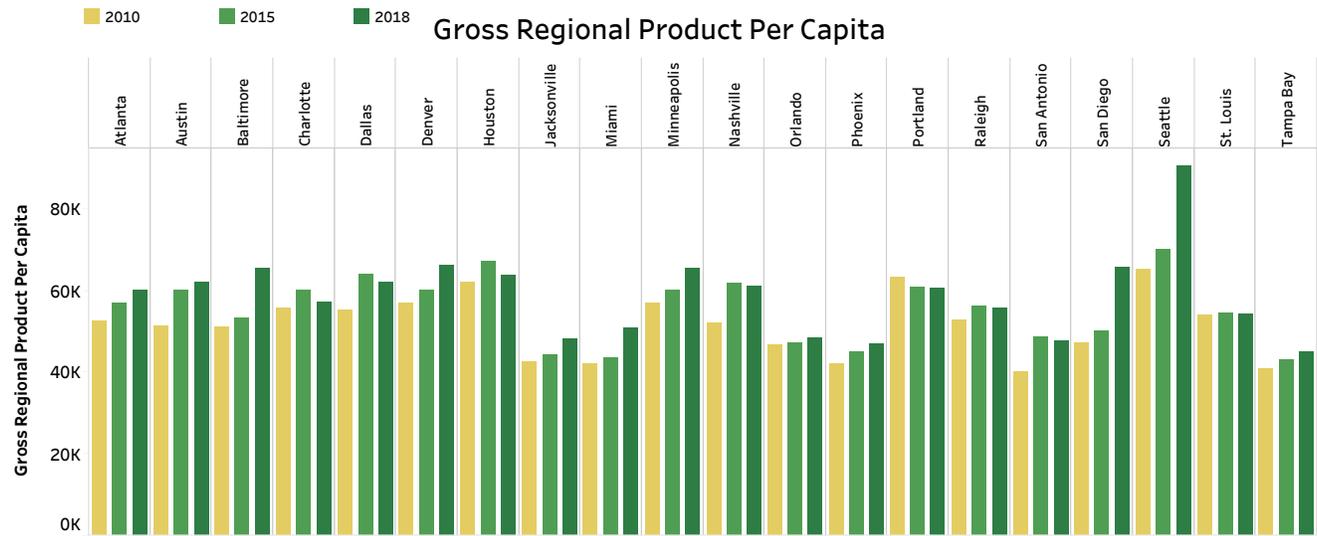
# Gross Regional Product Per Capita

## Insights

- The Tampa Bay MSA has stood at the last position for most of the years.
- Seattle has consistently ranked No. 1.
- Florida MSAs rank relatively low among the comparison group.

**About:** This measurement divides the Gross Regional Product, the value of all goods and services produced in the region, by the population of the region.

**Source:** U.S. Bureau of Economic Analysis, Regional Data, Per Capita Real GDP



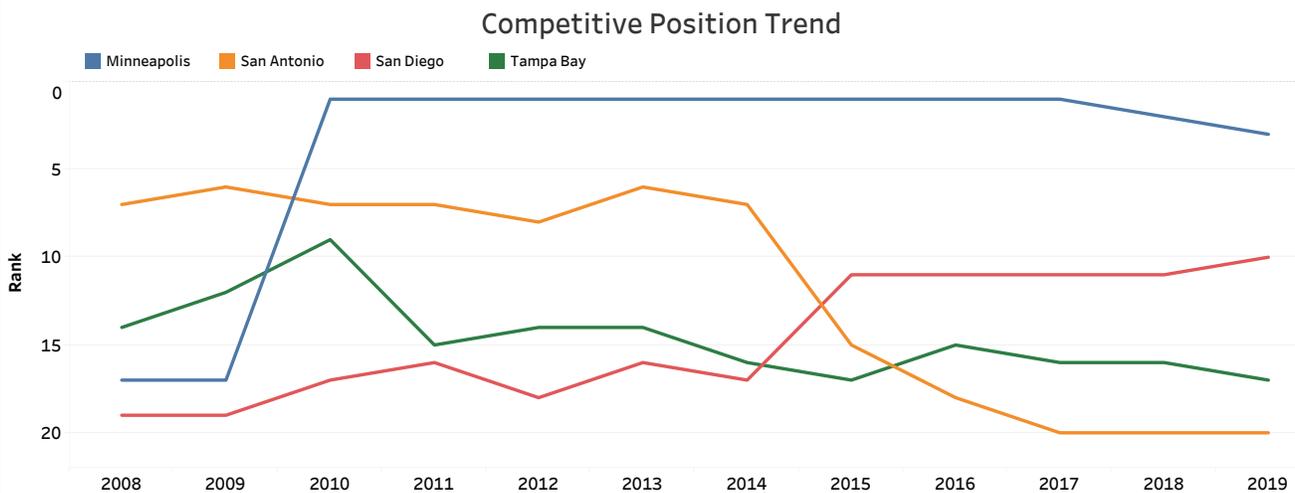
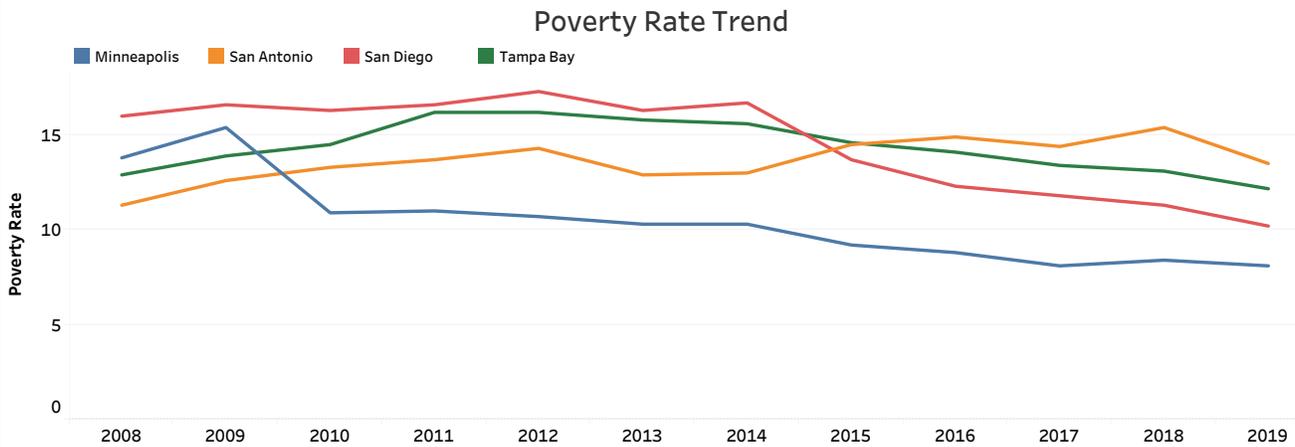
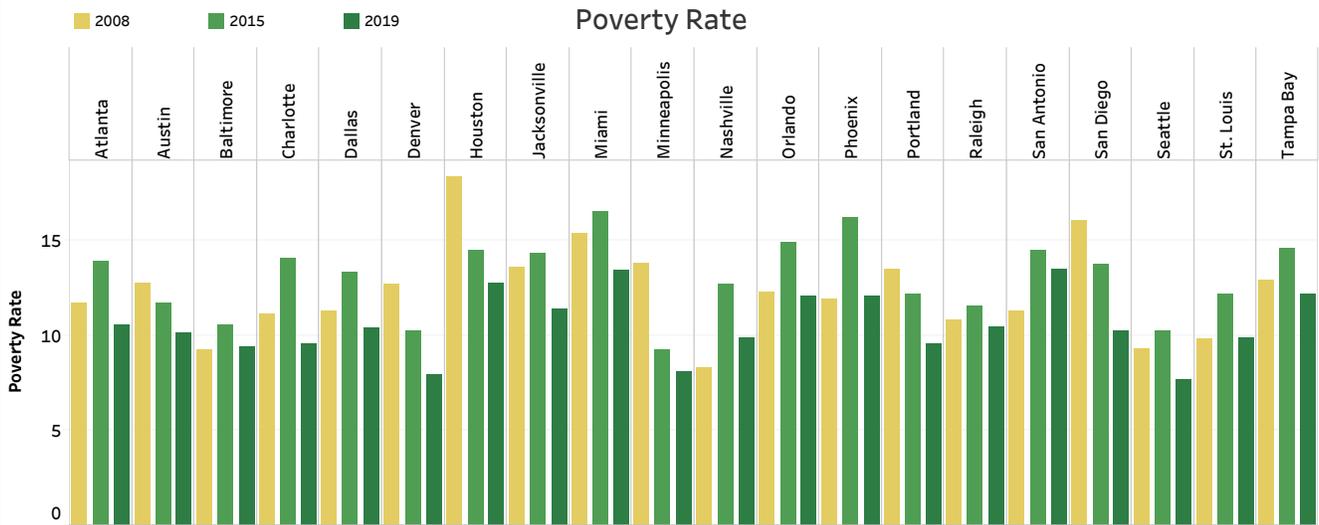
# Poverty Rate

## Insights

- Minneapolis has consistently ranked No. 1.
- The Tampa Bay MSA's poverty rate increased from 2008 to 2011 and has been declining since then.
- However, in terms of competitive position, the Tampa Bay region's performance declined over the years. The Tampa Bay region's competitive position declined from No. 10 in 2010 to No. 17 in 2019.

**About:** Measures the percentage of population that is living below the federal poverty level as defined by the U.S. Census Bureau (income thresholds vary by family size).

**Source:** U.S. Census Bureau, American Community Survey, table S17001.

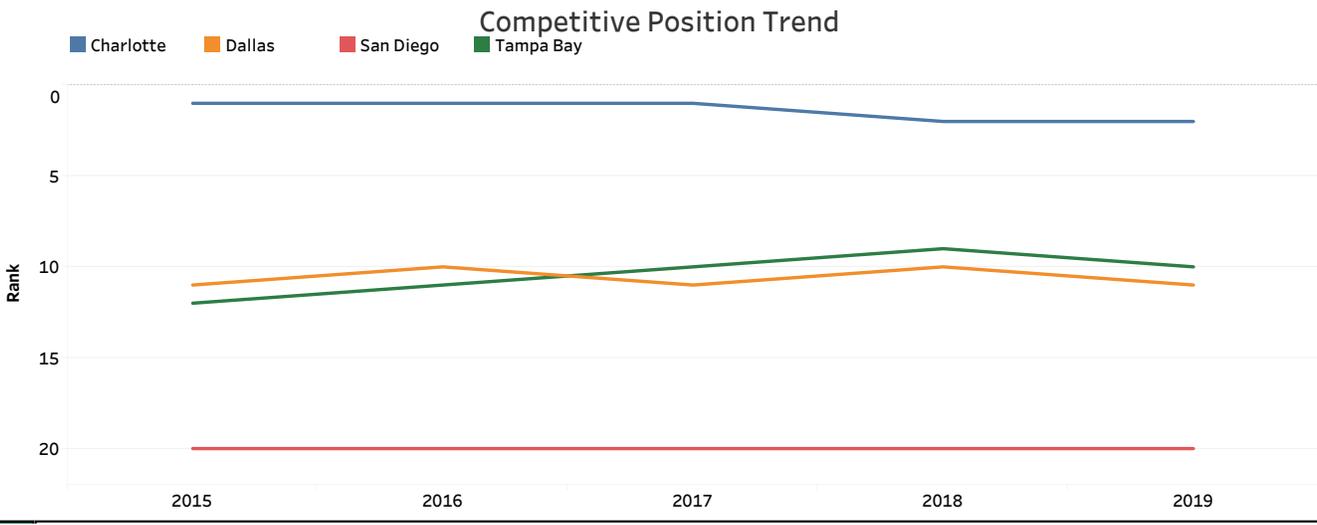
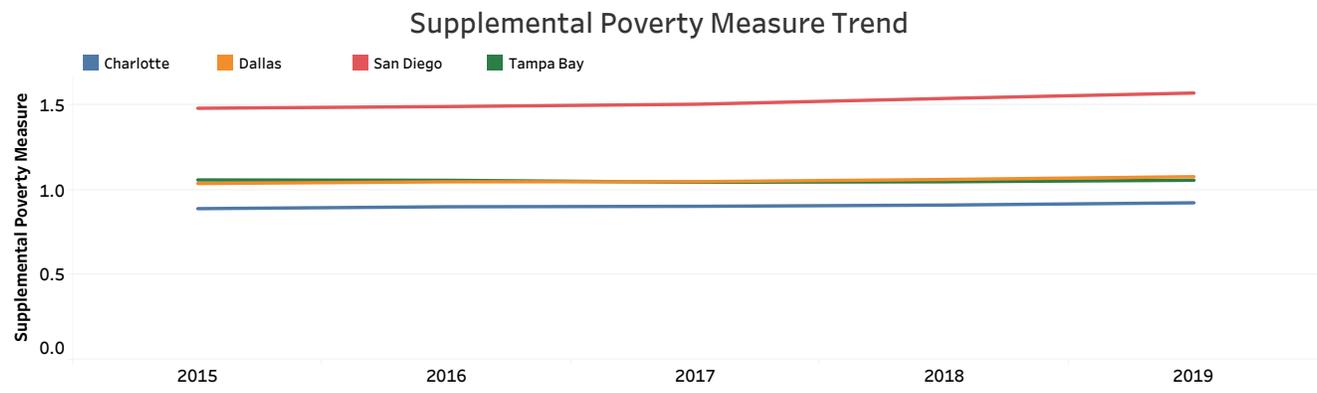
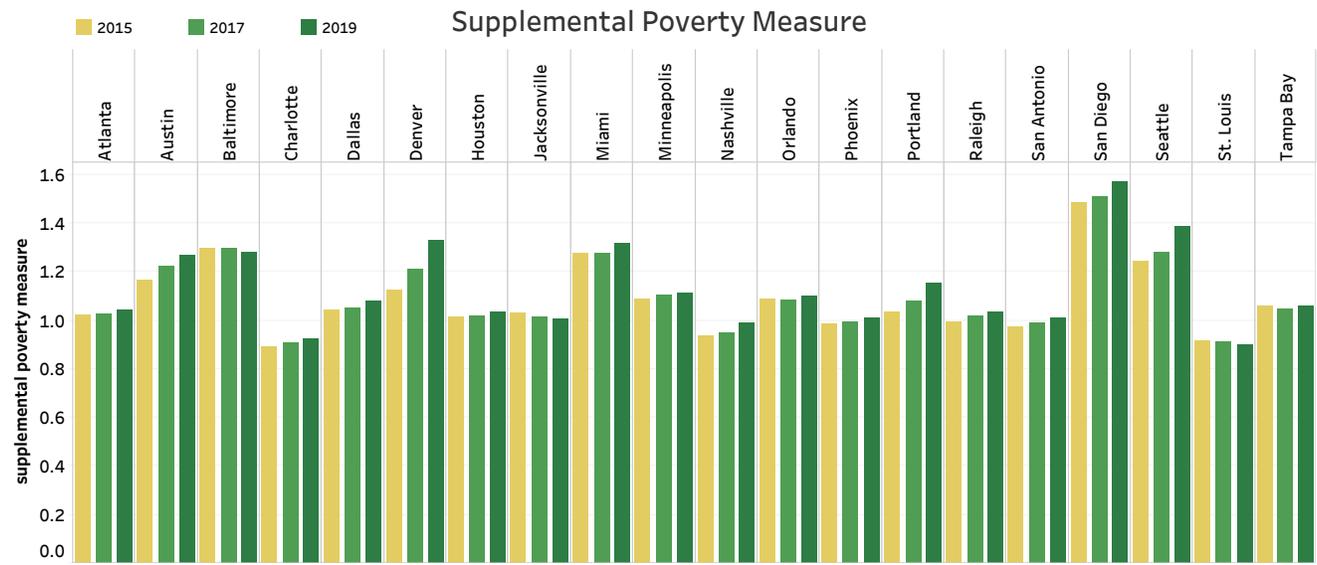


# Supplemental Poverty Measure

## Insights

- San Diego has been the worst performing MSA over the years.
- The Tampa Bay region's competitive position has improved from No. 12 to No. 9 during the years 2015 to 2018. However, it fell slightly to No. 10 in 2019.

**About:** A measure of poverty that considers non-cash benefits in addition to cash resources and subtracts necessary expenses, such as taxes and medical expenses.  
**Source:** U.S. Census Bureau, American Community Survey



# Household Debt-to-Income Ratio

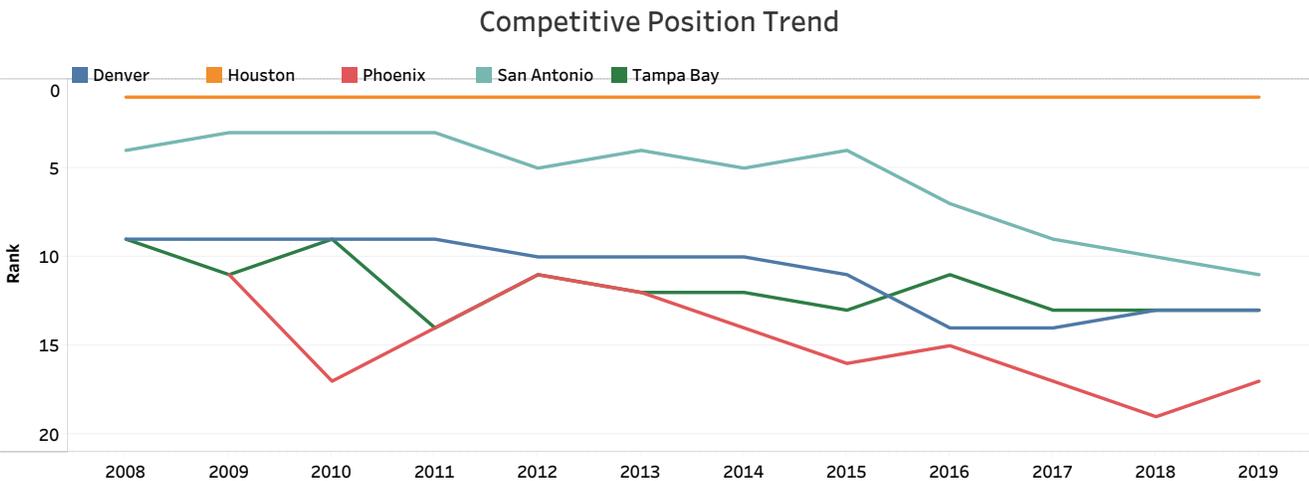
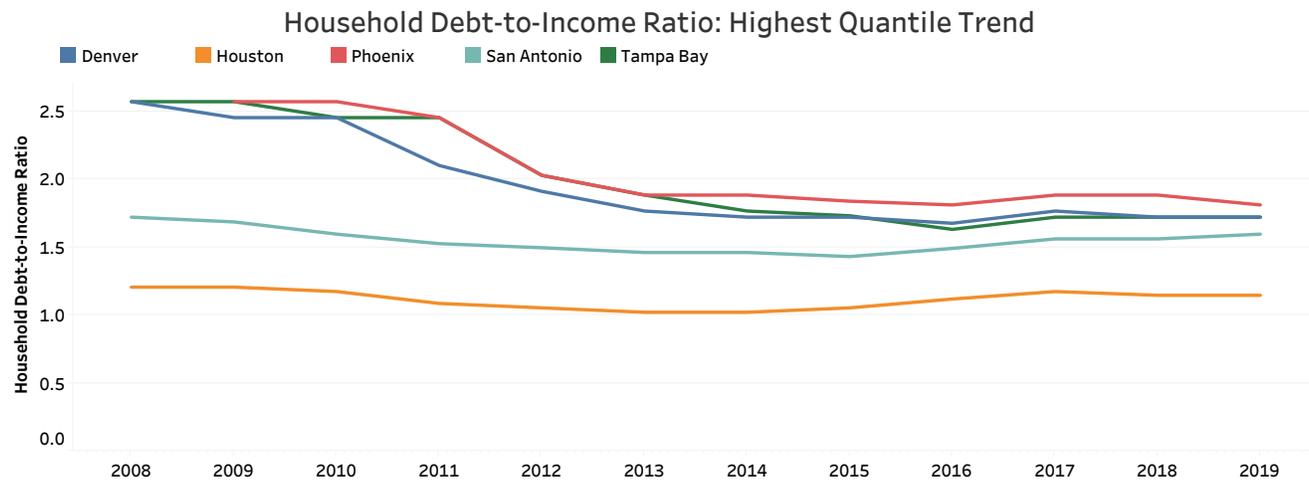
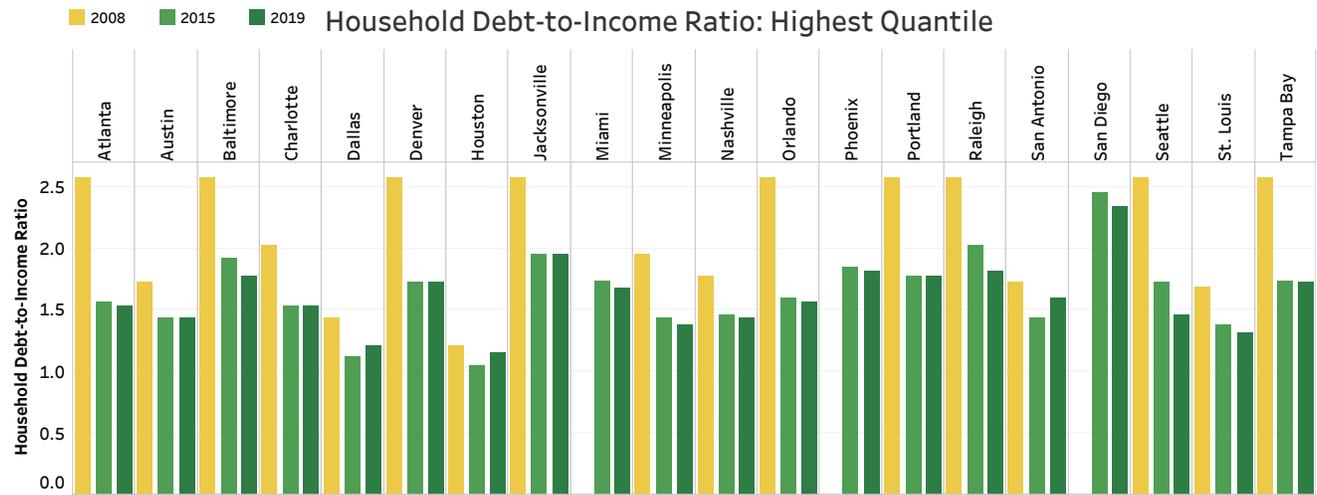
## Insights

- Houston maintained the No. 1 position consistently.
- The Tampa Bay MSA has experienced a declining household debt-to-income ratio.
- As of 2017, Tampa Bay ranks No. 13 among the comparison MSAs.

*Note: 2008 data for Miami, San Diego and Phoenix and 2012 data for Tampa Bay is not available.*

**About:** Measures the MSAs household debt relative to income. Higher debt-to-income ratio results in decline in consumption, expenditure and employment.

**Source:** Board of Governors of the Federal Reserve System



# 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 stronger push along these indicators to keep up with other top performing MSAs.



## Inclusive Growth and Racial Equity

In the previous section, researchers quantitatively analyzed the performance of the Tampa Bay region along the lines of economic indicators such as unemployment rate, GRP per capita, the poverty rate, the supplemental poverty measure and the household debt-to-income ratio. These indicators depict the strength of the Tampa Bay area's economy.

The more important aspect, however, is inclusive growth. By inclusive growth, USF researchers mean economic growth that is distributed fairly across different sections of society. To this end, researchers analyzed the performance of the Tampa Bay MSA with respect to 19 other comparison MSAs along the indicators of income inequality, economic mobility and food insecurity.

Another important aspect of inclusive growth is the racial equity. The voice for racial equity has been growing stronger than ever. In this section, in addition to income inequality, economic mobility and food insecurity indicators, researchers also considered the variables related to racial equity indicators: Black-white unemployment rate gap, Black-white poverty rate gap, Black-white labor force participation rate gap, the Black-white digital access gap, Black-white educational attainment (a bachelor's degree or higher) gap. Analyzing this data could help leaders and policymakers understand how the Tampa Bay region is faring in terms of bridging the gaps between the different social strata.

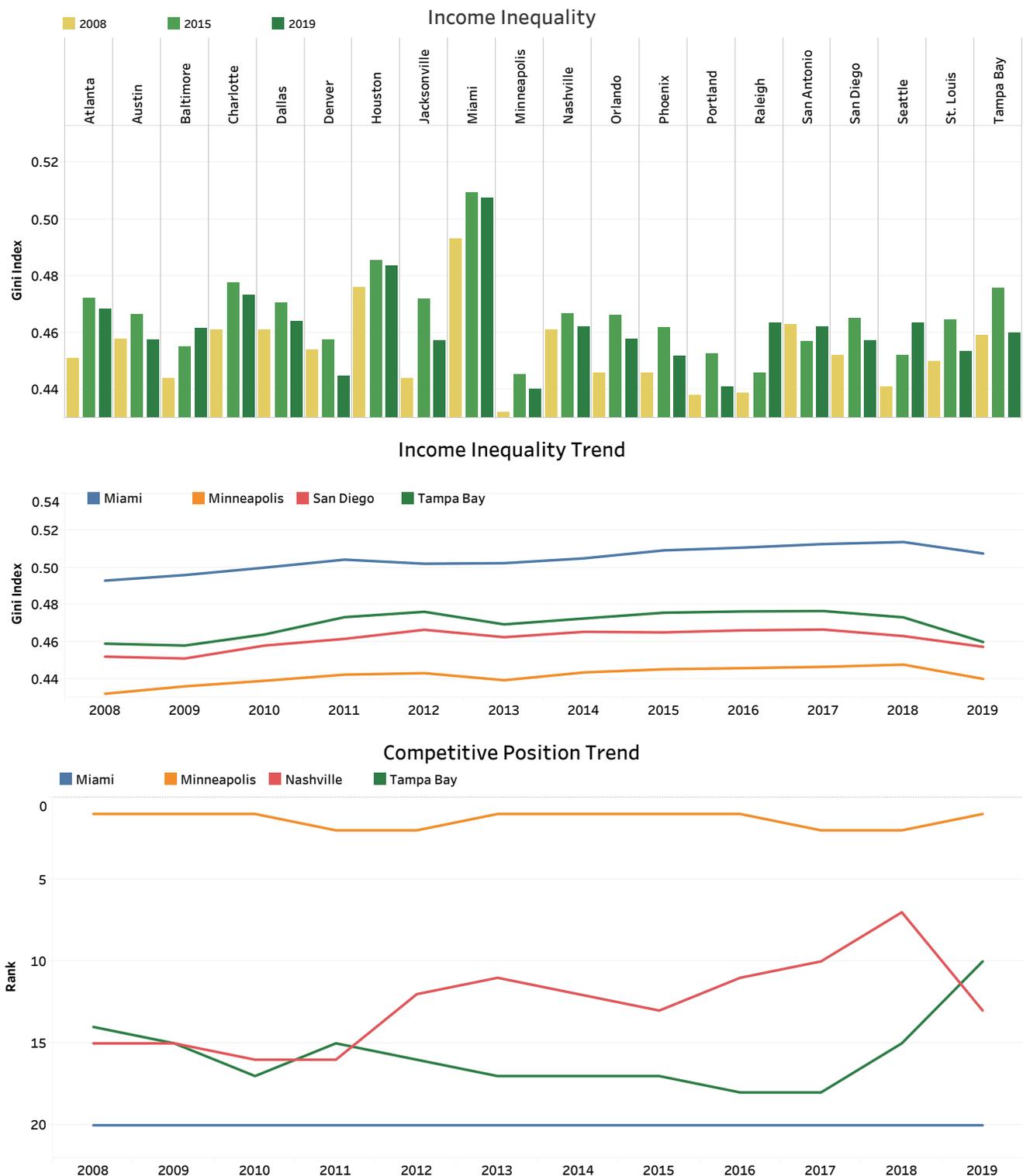
# Income Inequality (Gini Index)

## Insights

- Minneapolis consistently outperformed most of the MSAs.
- Miami remained at the bottom of the chart in terms of competitive position for all the years.
- Income inequality has been increasing for most of the MSAs, including Tampa Bay, until 2018. It declined slightly in 2019.
- The Tampa Bay MSA's competitive position has declined over the years, until 2017. It then rose sharply from 18 in 2017 to 10 in 2019.

**About:** Income inequality refers to the extent to which income is distributed in an uneven manner among the population. Income inequality is measured by Gini Index, which ranges from 0 to 1. Gini Index of 0 implies perfect income equality, i.e., every individual receives equal share. Gini Index of value 1 indicates perfect income inequality, which implies that only one individual receives all the income.

**Source:** U.S. Census Bureau, American Community Survey.



# Economic Mobility

Economic mobility broadly captures the ability of people to move from a lower income stratum to higher income strata. This is measured using two variables: Absolute mobility and relative mobility.

## Absolute Economic Mobility

One way of determining absolute economic mobility is to examine the average income percentile of children whose parents were at the 25th percentile of the national income distribution. If the children are at a higher income percentile than 25, then it indicates that there has been positive economic mobility. The higher the income percentile of the children, the higher the absolute economic mobility. For example, if, in region A, the children of parents who were at 25th percentile are at the 40th percentile, and in region B, the children of parents who were at 25th percentile are at the 32nd percentile, then one can conclude that region A has experienced higher economic mobility than region B.

“The Opportunity Atlas” is an interactive database with a user-friendly tool to assess the economic mobility across various regions in the United States. This tool provides an in-depth understanding of how the average outcomes (for example, household income) of children varied by demographic subgroups.

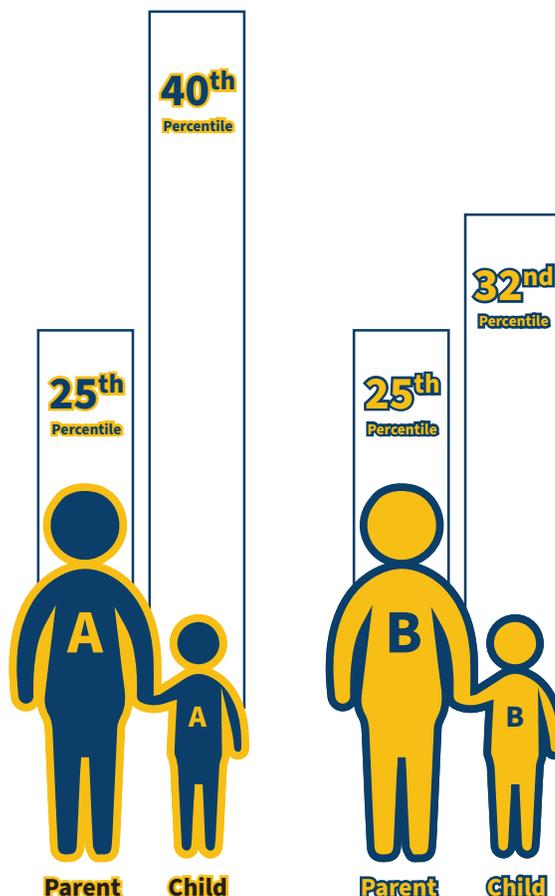
“Which neighborhoods in America offer children the best chance to rise out of poverty?” is the kind of question can be answered by using data from the Opportunity Atlas.

The research paper “The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility,” by Raj Chetty, John N. Friedman, Nathaniel Hendren, Maggie R. Jones and Sonya R. Porter, provides detail on how this publicly available dataset was constructed to examine children’s outcomes in adulthood using anonymized longitudinal data covering nearly the entire U.S. population. The sources of data used in this process were (1) the U.S. Census 2000 and 2010 short forms; (2) federal income tax returns from 1989, 1994, 1995 and 1998-2015; and (3) the U.S. Census 2000 long form and the 2005-2015 American Community Surveys.

## Relative Economic Mobility

Relative mobility refers to the expected difference in the income percentile rank of children belonging to two parents whose income percentile rank differs by one unit.

For example, consider region A, with relative economic mobility of 0.2. This implies that the gap in income percentile of children of parents at the 10th percentile of income distribution and those of the parents at the 20th percentile is going to be, on average, 2. Hence, the children of these parents are closer to each other in their (percentile) ranks within their cohort, compared to how close the parents were to each other in their (percentile) ranks within their cohort. Relative economic mobility is often used to check how much individuals “move” across income percentile ranks as compared to their parents.

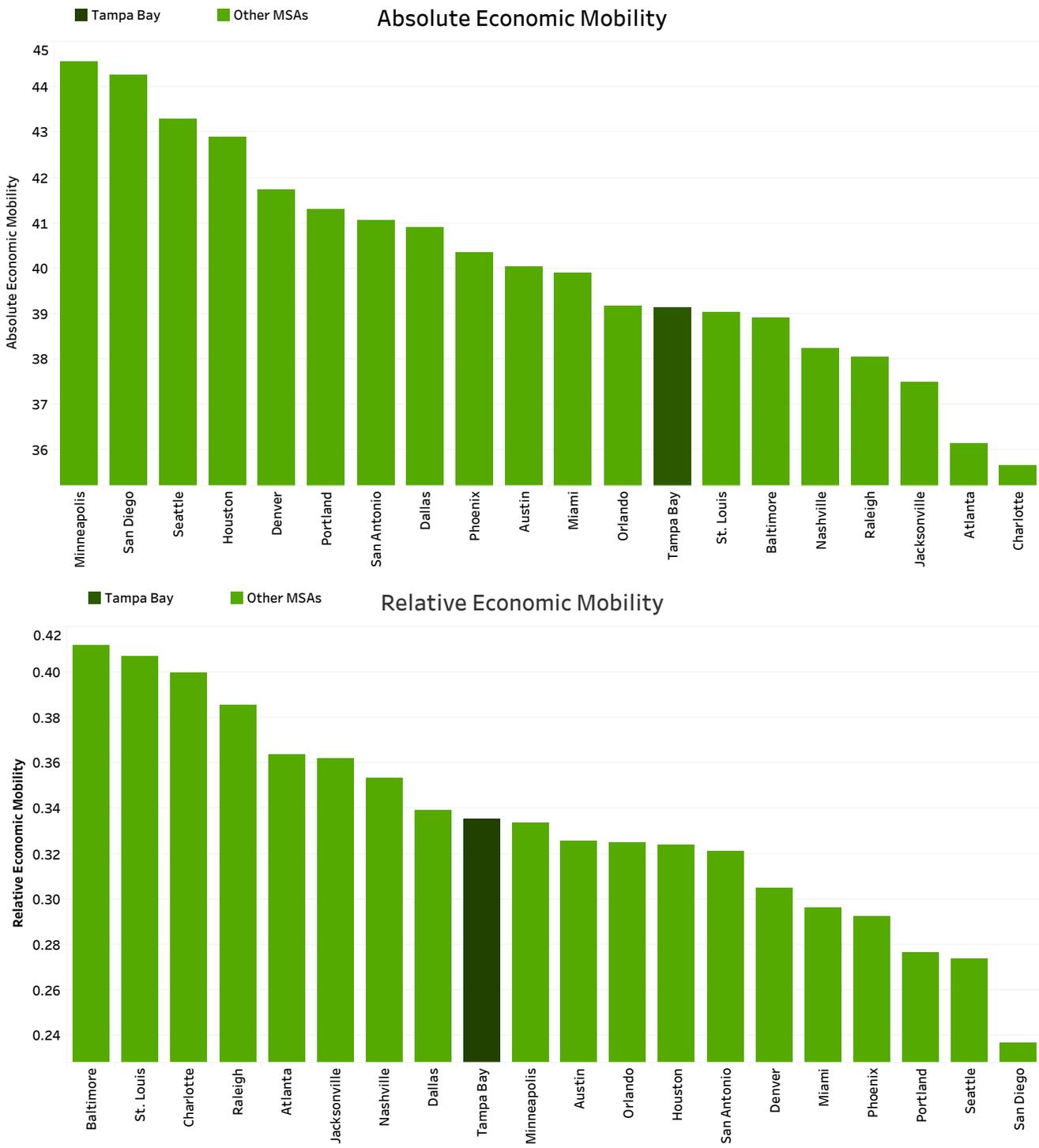


# Economic Mobility

## Insights

- The Tampa Bay region is ranked No. 13 in terms of absolute economic mobility.
- Minneapolis achieved the highest absolute economic mobility among all MSAs considered for this study.

**About:** 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.  
**Source:** Opportunity Insights



## Food Insecurity

Food insecurity refers to U.S. Department of Agriculture's measure of lack of access, at times, to enough food for an active, healthy lifestyle for all household members as well as limited or uncertain availability of nutritionally adequate foods. Food-insecure households are not necessarily food insecure all the time. Food insecurity may reflect a household's need to make trade-offs between paying for important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods.

Researchers first looked at the relationship between food insecurity and its closely linked indicators (poverty, unemployment, homeownership, disability prevalence, etc.), doing so at the state level. They then used the coefficient estimates from this analysis, in conjunction with the same variables for every county and congressional district. Together, these variables can generate estimated food insecurity rates for individuals and children at the local level. Researchers gathered data for this by contacting Feeding America's research team as it posts food insecurity rates for state and county levels. They aggregated the counties which belong to an MSA and added the populations and total food insecure persons in the county. Dividing the total food insecure persons with the population determines food insecurity rates. The 2020 values are the projected food insecurity rates calculated by Feeding America's research team with its own methodology. Because 2019 data is not yet available, researchers calculated the percentage change with respect to 2010.

Food insecurity rates fell from 2010 through 2018 but began to sharply rise in 2018. Researchers project that food insecurity rates continued to rise through 2020, likely by a significant amount.

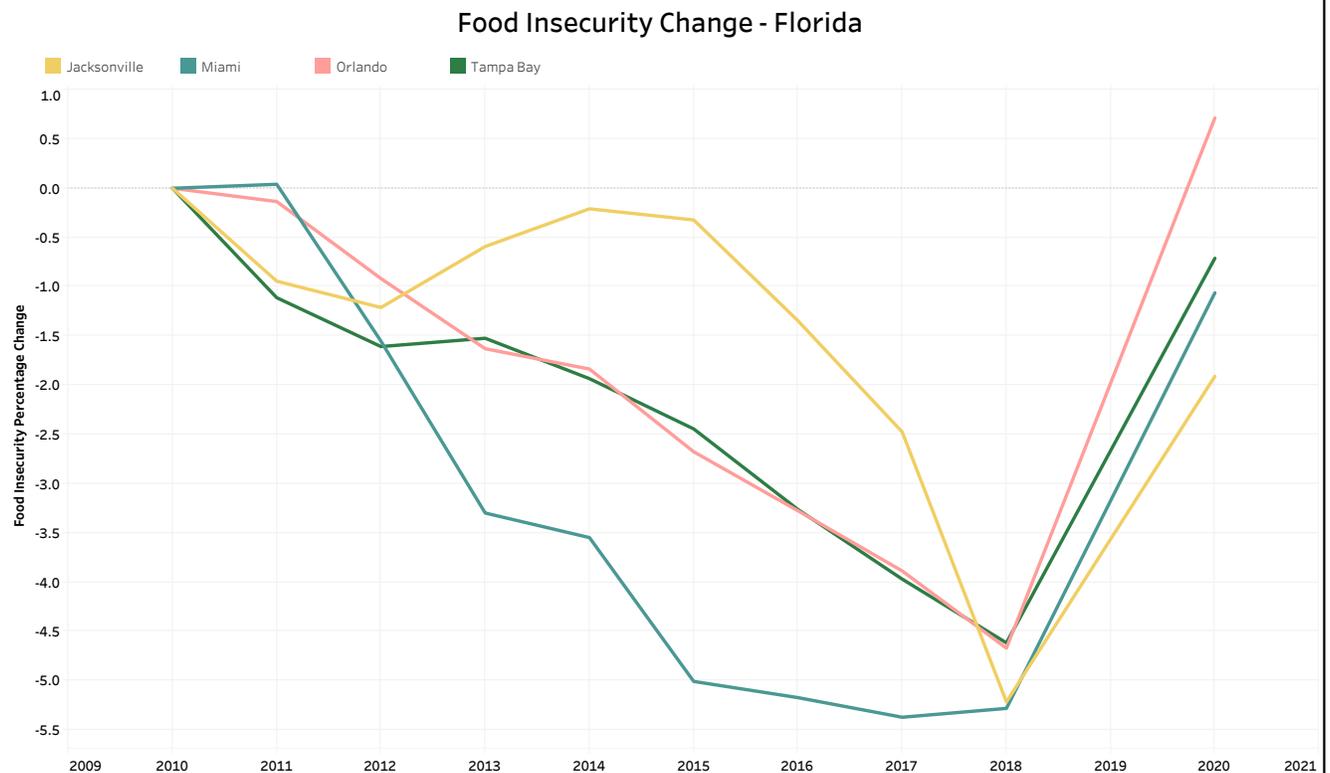
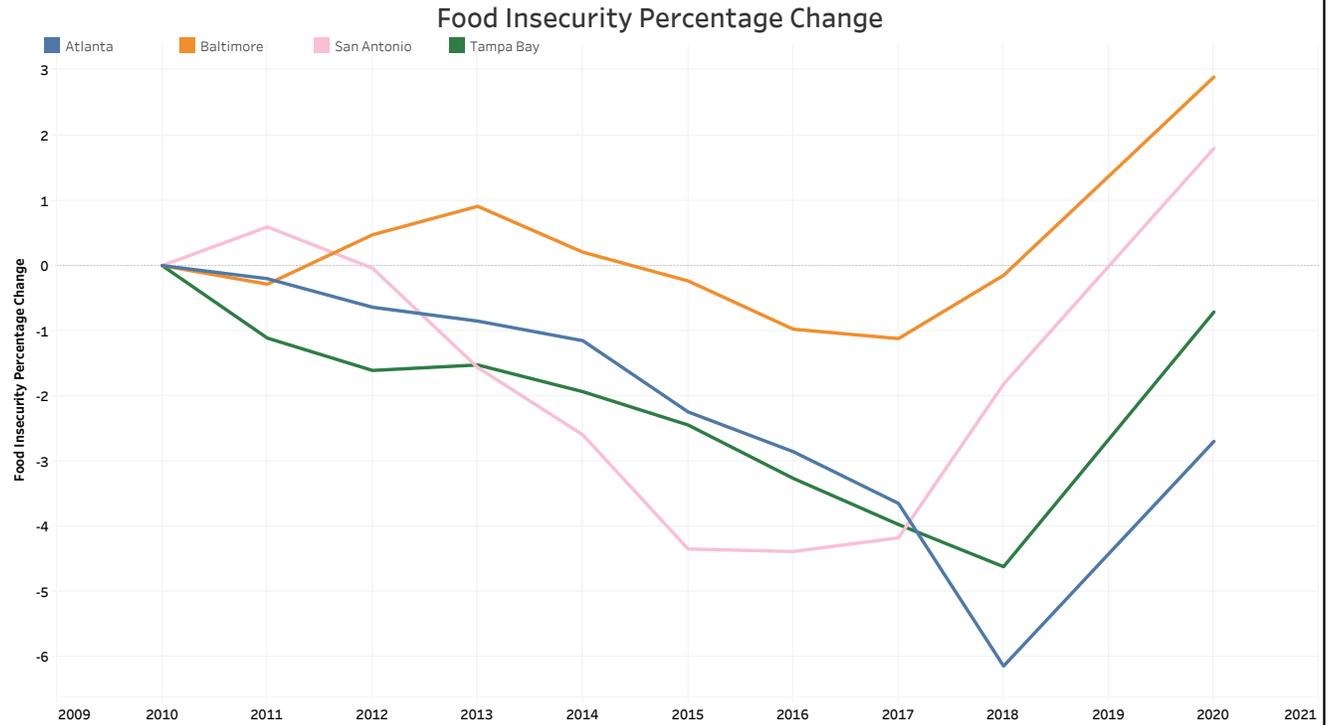
# Food Insecurity Percentage Change

## Insights

- All MSAs saw a steady decline in the food insecurity rates.
- Food insecurity rates are projected to continue to rise sharply.
- The Tampa Bay MSA's food insecurity rate saw a drop over the years, However, it is projected to be back to 2010 levels by 2020.
- In Florida, Orlando's food insecurity rate is projected to be highest with its value coming in higher than the value in 2010.

**About:** This measures the change in the food security rate with respect to 2010 for people living in the Metropolitan Statistical Area.

**Source:** Feeding America, Map the Meal Gap



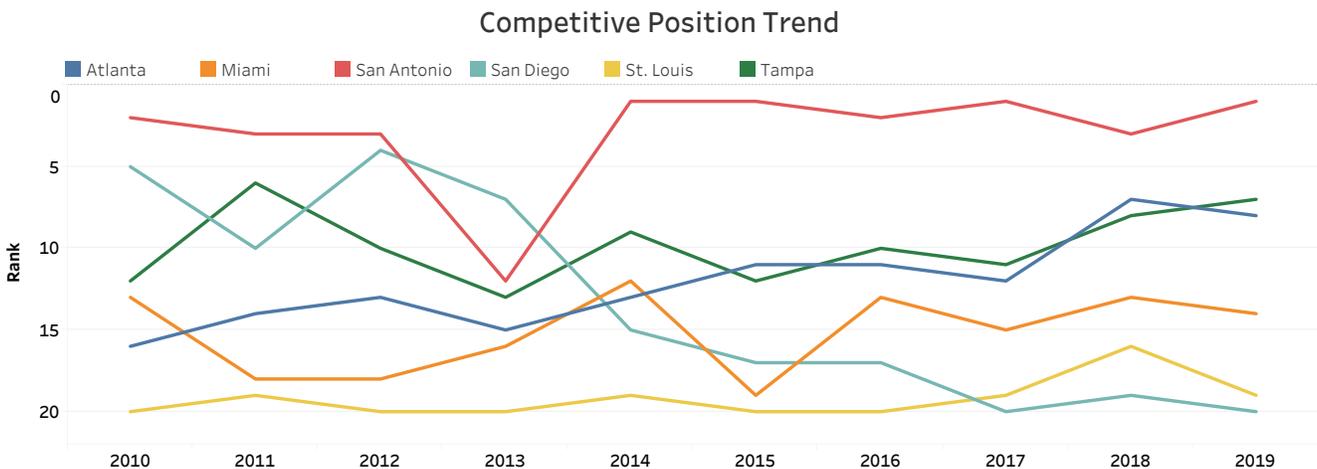
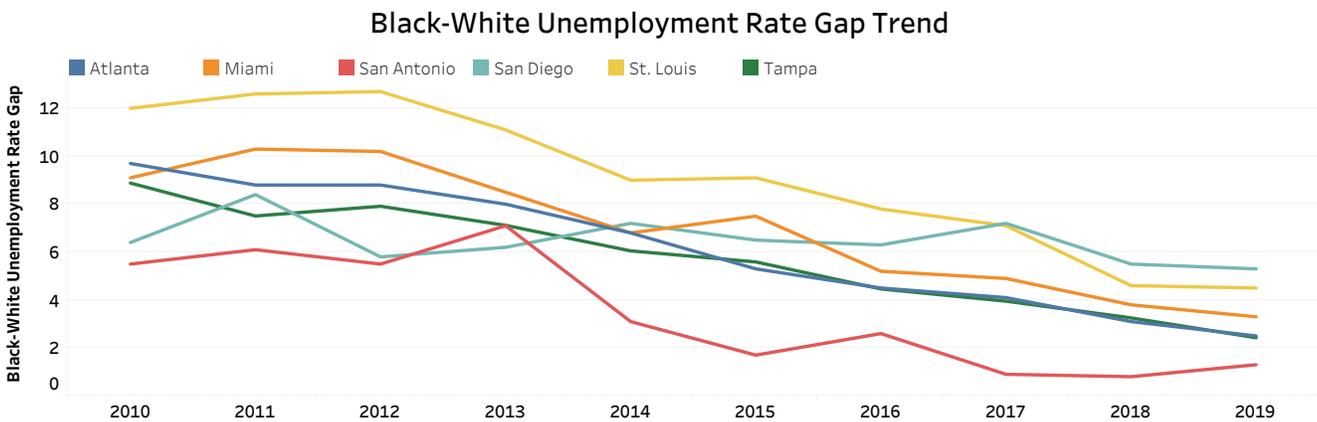
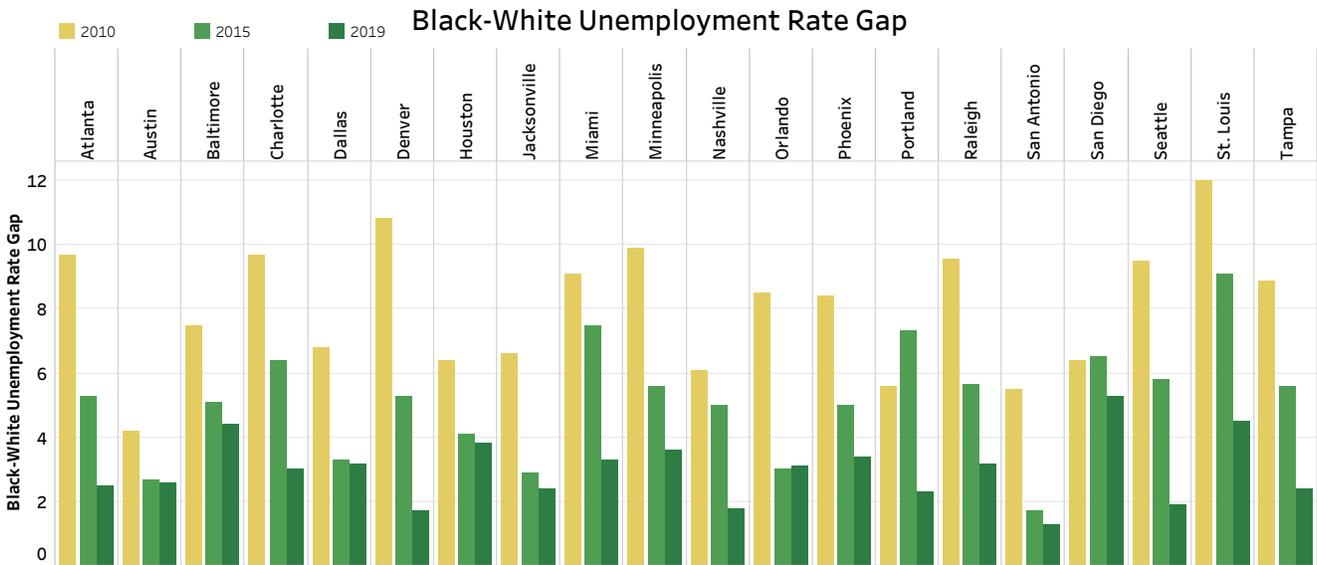
# Black-White Unemployment Rate Gap

## Insights

The Black-white unemployment rate gap has been decreasing for all the MSAs.

- The competitive position of the Tampa Bay MSA has fluctuated over the years. The Tampa Bay MSA stood at No. 13 in 2013 and improved to No. 4 in 2016. The Tampa Bay region is standing in the No. 6 position.
- San Antonio had the lowest unemployment rate gap in 2019 and San Diego had the highest unemployment rate gap in 2019.
- The competitive position of San Diego has declined the No. 4 position in 2012 to No. 20 position in 2019, whereas the competitive position of San Antonio improved from No. 12 position in 2013 to No. 1 in 2019.

**About:** Measures the Black-white gap in the percentage of labor force who is not working but actively looking for employment. Calculated by subtracting the share of unemployment rate of African-Americans from share of unemployment rate of White-Americans in the MSA.  
**Source:** U.S. Census Bureau, American Community Survey, table S2301.

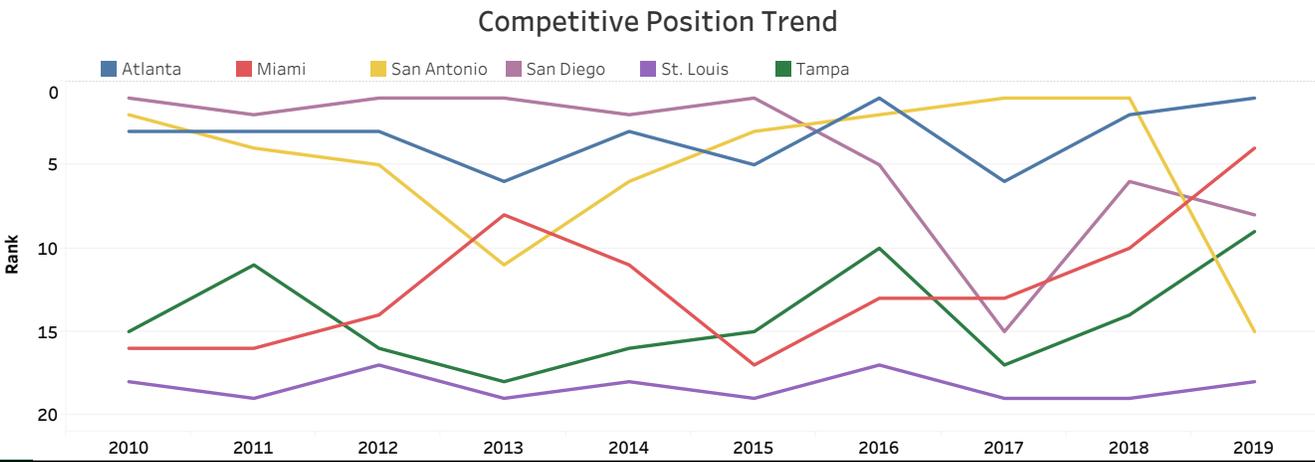
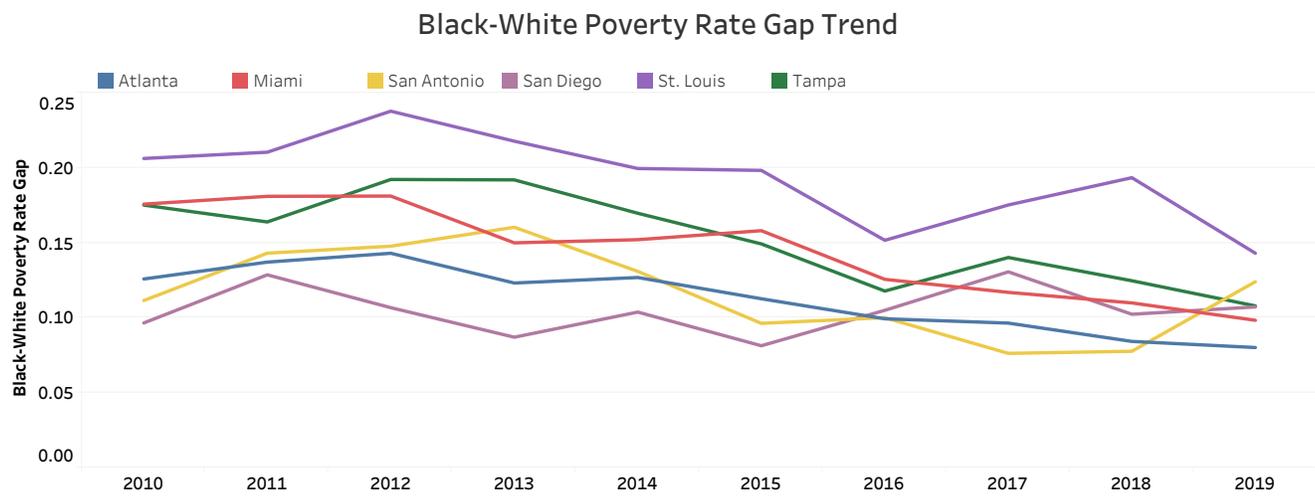
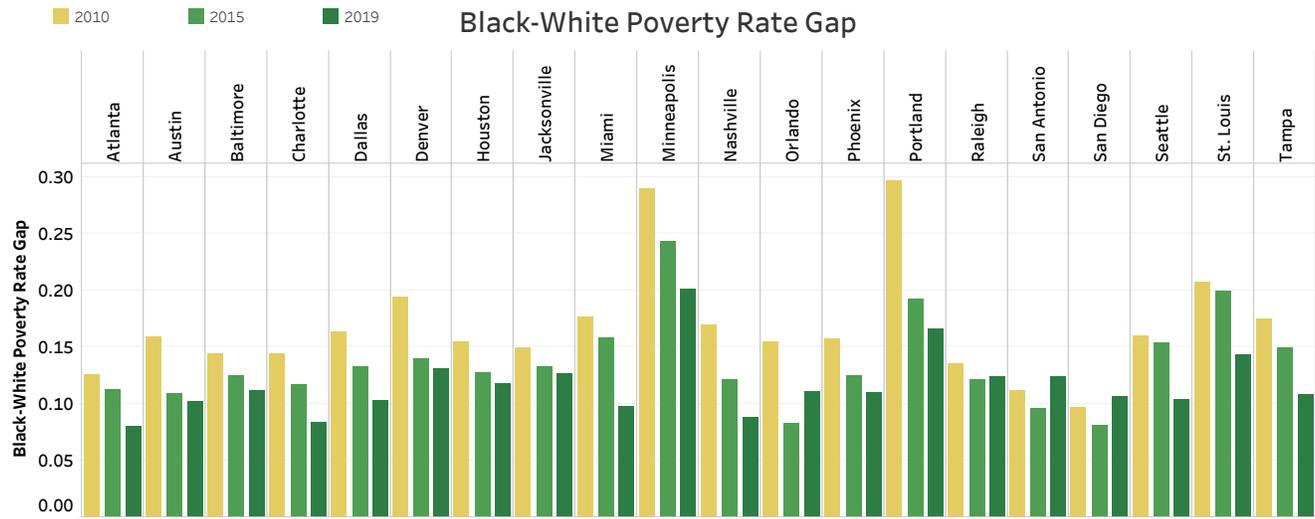


# Black-White Poverty Rate Gap

## Insights

- The Black-white poverty rate gap has been decreasing for all the MSAs.
- The competitive position of the Tampa Bay MSA fluctuated over the years. The Tampa Bay MSA stood at the No. 17 position in 2013 and improved to the No. 10 position in 2016.
- The Tampa Bay region remains at the No. 9 position as of 2019.
- As of 2019, Atlanta is having the least black-white poverty rate gap among the comparison group and is standing at the No. 1 position.

**About:** Measures the Black-white gap in share of workers working full-time with income below the poverty line. Calculated by subtracting the average poverty rate of African-Americans from average poverty rate of white Americans in the MSA.  
**Source:** U.S. Census Bureau, American Community Survey, table B17020.

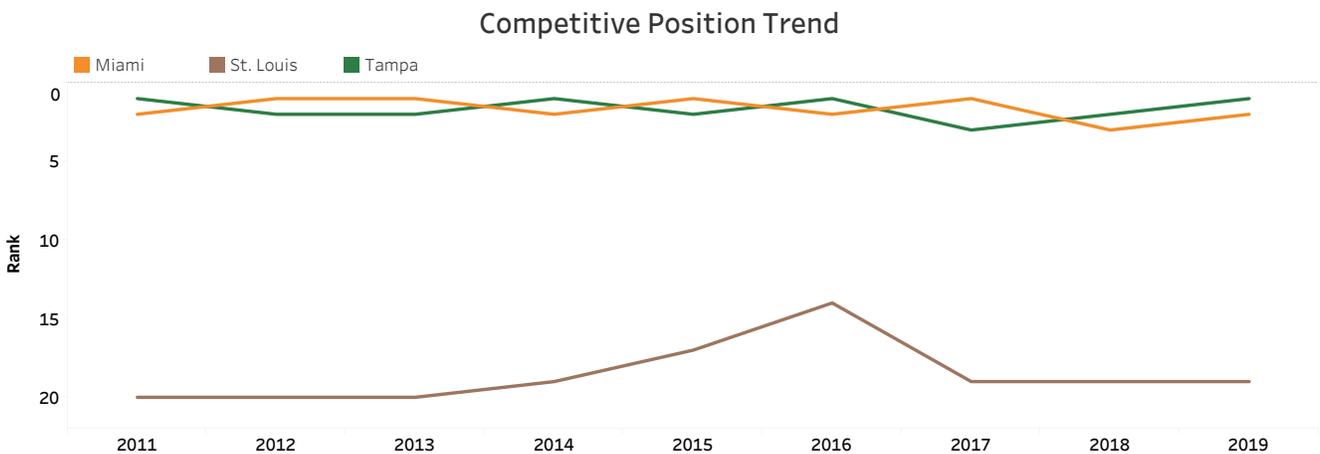
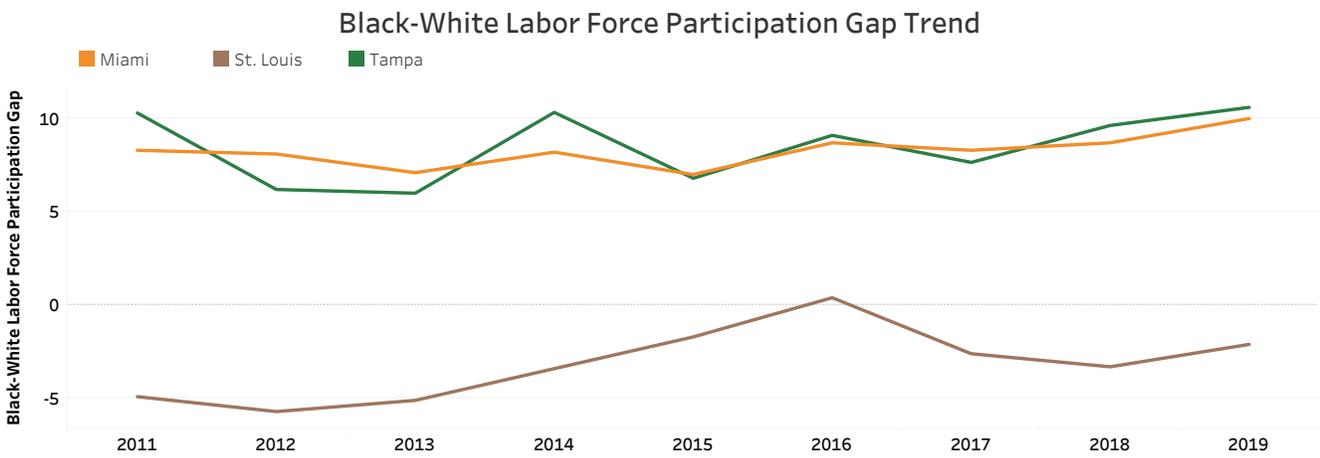
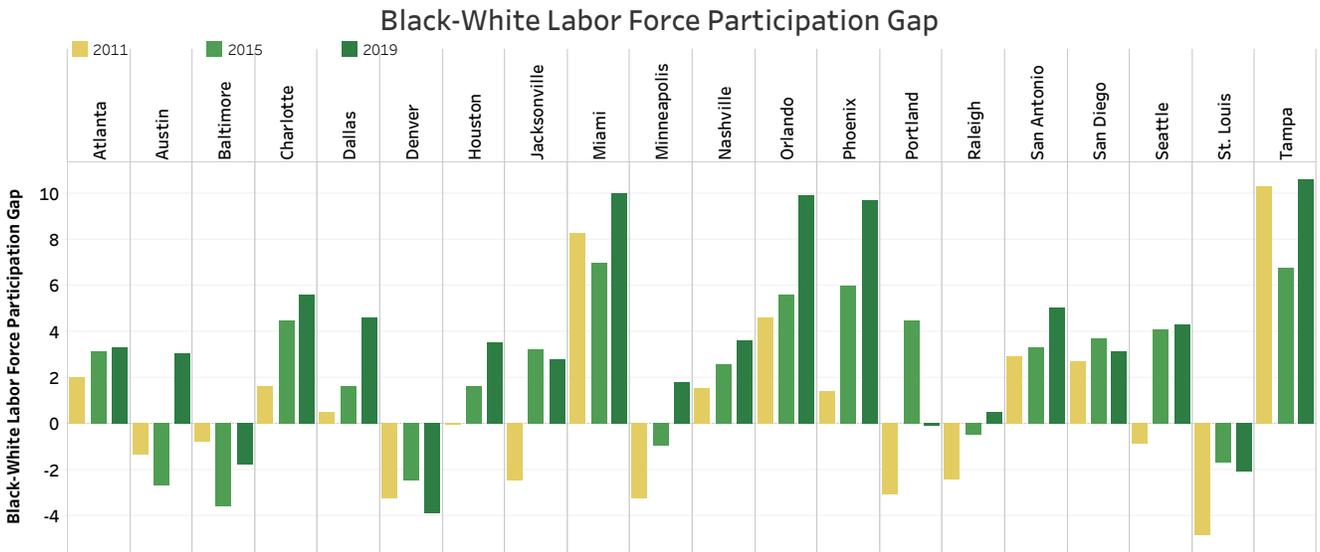


# Black-White Labor Force Participation Rate Gap

## Insights

- The Black-white labor force participation gap has been on an increasing trend since 2013.
- The Tampa Bay MSA has consistently ranked in the top 5.
- The Tampa Bay region remains in first position in 2019.
- St Louis has been at the last position for most of the years.

**About:** Measures the Black-white gap in percent of the population ages 16 years old or older who are either working or actively looking for work. It is calculated by subtracting the labor force participation rate of African-Americans from that of white Americans in the MSA.  
**Source:** U.S. Census Bureau, American Community Survey, table S2301.



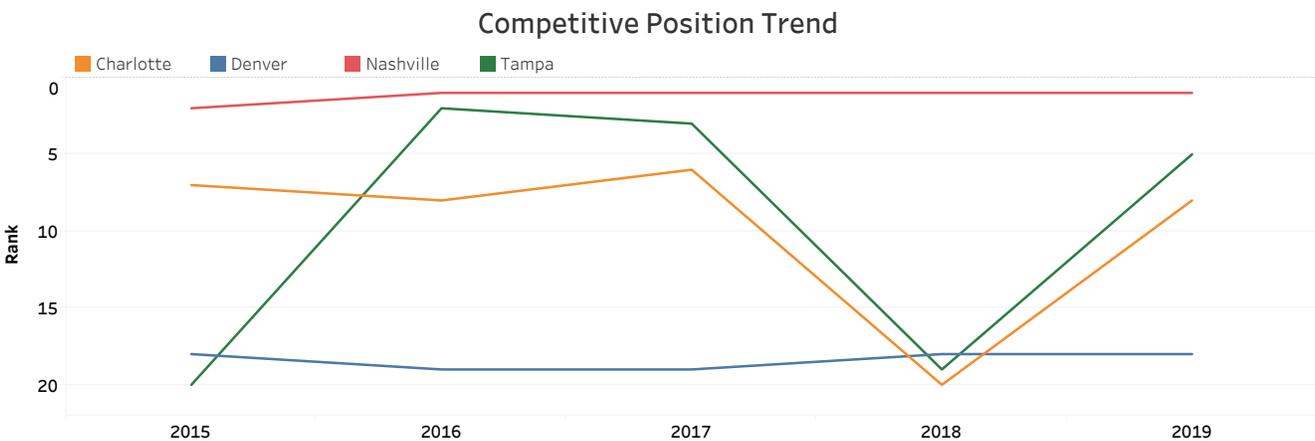
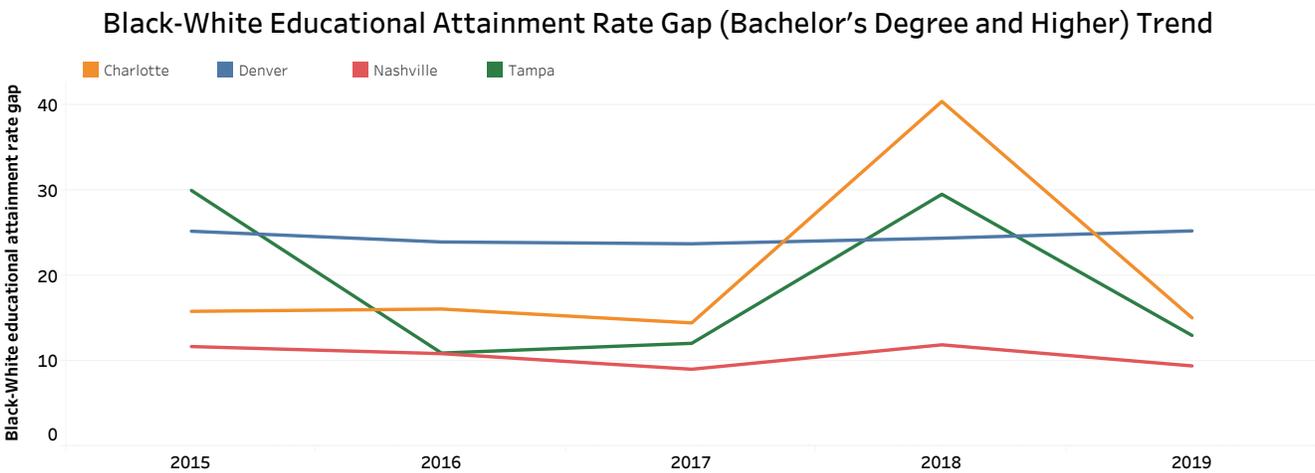
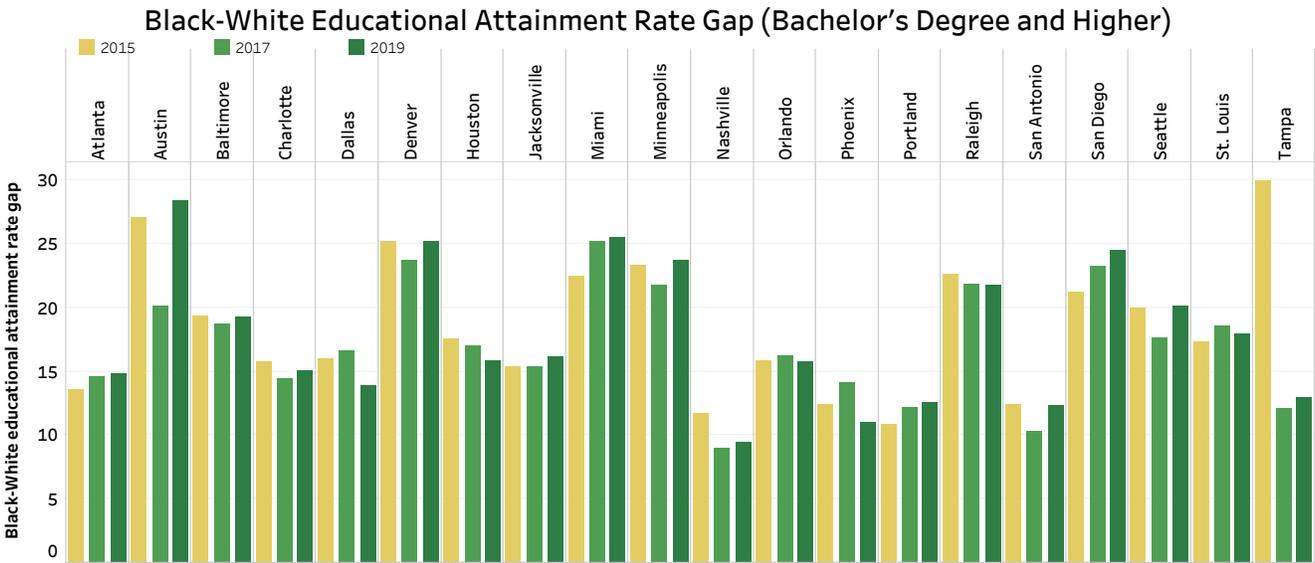
# Black-White Educational Attainment Rate Gap

(Bachelor's Degree or Higher)

Insights

- The Tampa Bay region's Black-white gap in terms of educational attainment rate for a bachelor's degree or higher has decreased over the years.
- The Tampa Bay MSA's competitive position went from No. 20 in 2015 to No. 2 in 2016. The Tampa Bay MSA was in the No. 5 position in 2019.
- Nashville has been the best performing MSA while Denver has been the worst performing MSA during the 2015-2019 period.

**About:** Measures the Black-white gap in the percentage of population, ages 25 or older, who have attained a bachelor's degree or higher.  
**Source:** U.S. Census Bureau, American Community Survey, table S1501



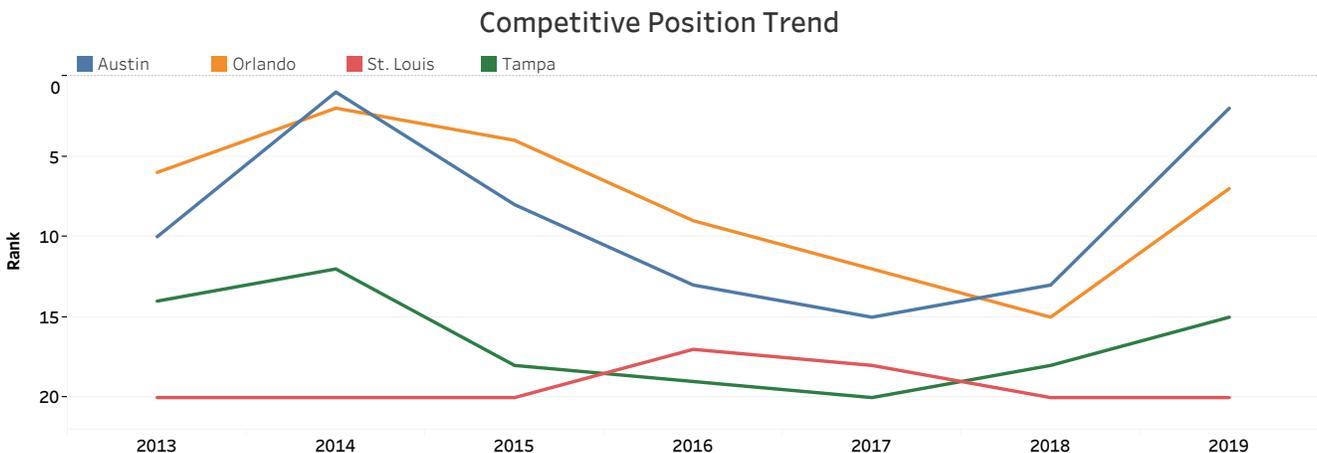
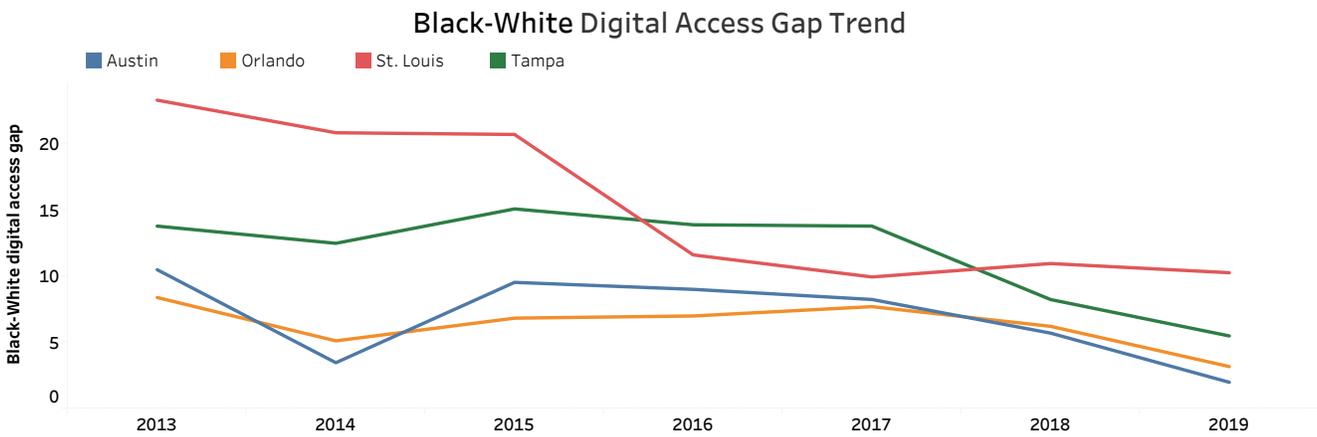
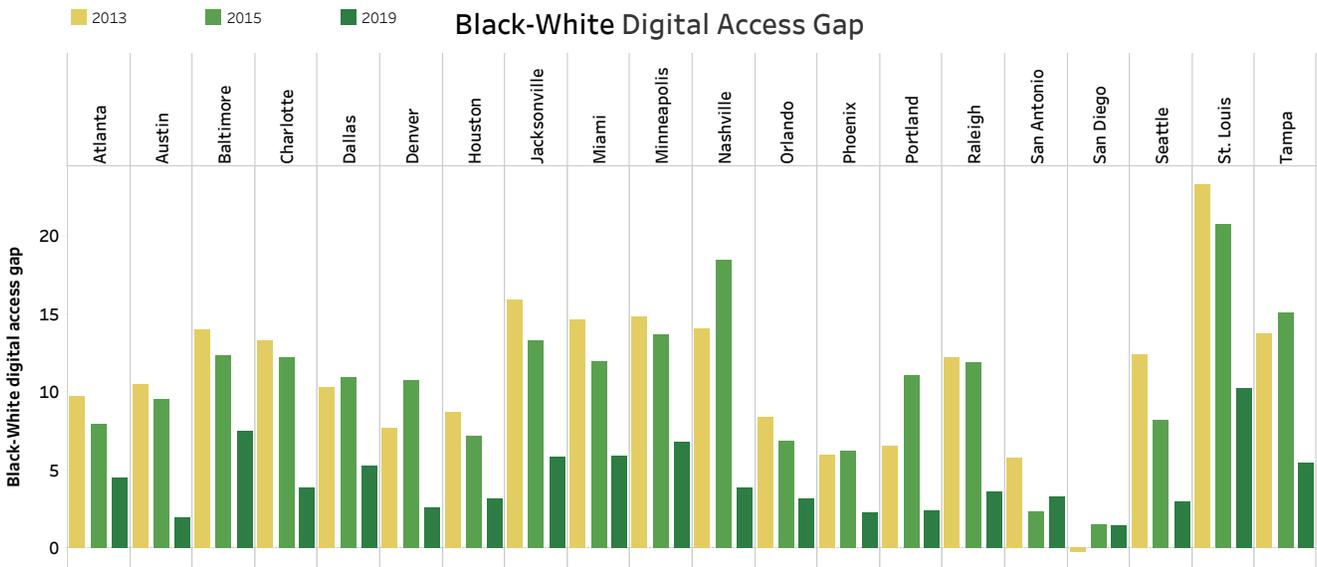
# Black-White Digital Access Gap

## Insights

- The Black-white digital access gap for most of the MSAs, including Tampa Bay has been declining.
- The Tampa Bay MSA's competitive position declined from 2014 to 2017. It has been increasing since 2017.
- The Tampa Bay region remains at the No. 15 position among the comparison group.

**About:** This measures the Black-white gap in the share of households with a computer and a dedicated physical broadband internet subscription using a service such as cable, fiber optic, or DSL. Calculated by subtracting the African-American households with a computer and a dedicated physical broadband internet subscription from white american households with the same.

**Source:** U.S. Census Bureau, American Community Survey, table B28009.

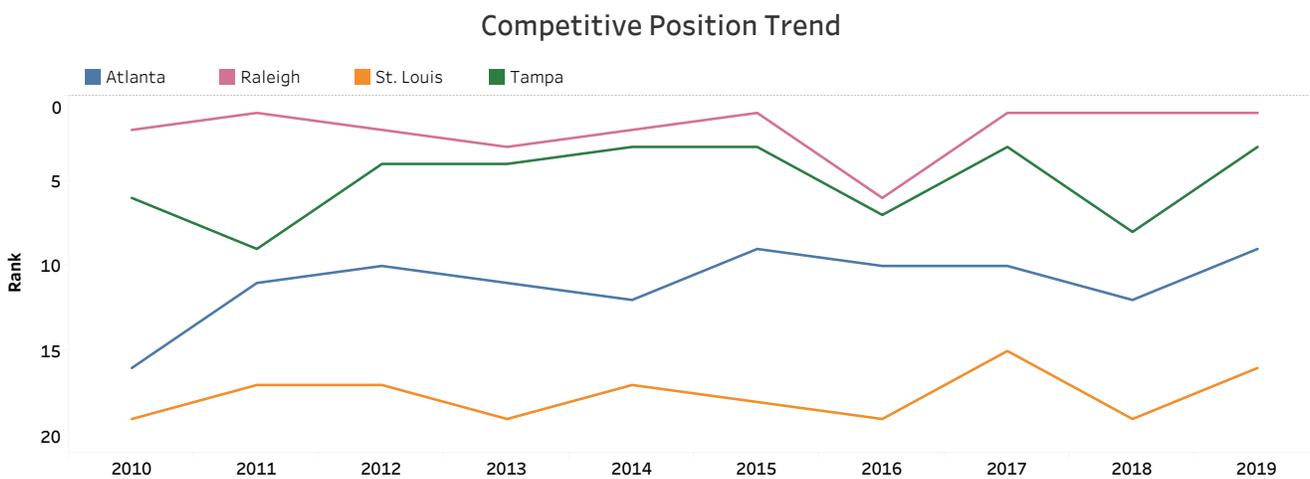
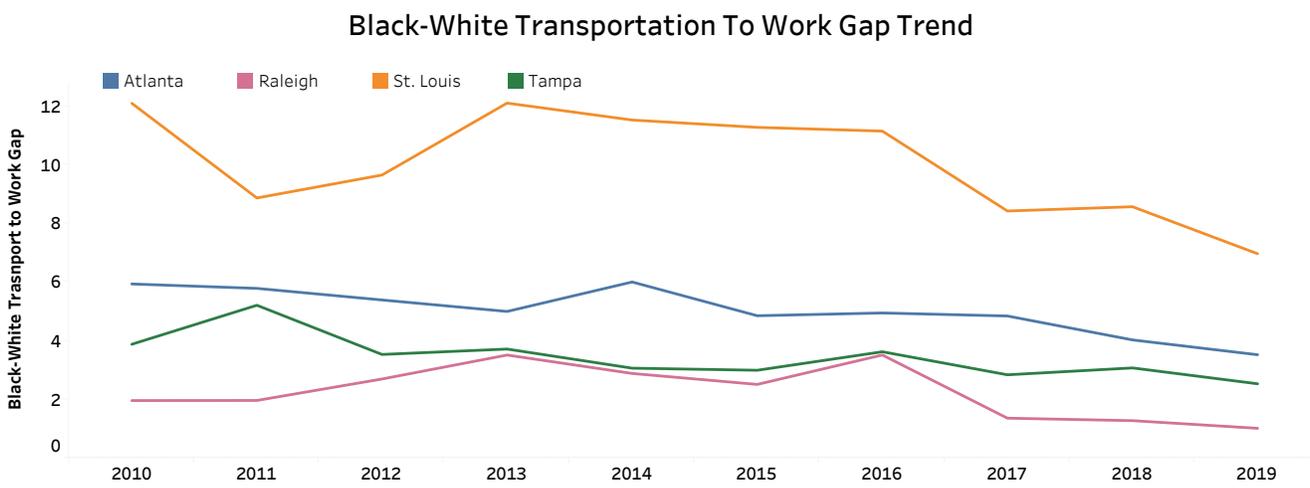
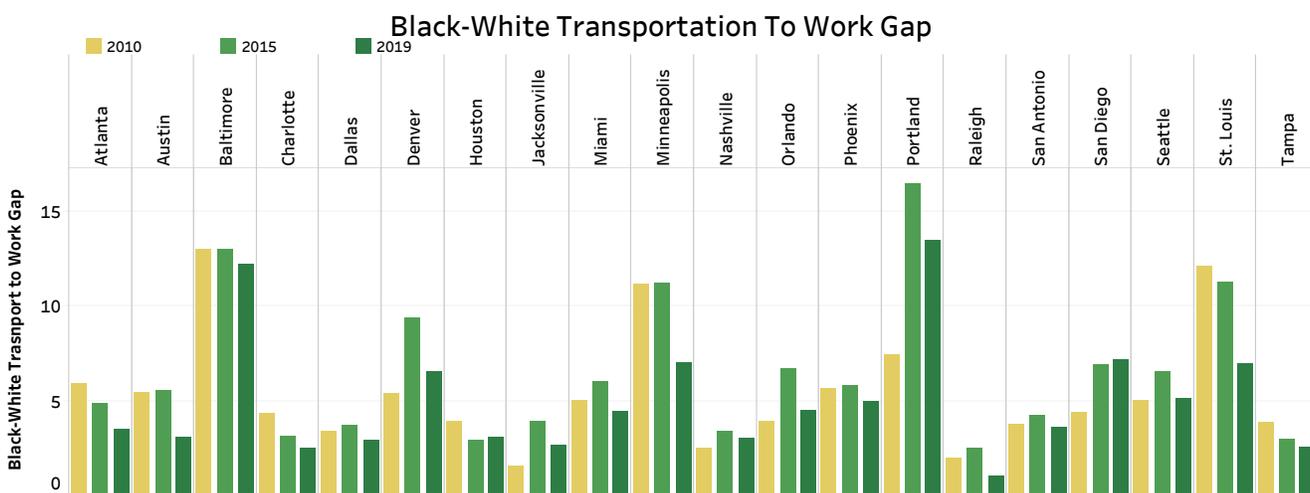


# Black-White Transportation to Work Gap

Insights

- In the Tampa Bay MSA, the Black-white gap between share of workers who rely on public transit or walk to commute to work has been decreasing since 2013.
- In terms of competitive position, the Tampa Bay region has fluctuated over the years. It was at No. 9 in 2011. In 2015, it improved to No. 3, which is where it was in 2019.
- Raleigh-Durham has been the best performing MSA, while St. Louis has been the worst performing MSA.

**About:** Measures the Black-white gap in share of workers ages 16 years old and older who rely on public transit or walk to commute to work. It is calculated by subtracting the share of African-Americans who rely on public transportation from the share of white Americans who rely on public transport in the city.  
**Source:** U.S. Census Bureau, American Community Survey, table B08105.



# Key Insights on Racial Equity and Inclusive Growth

Income inequality in the Tampa Bay region declined in 2019. The economic indicators reflect a declining racial gap over the years for all the MSAs including Tampa Bay. Also, the Tampa Bay MSA is performing relatively better on the indicators of Black-white labor force participation gap and Black-white educational attainment gap. However, the Tampa Bay region is still lagging in a couple of indicators, such as the Black-white unemployment rate gap and Black-white digital access gap.

# 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 innovation. These possible driver variables have been identified after many interviews with the business leaders from the greater Tampa Bay region. A total of 19 variables were considered for the analysis. The annual data for these variables for the MSAs from 2008 through 2017 was collected from federal sources such as the U.S. Census Bureau, the U.S. Bureau of Labor Statistics and the U.S. Bureau of Economic Analysis.

The data for the four Tampa Bay MSAs (Tampa-St. Petersburg-Clearwater, Homosassa Springs, Lakeland-Winter Haven and North Port-Sarasota-Bradenton) was aggregated to derive the values for the Tampa Bay region and the data for Raleigh and Durham was aggregated to derive the values for Raleigh-Durham region. In summary, this report uses data for six outcome variables (for economic mobility outcome variable different strategy was used as described below) and 22 possible economic drivers for 20 regions for 10 years. The data was adjusted for the cost of living and inflation.

Panel data methods were used to create models for each outcome. For each of the outcomes, multiple drivers were identified. One prime driver for each outcome was identified based on the strength of potential causal explanation.

The outcome variable of economic mobility has data that compares the outcome over two time intervals. Thus, this data cannot be included in the panel data model as there is only one number for each MSA which reflects opportunities for economic mobility over a long time period (around 40 years). In order to identify drivers for economic mobility, this report adopts an innovative approach. The driver for economic mobility is identified by using a regression analysis where the outcome variable (or y variable) value for each MSA is derived from the Opportunity Atlas, and the values of each of potential drivers (or x variables) are derived by taking the average values of each variable over the time period.

## Drivers of Inclusive Economic Growth

The significant drivers for each of the indicators of inclusive economic growth are given in the tables below. The sign indicates the direction of impact. The plus (+) sign indicates the impact in the positive direction which implies that as the value of the driver variable increases, the value of the outcome variable of interest increases. Similarly, the minus (-) sign indicates the impact in negative direction.

The report identifies one prime driver for each of the outcome economic indicator as an actionable driver. The choice was made based on the strength of causal explanation. The primary drivers, which are highlighted in green, can be used for policy initiatives.

<b>Unemployment Rate</b>	
STEM Degree Production Per Capita	-
Transit Availability	-
Business Establishment Start Rate	-

<b>GRP Per Capita</b>	
STEM Degree Production Per Capita	+
Transit Availability	+
Median Household Income	+

<b>Poverty Rate</b>	
Transit Availability	-
Labor Force Participation Rate (Ages 25-64)	-

<b>Income Inequality</b>	
Educational Attainment (Bachelor's Degree of Higher)	-
Labor Force Participation Rate (Ages 25-64)	-

<b>Economic Mobility</b>	
Transit Availability	+

**It is important to remember that, depending on the indicator, a move in a negative direction could be positive (for instance, seeing the unemployment rate go down is positive).**

# 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 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 poverty rate.
- An increase in 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 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.

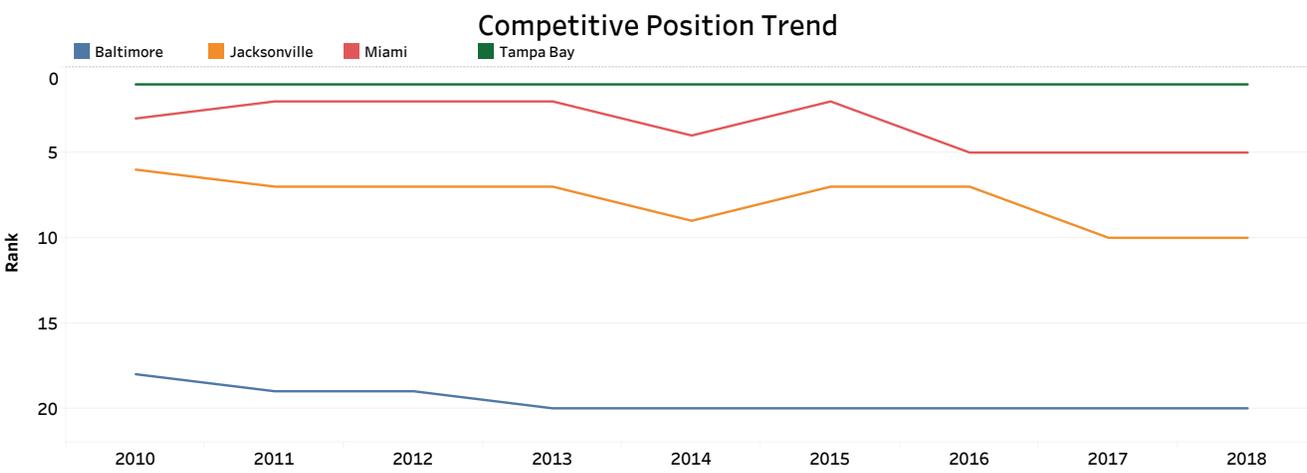
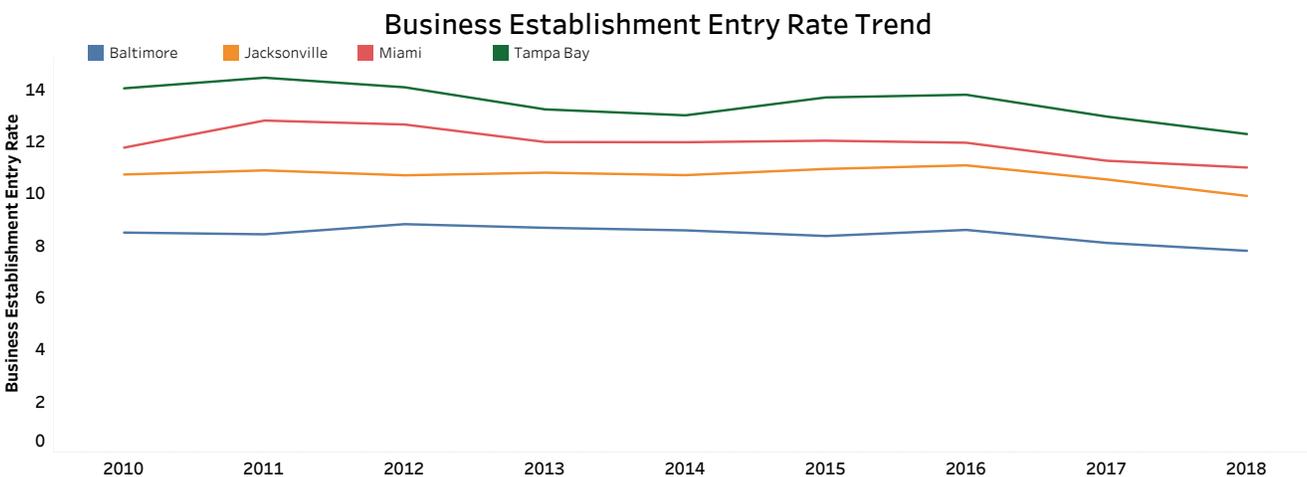
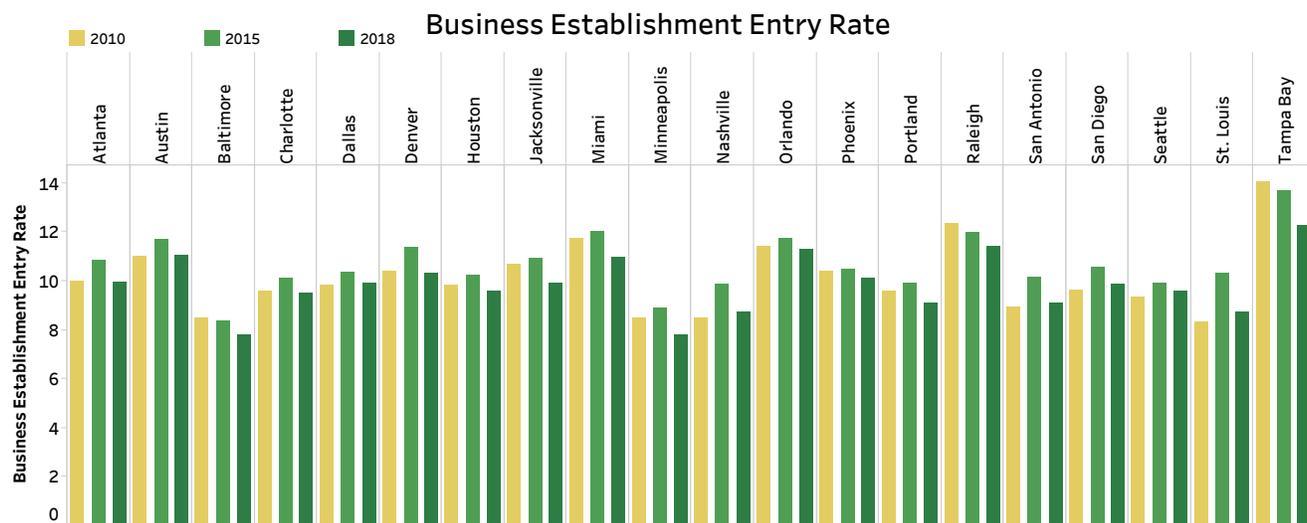
# Business Establishment Entry Rate

## Insights

- The Tampa Bay MSA remained in the first position in terms of business establishment entry rate from 2010 to 2018.
- The Tampa Bay region has experienced a slight decline in the business establishment entry rate since 2016.
- Baltimore has consistently remained in the last position since 2013.

**About:** Establishment entry rate is defined as the count of establishment entrants in year t divided by the average count of employment active establishments in year t and year t-1.

**Source:** U.S Census Bureau, Business Dynamic Statistics.

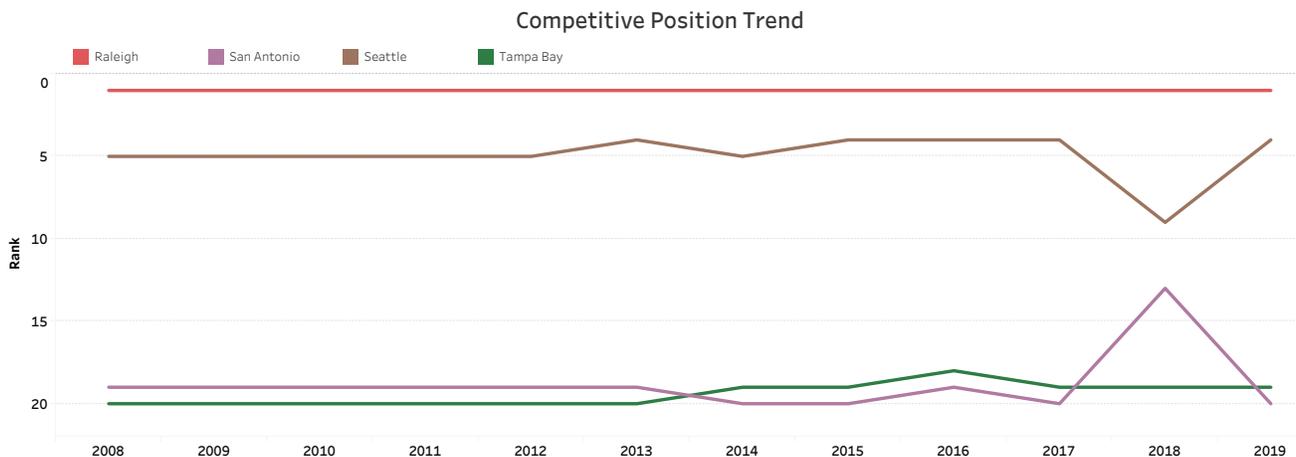
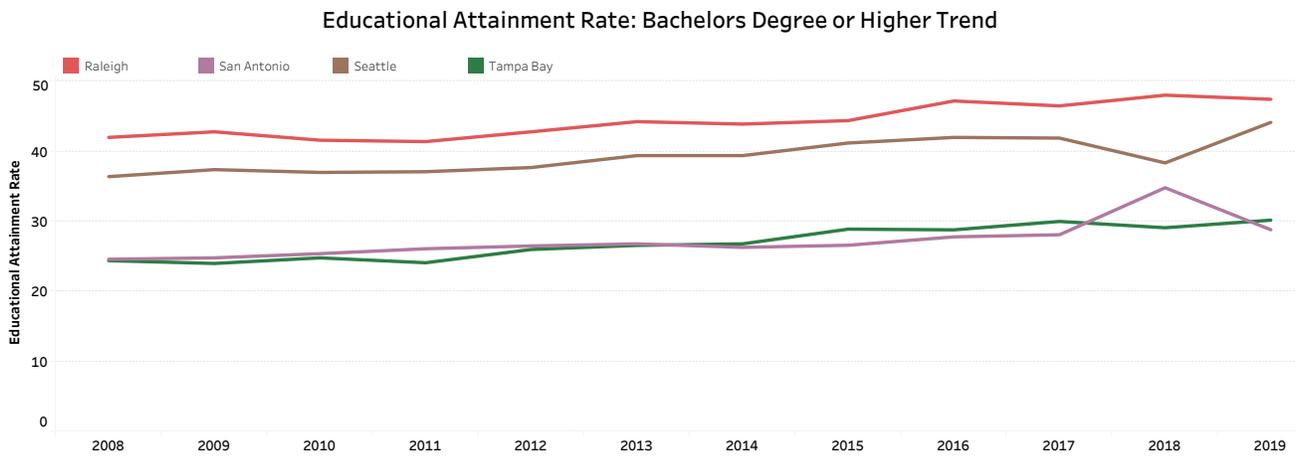
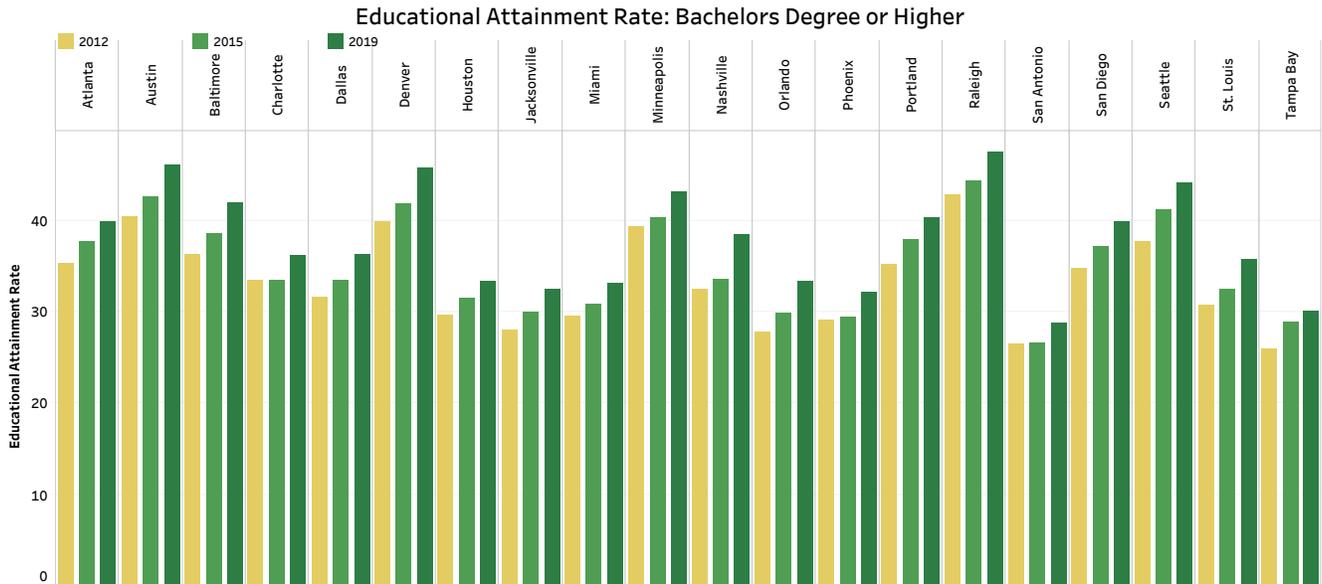


# Educational Attainment Rate: Bachelor's Degree or Higher

## Insights

- The educational attainment rate (bachelor's degree and above) has consistently increased for all MSAs.
- The Tampa Bay region remained in the last position among the comparison group from 2008 to 2013. Its position improved during later years.
- The Tampa Bay region remained in the No. 19 position in 2019.

**About:** Measures the percentage of population, ages 25 years or older who have attained a bachelor's degree or higher.  
**Source:** U.S Census Bureau, American Community Survey, Table S1501.

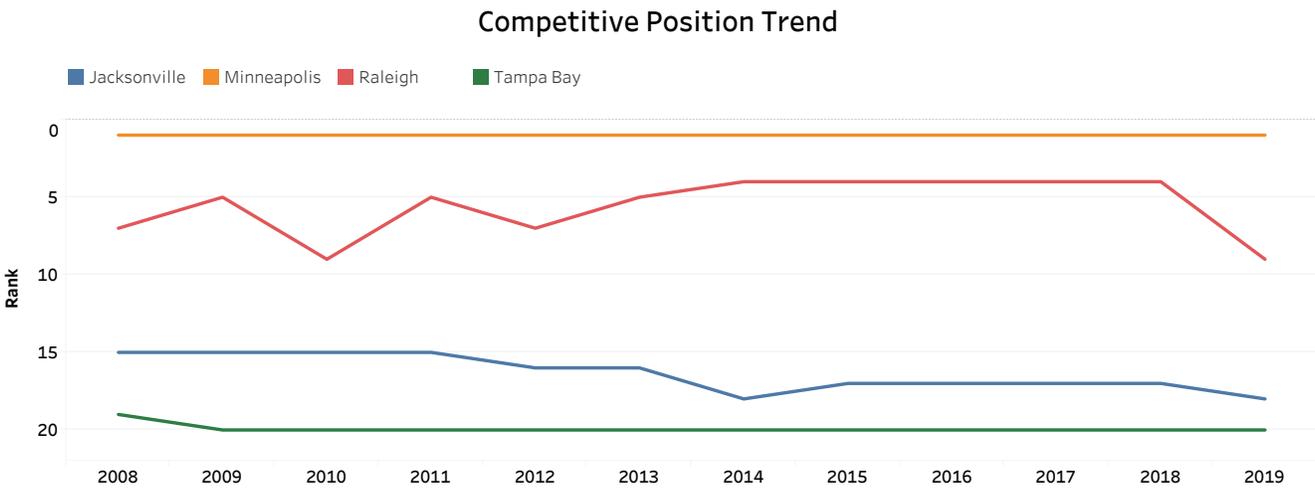
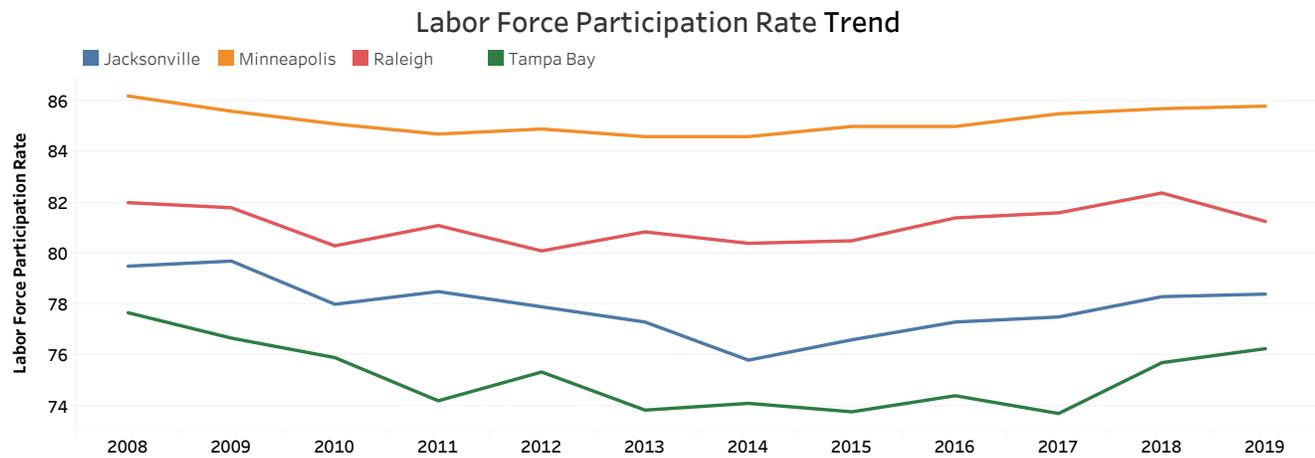
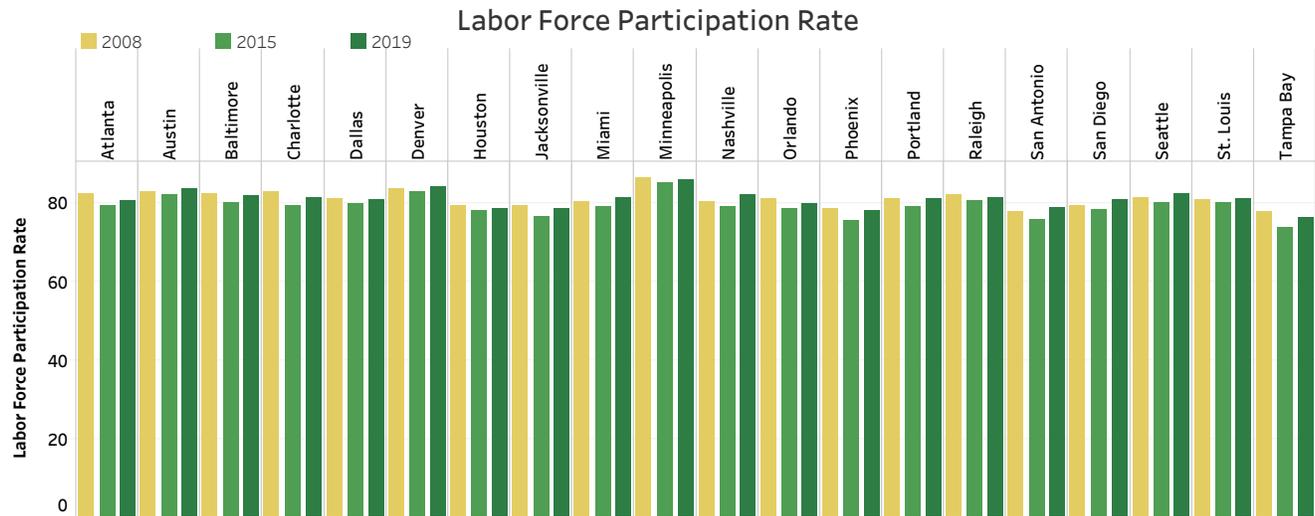


# Labor Force Participation Rate

## Insights

- The labor force participation rate of the Tampa Bay MSA declined from 2008 to 2017 but has been rising since 2017.
- In terms of competitive positioning, the Tampa Bay region has been at the rock bottom since 2019.
- Minneapolis consistently held the top position from 2008 to 2019.

**About:** Measures the percentage of the population ages 16 years old or older working or actively looking for work.  
**Source:** U.S. Census Bureau, American Community Survey, table S2301.

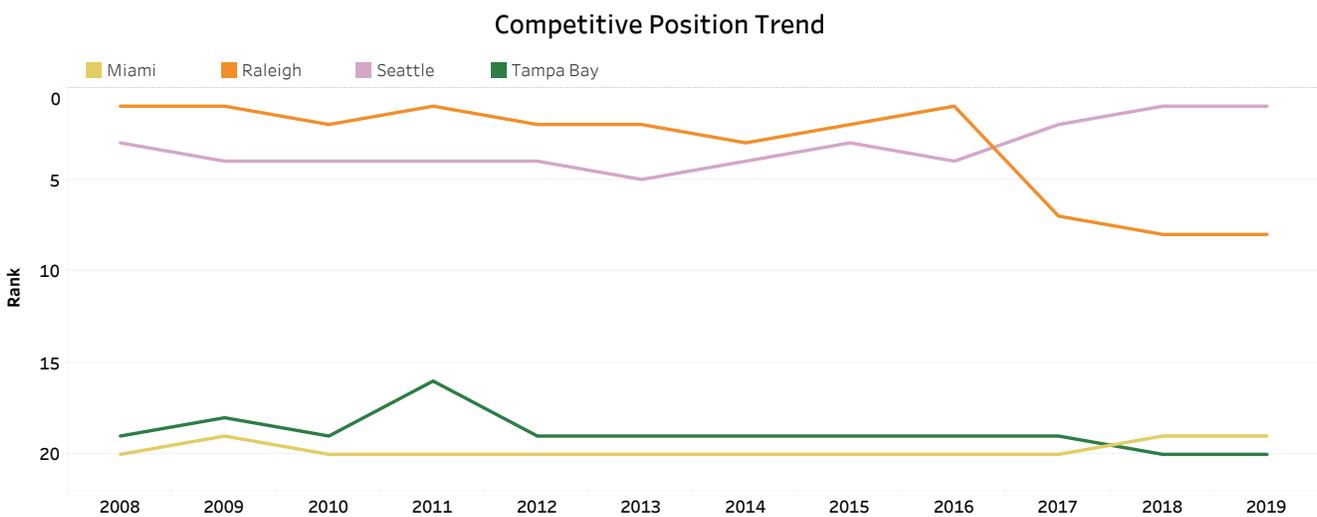
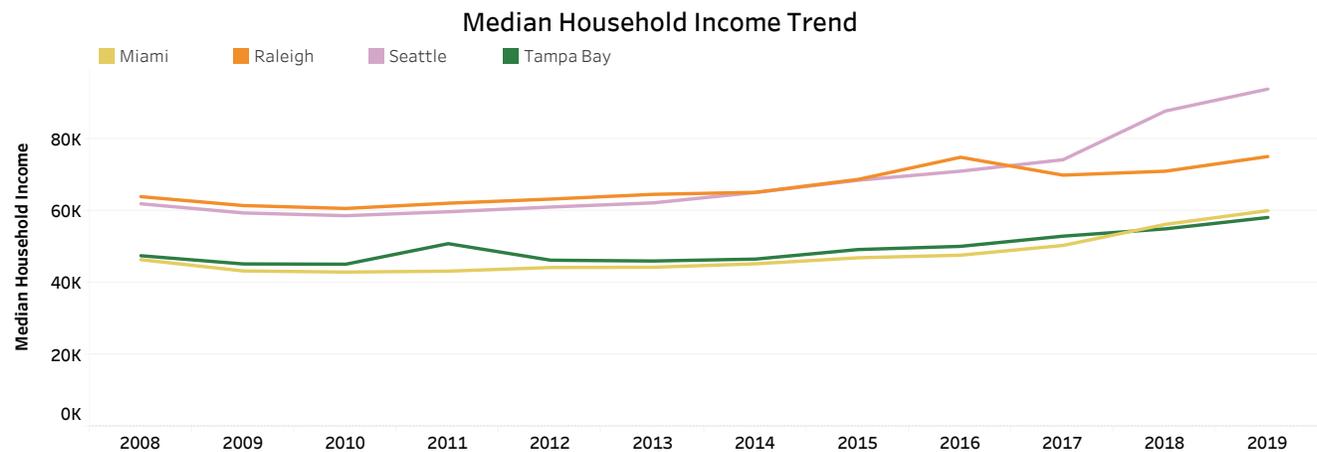
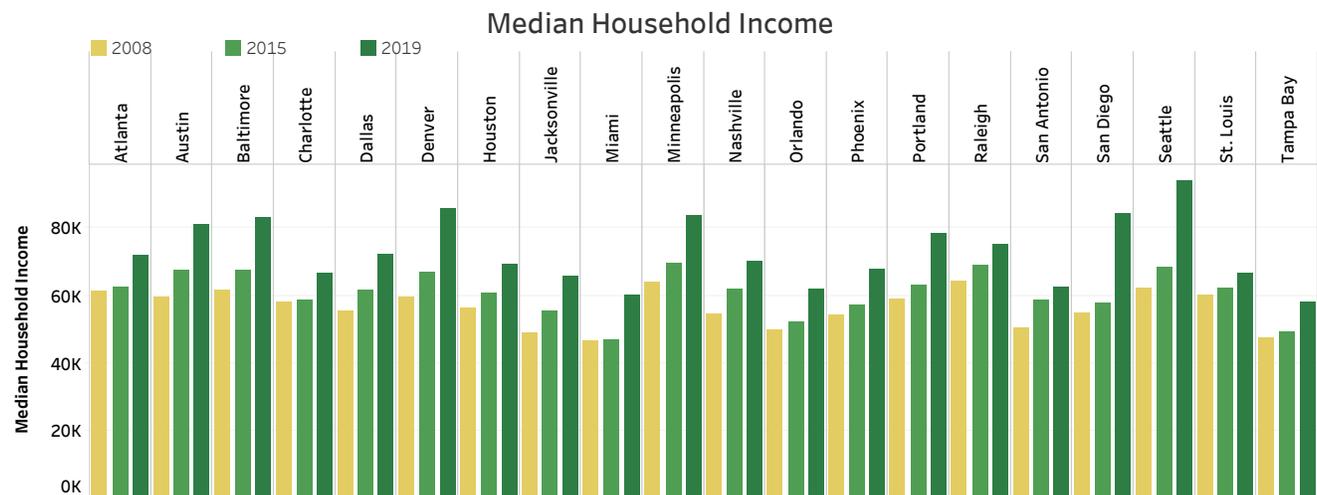


# Median Household Income

## Insights

- The Tampa Bay MSA has gradually improved in median household income over the years examined.
- In terms of competitive position, the Tampa Bay MSA has been fluctuating between the No. 16 and No. 20 positions. The MSA ranked last in 2018 and 2019.
- Seattle ranked first in 2018 and 2019.

**About:** Measures the median of household income. Median income for households, families, and individuals is computed on the basis of a standard distribution.  
**Source:** U.S. Census Bureau, American Community Survey 2016 1-Year Estimates, table S1903.



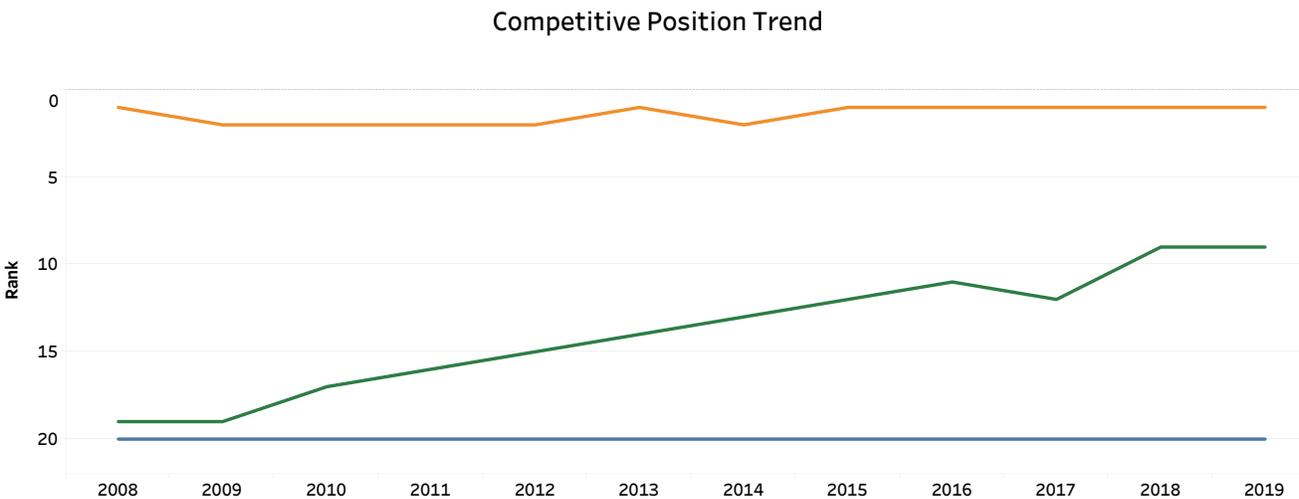
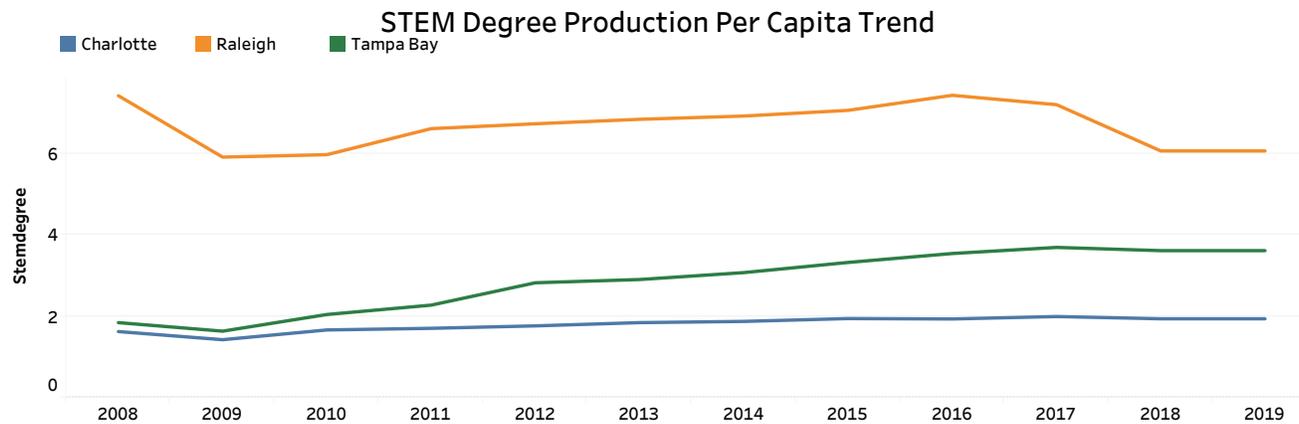
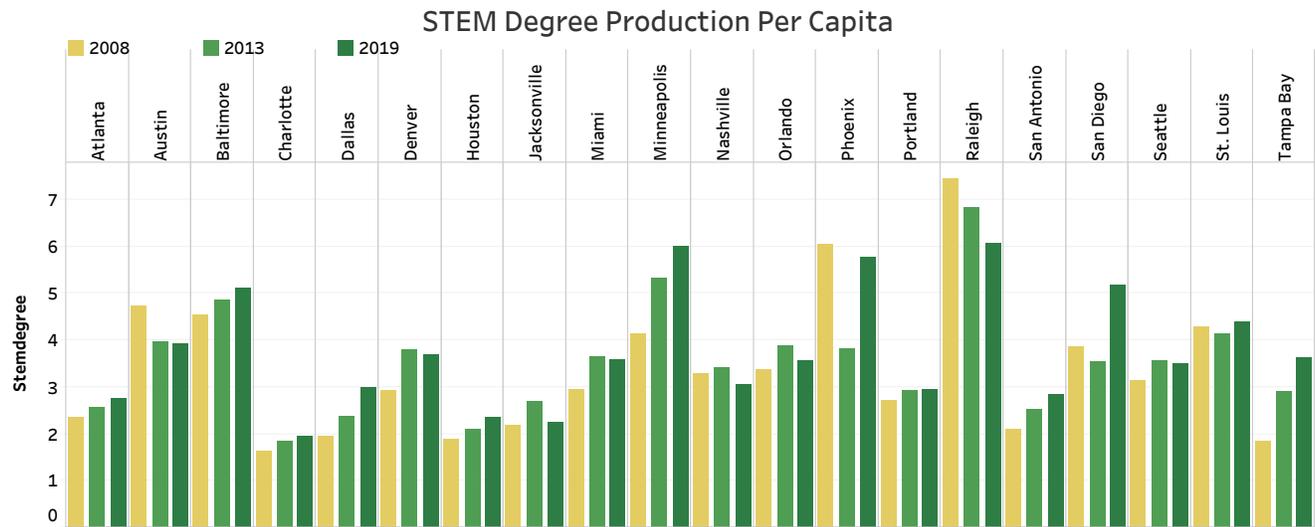
# STEM Degree Per Production Capita

## Insights

- The Tampa Bay and Minneapolis MSAs have improved in STEM degree production per capita at higher rate than other MSAs.
- The Tampa Bay region has steadily improved its ranking since 2009 but dropped in 2017 and improved again in 2018 and 2019.

**About:** Measure of the number of individuals graduating with degrees in science, technology, engineering and mathematics (STEM degrees) per thousand individuals.

**Source:** Higher Education Information System.

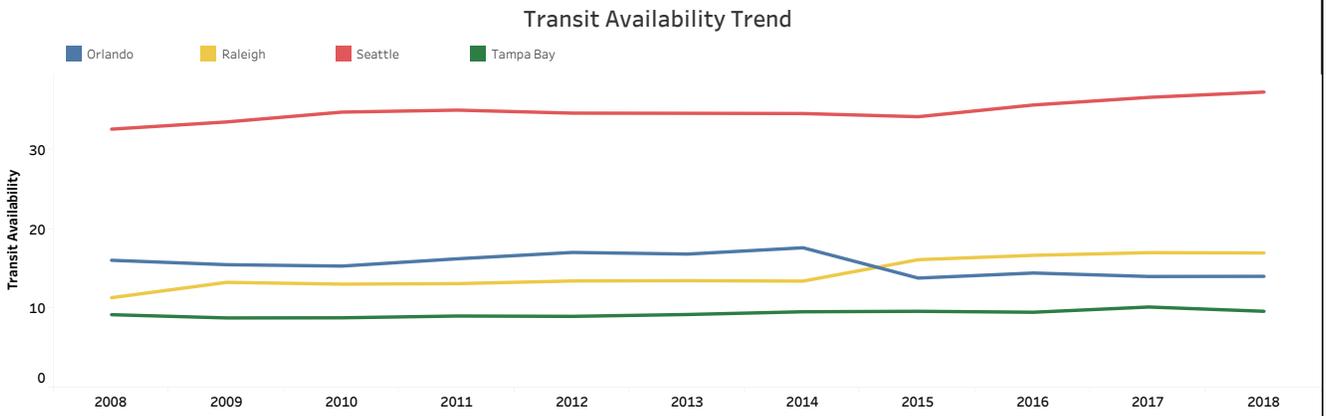


# Transit Availability

## Insights

- Seattle has the highest transit availability compared to all other MSA's.
- The Tampa Bay MSA has the least transit availability among the comparison MSAs.
- Orlando was rising in competitive position until 2014 but has since experienced a decline.

**About:** Measures, on a per capita basis, the number of miles traveled by public transit vehicles during revenue service, meaning that the vehicle is transporting passengers while on the road.  
**Source:** Federal Transit Administration, National Transit Database, Annual UZA Sums.



## Section 2: Impact of COVID-19 on the Economy

The COVID-19 pandemic has disrupted lives, pushed healthcare systems to (or in some cases beyond) capacity and caused a global economic slowdown. As of Dec. 7, there have been 14.9 million COVID-19 cases and more than 285,000 deaths in the United States. Prior to the pandemic, the American economy was thriving and unemployment rates were at a 50-year low. Now, however, unemployment rates have risen to the highest levels since World War II, rising to almost 15 percent in the month of April, 2020. Although unemployment rates are falling. They are still above the rates seen in January and February 2020. The U.S. economy is primarily driven by consumer spending; people are spending less during the pandemic which, in turn, has an effect on business revenue -- and therefore the economy.

The labor market, too, will forever be different with companies adding more technology to help employees work remotely. Some companies will continue this practice post-pandemic thereby reducing demand for commercial real estate. It also gives the people a reason to move away from cities since they can work from home.

In this section, researchers analyze the impact and recovery of COVID-19 on the Tampa Bay MSA using various indicators. The indicators selected are 1) COVID-19 incidence rates, 2) unemployment rate change in 2020, 3) the impact on small business revenue,\* 4) the impact on consumer spending, 5) the impact on urban-suburban relative rental demand, 6) food insecurity rates and 7) the key insights gathered from the overall analysis.



The data sources for this analysis are from U.S. Bureau of Labor Statistics, Feeding America, Zillow research, Womply and Affinity Solutions (economic tracker, tracktherecovery.org). The data sources were provided at either the MSA level, county level or the ZIP code level. When the data was available at MSA level, researchers used the data directly. However, for Raleigh-Durham MSA, which consists of two MSAs (Raleigh MSA and Durham-Chapel Hill MSA) and the Tampa Bay region which consists of four MSAs (Tampa-St. Petersburg-Clearwater, Homosassa Springs, Lakeland-Winter Haven and North Port-Sarasota-Bradenton), researchers aggregated the data from MSA level to regional level by taking a weighted average using population as the weight. When the data was available at the county level, scholars aggregated the data based on the counties present in each MSA and added raw numbers (if available) and took weighted averages with population or per capita income depending on the variable being analyzed.

Researchers present the data in two charts, one which compares the Tampa Bay MSA with the overall MSAs in the analysis and another which compares the Tampa Bay MSA with other Florida MSAs. With one exception, each chart compares either the daily percentage change since January or the monthly percentage change since January. The exception is the food insecurity

chart, which includes data from 2010. Researchers chose to calculate percentage changes instead of comparing the raw numbers because each MSA was impacted by COVID-19 at different points in time of the year -- and each MSA handled the pandemic differently. Further, given that researchers had less than a year's worth of data at the time of writing the report, it made more sense to compare each MSA with how it performed compared to itself before the pandemic. All the charts for all MSAs start at 0. Researchers compared by which the MSA declined or improved in comparison to its value in January.

In addition to the above-described signals, the researchers also analyzed signals from real-time data sources, such as Google Trends, and the data on professional job openings from online job portals, such as LinkedIn and Indeed. 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 a region. Google Trends provides rich insights on the impact of COVID-19 on not only the economy of the region but also on the family life of individuals within a region. Online job portals such as Indeed and professional networking websites such as LinkedIn provide data on professional job openings on daily basis. Scholars used this data to understand the impact of COVID-19 on the job openings of professional jobs in the MSAs of the study.

Finally, scholars present the key takeaways from the analysis for each indicator after the graphical charts.

\*Note – Small Business Revenue data was available only at the city level of the MSA, and no data was available for Orlando.

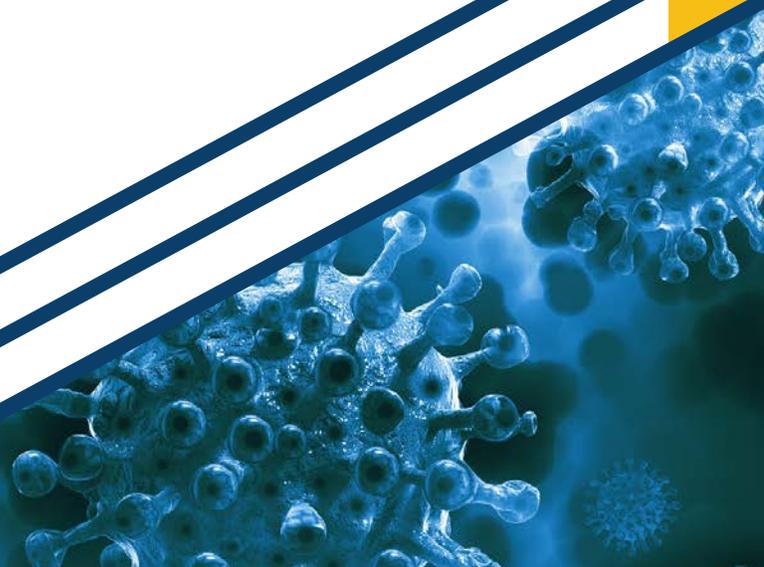
## COVID-19 Incidence Rate

The incidence rate is a measure of the frequency with which the event, in this case COVID-19, occurs over a specific period. Numerically, it is defined as the number of new cases for the disease within a time frame, as a proportion of the number of people at risk for the disease. Researchers tracked the incidence rates for 20 MSAs, including the Tampa Bay MSA. They chose the incidence rate as metric because it allows for easy comparison of the cases across geographies with different populations – specifically as total COVID-19 cases for every 100,000 people. Incidence rate is important because it provides a complete picture of the state of the pandemic in a community.

Data was provided by the John Hopkins Coronavirus Resource Center, which has tracked the virus since January. It is the most comprehensive publicly available dataset and serves as a vital resource for millions of users to follow the novel coronavirus outbreak as it unfolded around the country.

Researchers began by gathering county-level data daily from the John Hopkins Coronavirus Resource Center. They first filtered the data to get only the 177 counties which belong to the 20 comparison MSAs. They then pulled county populations from the U.S. Census Bureau website and added the population, confirmed cases, deaths, recovered and active cases by daily of counties belonging to one MSA to get the total values for that MSA. Researchers did this for all 20 MSAs. The incidence rate was calculated with the formula of  $(\text{confirmed cases} / \text{population}) * 1000000$ .

The COVID-19 incidence rate measures the daily total number of COVID-19 cases reported per 100,000 people. Tracking incidence over time in the graph illustrates the speed of which the virus spread through the community.

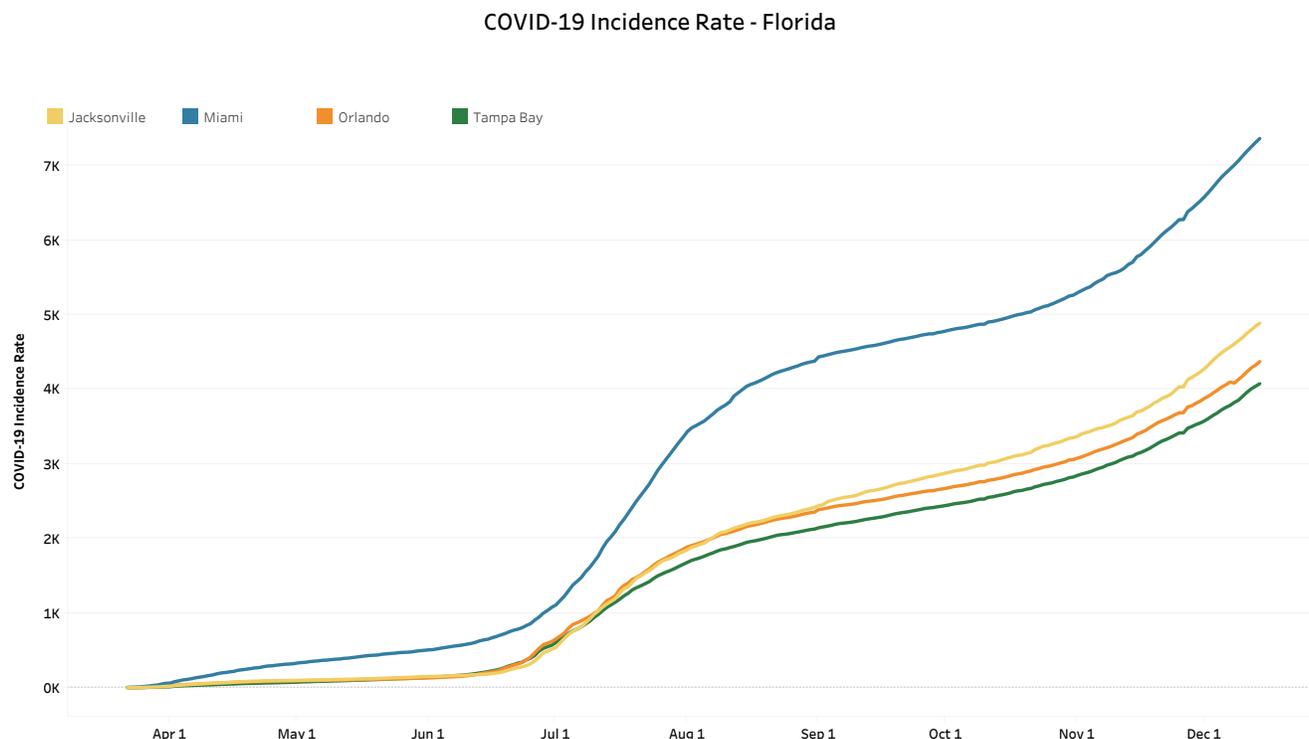
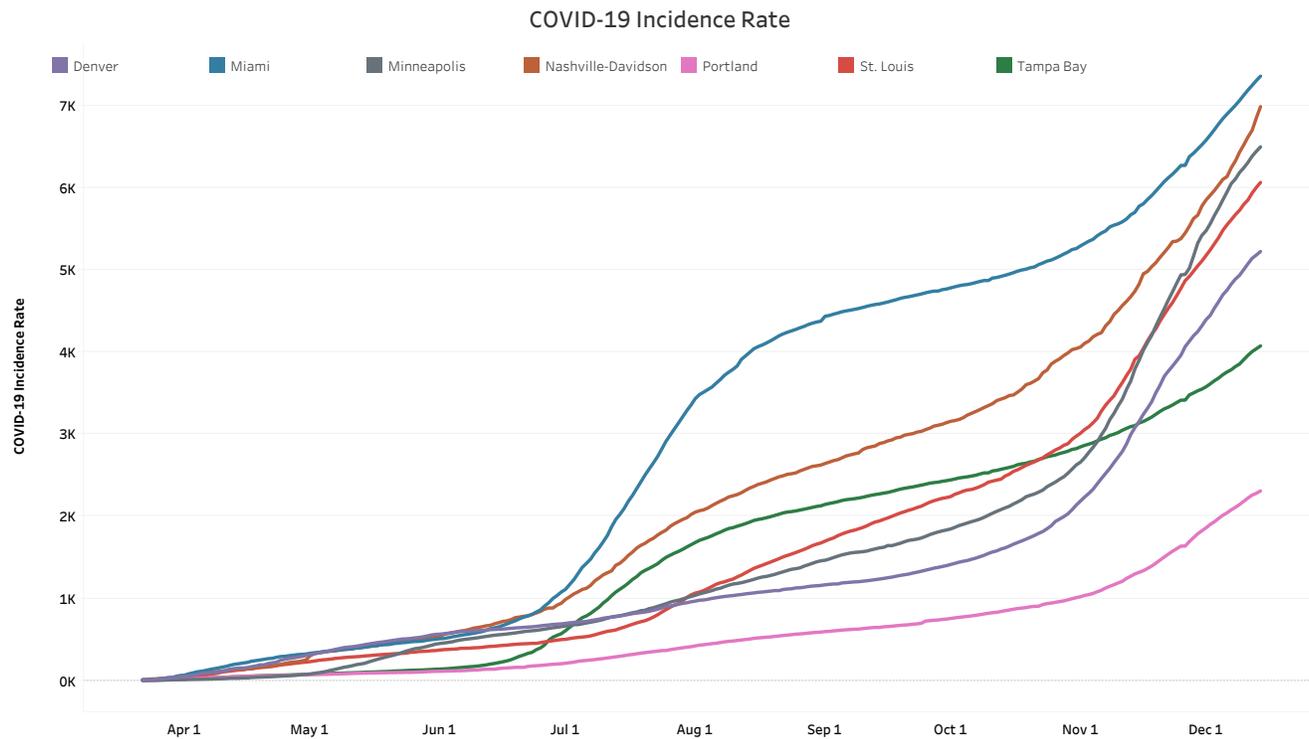


# COVID-19 Incidence Rate

## Insights

- Miami saw the highest daily COVID-19 incidence rates since the end of June, followed by Nashville.
- The Tampa Bay region began experiencing a steep increase in the daily COVID-19 incidence rates starting in July.
- The Tampa Bay region has the least incidence rates among the Florida MSAs.
- Portland saw the least incidence rates relatively.
- Most MSAs saw a steep rise in incidence rates in the month of November.

**About:** This measures the daily total number of COVID-19 cases reported per 100,000 people.  
**Source:** COVID-19 Data Repository by the Center for Systems Science and Engineering(CSSE) at John Hopkins University.



# COVID-19 Impact on Unemployment Rate

The unemployment rate percentage change measures the monthly percentage change in the unemployment rate with respect to that in January 2020. Researchers tracked consumer spending over 11 months for all 20 MSAs.

The unemployment rate shows how many people in the labor force who are seeking a job but do not have a job. Researchers calculated the percentage change in unemployment rates compared to January 2020 before the pandemic. In the economic competitiveness section of the report, they show the trend in unemployment rates annually and competitively among the MSAs. However, comparing the raw unemployment rates do not provide a complete picture. Calculating the percentage change helps provide a more accurate picture of when each MSA started to see the impact of COVID-19 on its unemployment rate. Doing so provides an easier way to see the impact before, during and after the pandemic.

Researchers gathered data from the U.S. Bureau of Labor Statistics, pulling the monthly unemployment rates for 20 MSAs from January through September. Starting in March, the unemployment rates in all MSAs rose sharply; not one MSA has seen rates have not fall back to those seen in January.

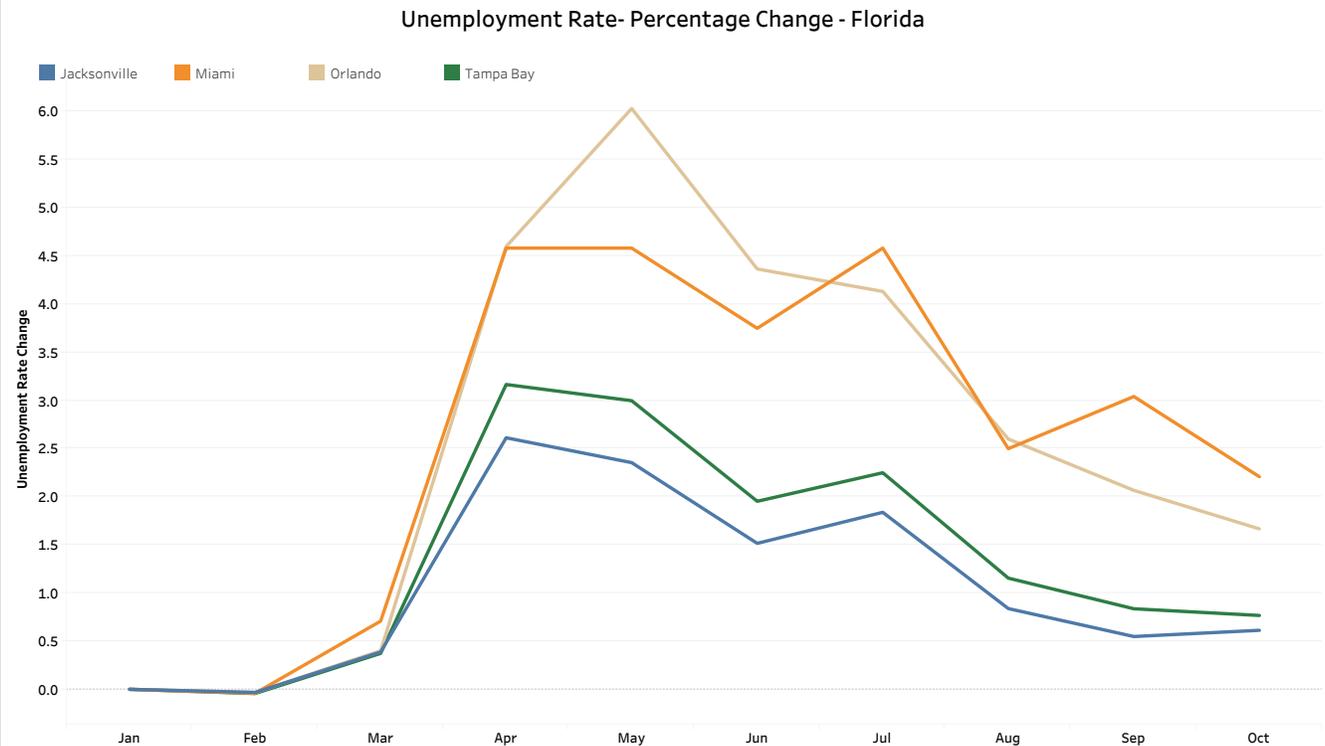
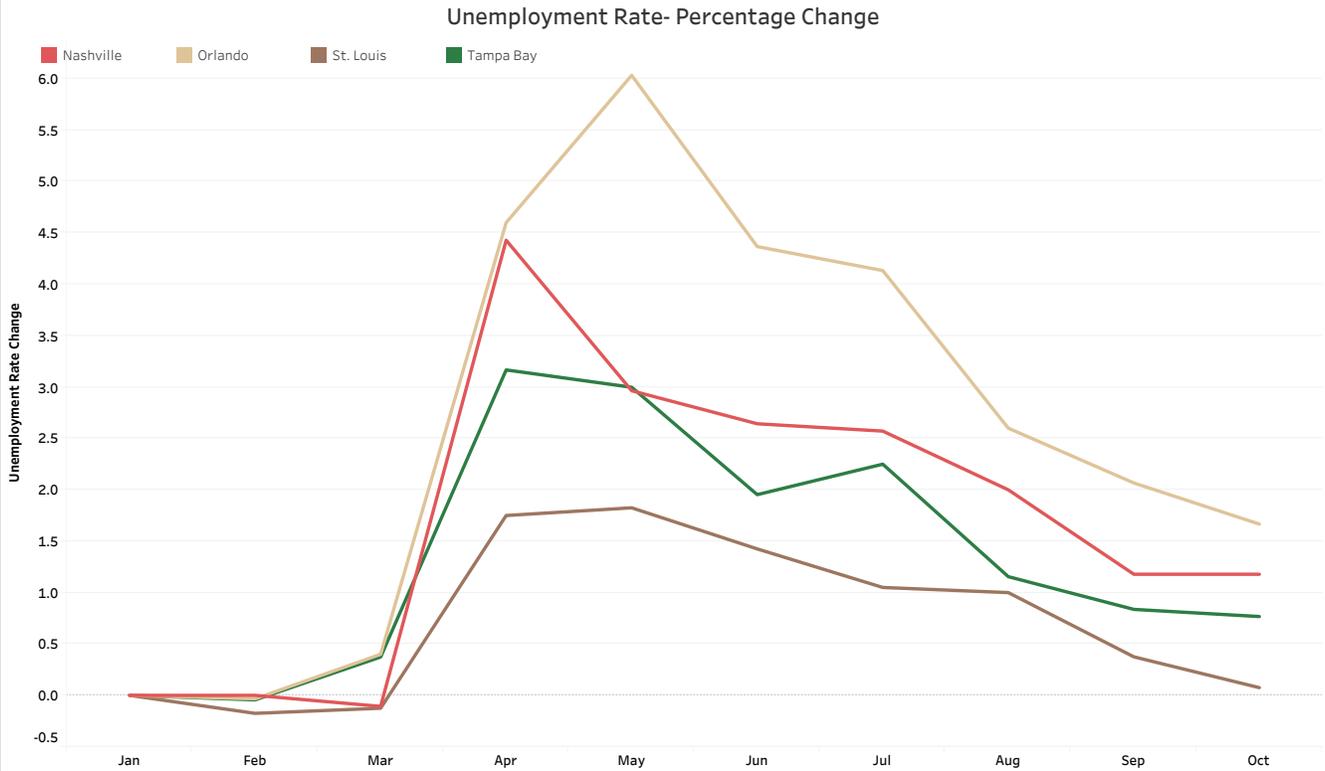
The impact of COVID-19 is evident. Most cities that rely heavily on tourism and service industries have been hit very hard.

# Unemployment Rate - Percentage Change

## Insights

- The Tampa Bay region has recovered well when compared to Miami and Orlando.
- Nashville reported the highest recovery in unemployment rates during the COVID-19 months from No. 18 (June) to No. 3 (September).
- The St. Louis MSA experienced the lowest impact from COVID-19 related to unemployment. Miami and Orlando experienced the greatest impact.
- Jacksonville has slightly been less impacted than the Tampa Bay Region in terms of employment rate, doing better than any other Florida MSA.

**About:** This measures the monthly percentage change in unemployment rate with respect to January 2020.  
**Source:** U.S. Bureau of Labor Statistics.



## COVID-19 Impact on Small Business Revenue

Small business revenue statistics track the seven-day moving average small business revenue for a small business located in a city of the MSA relative to January 2020. Researchers calculated the percentage change of daily revenue over the days with respect to January. They tracked the small business revenue over 11 months for 18 cities including Tampa. They were unable to gather data for Orlando.

They gathered the data for this through Opportunity Insights Economic Tracker. The information for small business revenue comes from Womply.com, a software suite which is used by 10 million American businesses across all 50 states. Womply.com has point-of-sale systems and software through which consumers pay businesses that allowed researchers to estimate the overall revenue generated per day on an average.

The data was available at the city level, with city defined by Womply.com as all the businesses that are physically located in and around the city with the city address on the business store. Researchers filtered the cities belonging to comparison MSAs and plotted the graphs.

Over time, it is easy to see a decrease in business revenue, which fell very sharply from March 15 through May 1. In most cities, revenues began to rise from the dip in May but have not reached the levels in January. Numbers in most cities have not come back up to zero, indicating that the relative revenue is still at least 10 percent lower than pre-pandemic levels seen in January.

The major limitation with this data is that the sample only represents businesses which use the Womply.com software suite. Nonetheless, researchers believe this to be an accurate representation of the trend of revenue generated across all businesses.

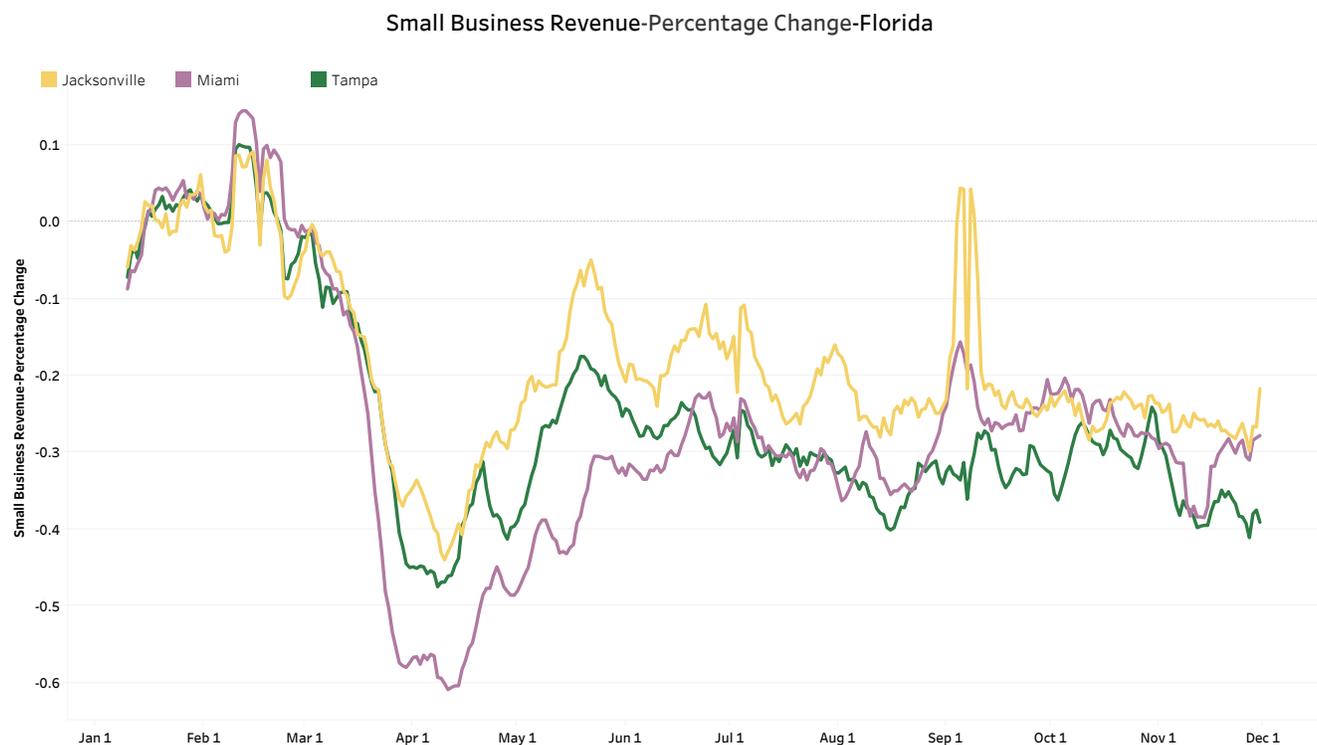
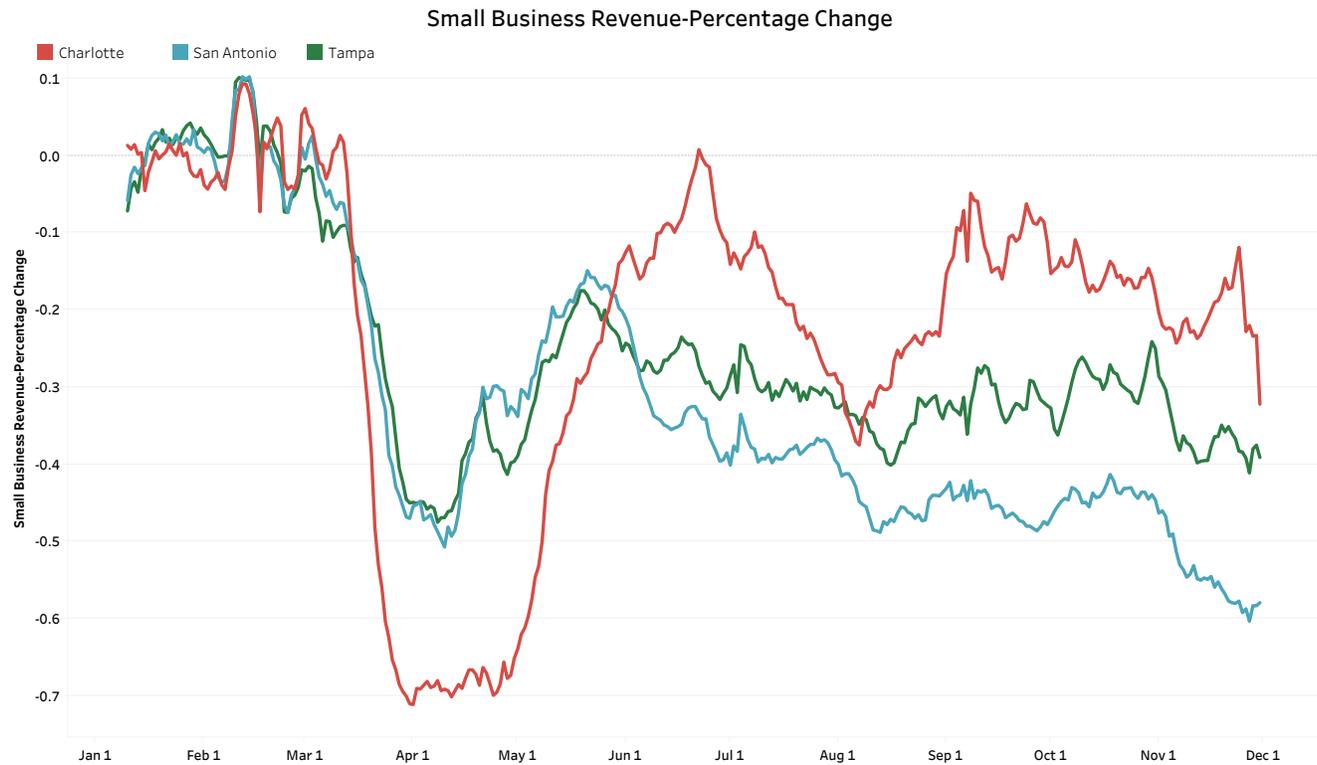


# Small Business Revenue-Percentage Change

## Insights

- San Antonio has made the slowest recovery. It recovered to only 43 percent of that in January by the end of November.
- All cities experienced a downfall in small business revenue in the second week of February and recovery in the first week of May.
- For the city of Tampa, small business revenue dropped to almost half of that in January by the end of May. It has recovered to 80 percent by the end of September.
- Miami was worse hit than Tampa with small business revenue dropping to 40 percent of that in January by the end of May.
- The city of Charlotte was the most impacted and the best recovered city in the comparison group. The small business revenue dropped to 35 percent and has recovered to 90 percent of that in January by September.

**About:** This measures the seasonally adjusted seven day moving average small business revenue relative to January 4-31 2020, for people living in the MSA.  
**Source:** Womply - Opportunity Insights, Economic Tracker.



## COVID-19 Impact on Consumer Spending

Consumer spending tracks the seven-day moving average credit/debit card spending by the 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 11 months for 20 MSAs.

They gathered the data for this through 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 Affinity Solutions, the world's leading data-led intelligence platform. It buys data of first-party credit and debit card transactions daily which are anonymized for analysis.

The data available was at a daily county level. In order to aggregate it to the MSA level, scholars could not do a simple average, instead they opted to use a weighted average with per capita income of the county as a proxy. They gathered the per capita income data from U.S. Census Bureau and then multiplied the per capita income with population of the county and percentage change in spending on a daily basis and summed it by county. Researchers then summed the product of per capita income and population of each county and divided the former with the latter to get the percentage change for each MSA at a daily level.

Researchers note a decrease in consumer spending over time, which fell very sharply during March 15 through May 1. Numbers then rose, climbing closer to zero indicate that the relative expenditure is almost close to pre-pandemic levels in January. For some MSAs, consumers are spending more than they were pre-pandemic.

The major limitation with this data is the data source doesn't mention to total sample population size taken into the analysis. Nonetheless, researchers believe this to be an accurate representation of the population and the trend.

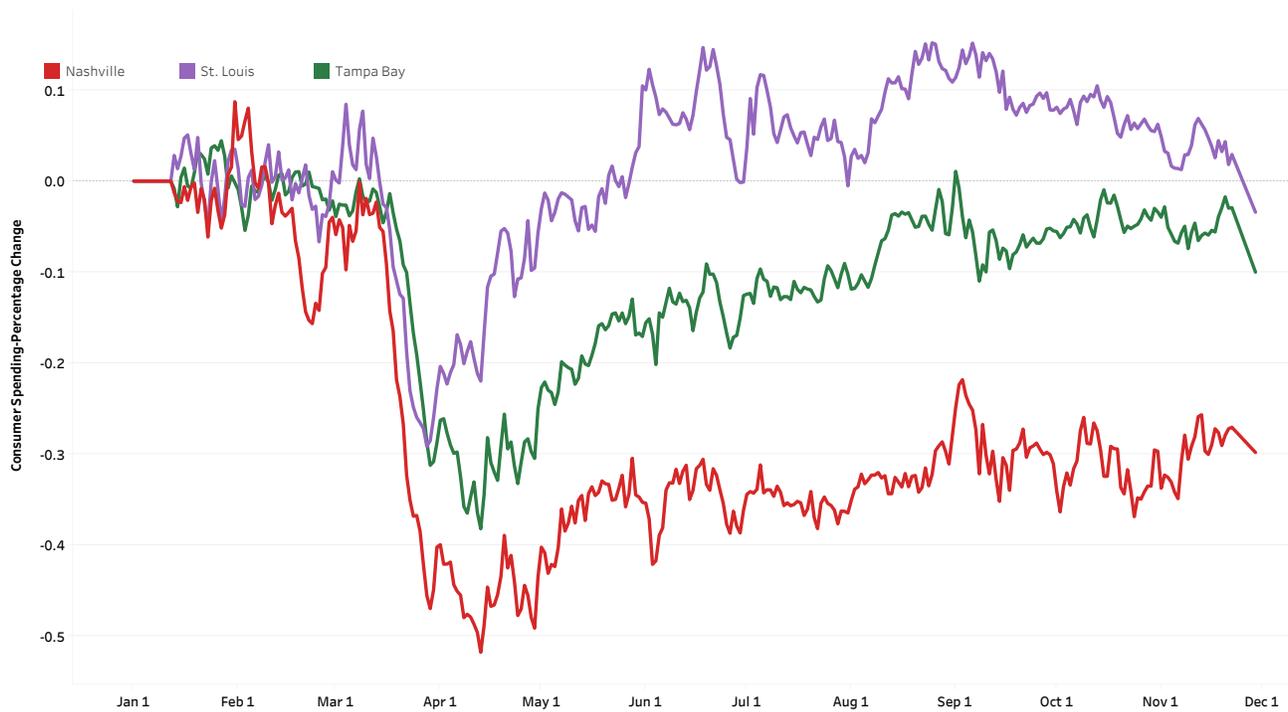


# Consumer Spending - Percentage Change

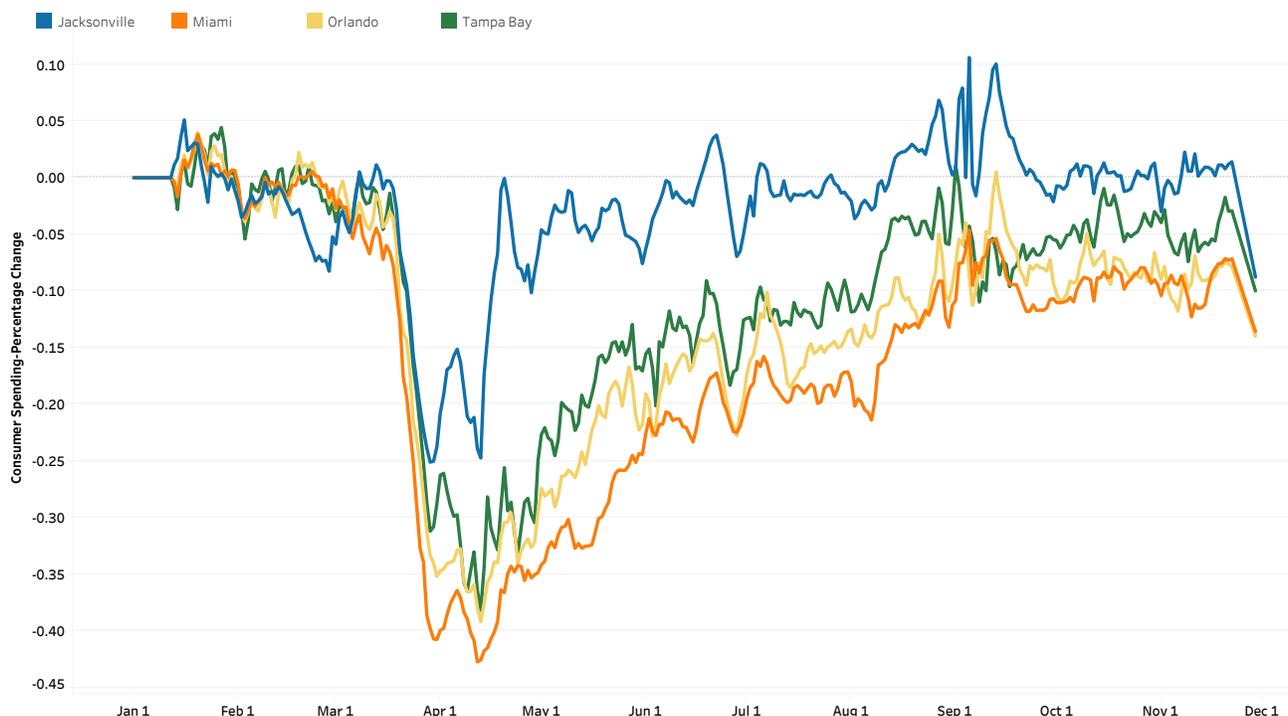
Insights

- For the Tampa Bay region, consumer spending dropped to 64 percent in mid-May and recovered to close to 100 percent of its January value by mid-October.
- The Nashville MSA experienced a drop to almost 50 percent and has recovered to only 70 percent of its January value.
- St. Louis consumer spending was 13 percent higher in September than that in January.

**About:** This measures the seasonally adjusted seven day moving average credit/debit card spending relative to January 4-31 2020, for people living in the MSA.  
**Source:** Affinity Solutions - Opportunity Insights, Economic Tracker.



Consumer Spending-Percentage Change - Florida



# COVID-19 Impact on Urban-Suburban Rental Demand

This measures the percentage change in the ratio rents in suburban ZIP codes in the MSA by the urban ZIP codes. Effectively, the ratio is a measure of how consistently or inconsistently the suburban or urban rents rises over time. An increase over zero indicates that, the suburban rents in that MSA are higher than urban rents and a decrease indicates vice-versa. Researchers measured this to test the hypothesis that suburban rents are increasing and to determine if people began fleeing from cities (and flocking to suburbs) due to COVID-19.

This data was gathered from Zillow Research, which collects average monthly rents by ZIP code. Researchers filtered out the ZIP codes which fall in a particular MSA based on Zillow's methodology of classifying a zip code urban, suburban or rural. They averaged the rents in suburban and urban ZIP codes and divided them to get the ratio for each MSA month-by-month.

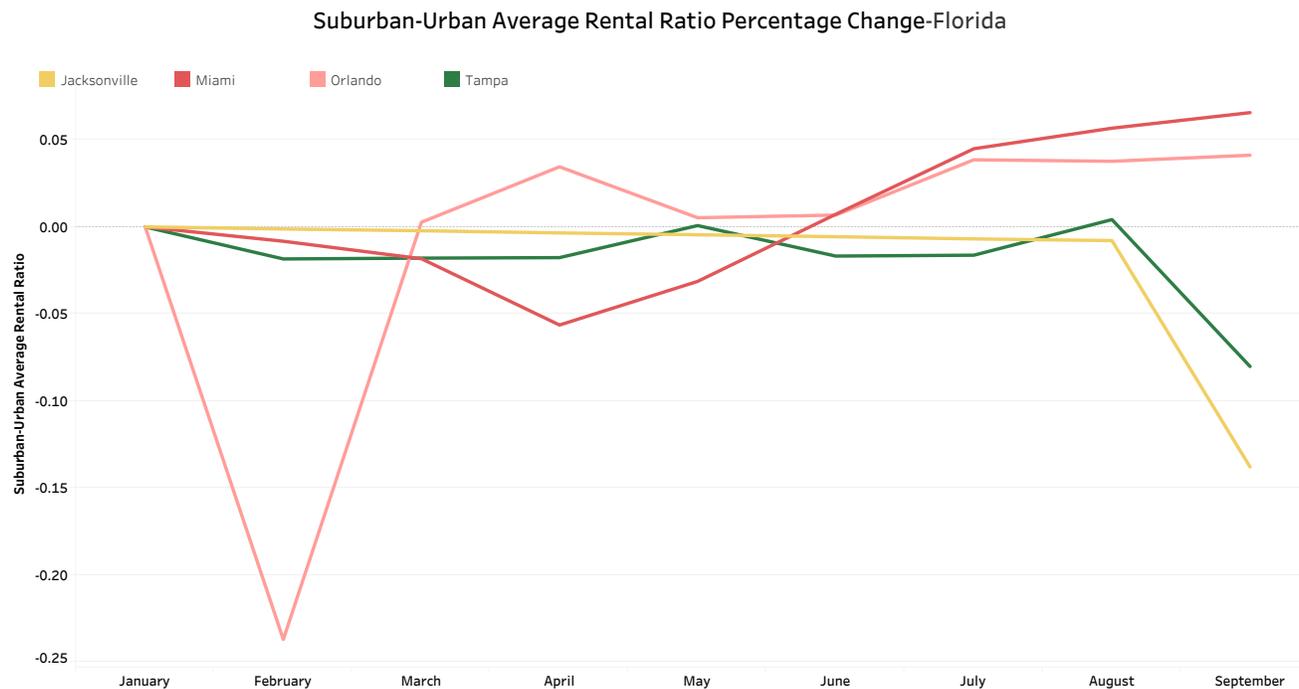
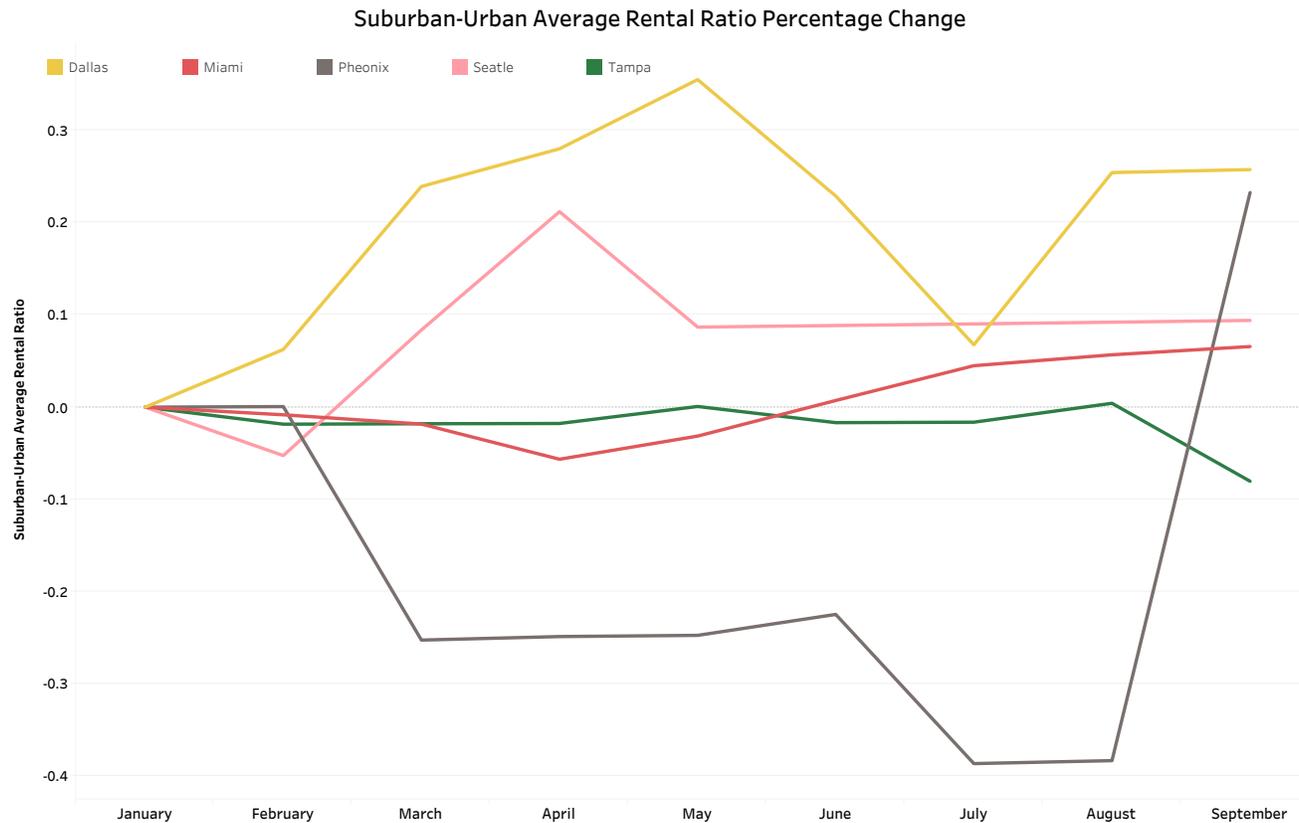
The main limitation of this data is that rent per square foot would be the most accurate way to compare the rent between urban and suburban zip codes. Researchers did not, however, have that granularity of information.

# Suburban-Urban Rental Demand

## Insights

- Suburban rates began to increase in February for some cities, but this was not seen across the board.
- Phoenix saw a steep decline in suburban rents with respect to urban, but had a sharp spike in October.
- Tampa and Jacksonville are showing a decreasing trend with urban rent increase faster than suburban rents.
- It is difficult to infer the effects of COVID-19 on relative rental demand. Some trends were present even before February.

**About:** This measures the change in ratio of rents in suburban zip codes in the MSA and Urban zip codes.  
**Source:** Zillow Research.



# Key Insights from COVID-19 Analysis

Researchers looked at the impact of COVID-19 and found that among Florida MSAs, Jacksonville fared best with lower COVID-19 incidence rates and better unemployment rates. While the region did not fare as well as Jacksonville, the Tampa Bay MSA has been relatively less impacted by COVID-19 as compared to the Miami and Orlando MSAs. Both the COVID-19 incidence rates and unemployment rates for the Tampa Bay region have been lower than those in Miami and Orlando.

When it comes to small business revenue, data that is available at the city level, researchers again saw that Jacksonville had less of an impact than Tampa, but Tampa still fared better than Orlando and Miami.

The analysis indicates that the Tampa Bay MSA is on the path of recovery. In terms of consumer spending, the Tampa Bay region has recovered to the 100 percent of January value by mid-October. The unemployment rate for all the MSAs, including Tampa Bay, is declining which is, of course, a positive sign.

One insight from the analysis worth noting is that, contrary to popular speculation that people are fleeing from cities as a result of work-from-home and real estate opportunities, researchers did not see any evidence for the changing relative demand for rental properties in urban and suburban regions of MSAs.

# Signals on COVID-19 Impact from Google Trends

What is happening to the economy? How bad is it? Are things starting to look any better? Questions like this are commonplace throughout the country during the pandemic crisis as people struggle to survive and adapt. Some of these questions may be answered in part from interesting real-time data on searches that people conduct on Google. Here, scholars used real-time data from Google searches to gauge various aspects related to how COVID-19 affects the economy. In particular, they studied the following categories through Google searches:

- COVID-19 disease concern
- Employment related concern
- Signs of need for food and essential supplies
- Travel and hospitality industry demand
- How local commerce is affected
- How family life is affected

Google Trends is an online tool that analyzes the popularity of search queries on Google across multiple regions. Google Trends is very helpful in tracking the movements in the markets or economy on real-time basis. The Google Trends tool creates a search index for each search unit based on its popularity relative to all other search terms queried in a region. The index value ranges between 0 and 100. The higher the index value for a search query, the higher the popularity for that search query.

Researchers conducted a trend analysis to understand the impact of COVID-19, not only to evaluate the economic health of the comparison MSAs, but also to examine the level of its impact on the health and family life of the individuals in the MSAs of study. The index data was collected for 20 MSAs between January 2020 and October 2020. The index values for the Tampa Bay MSA are for the Tampa-St Petersburg-Clearwater MSA alone and do not include the three other MSAs considered part of the Tampa Bay region in this report.

## 1. COVID Concern

This is the proxy for the level of concern the population of a regions is showing for pandemic.  
*“covid” + “covid symptoms” + “coronavirus cases” + “covid testing near me” + “toilet paper”*

## 2. Employment Concern

This is the proxy for the impact of COVID-19 on the economy and employment levels.  
*“hiring freeze” + “layoffs” + “severance pay” + “unemployment benefits” + “unemployment”*

## 3. Search for Assistance

This is the proxy for the impact of COVID-19 on the individuals belonging to low-income strata  
*“food stamps” + “free food” + “free meals” + “small business loans” + “soup kitchen near me”*

## 4. Local Commerce

This is the proxy for the impact of COVID-19 on the regular commercial activity of a region.  
*“concert tickets” + “events near me” + “malls near me” + “movies near me” + “opera tickets”*

## 5. Online Retail

This is the proxy for the impact of COVID-19 on the e-commerce activity in a region.  
*“Amazon grocery” + “canned food” + “food delivery” + “grocery delivery” + “online grocery”*

## 6. Family Life

This the proxy of how family life of individuals is impacted by the pandemic. Researchers looked at domestic abuse, divorce and fun activities.

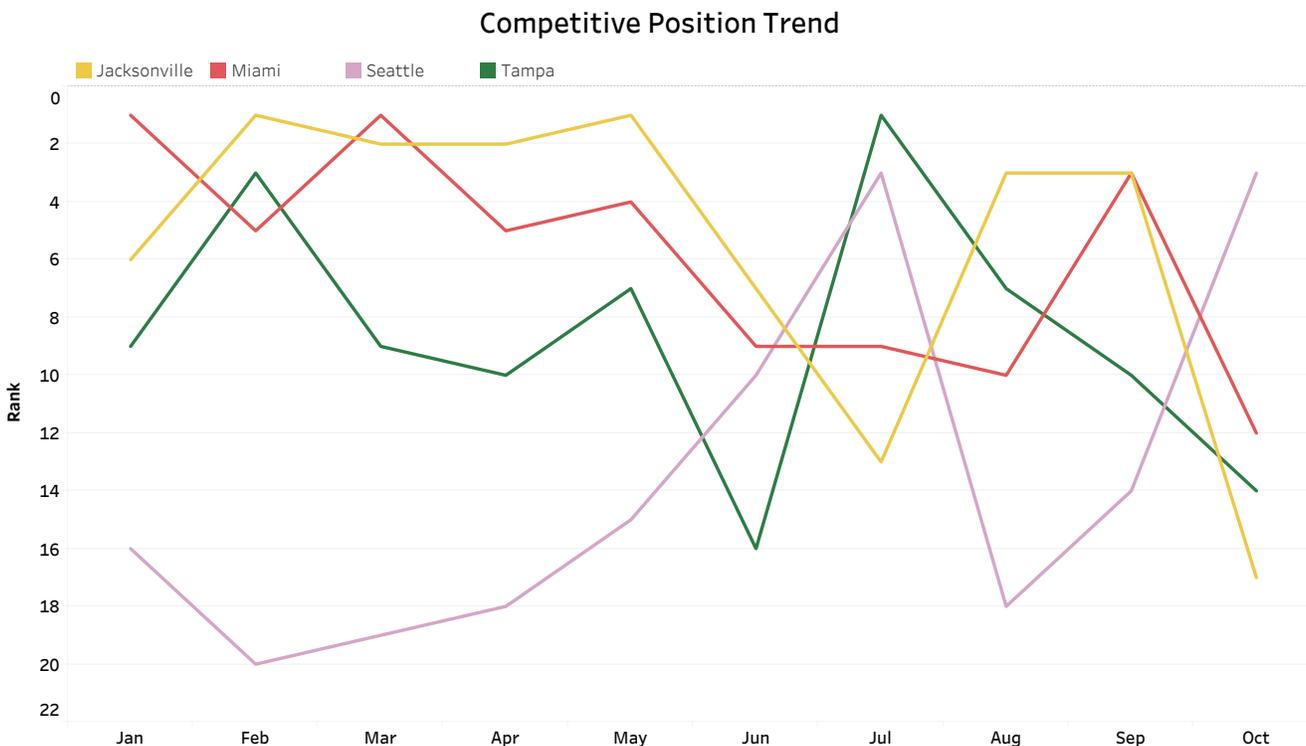
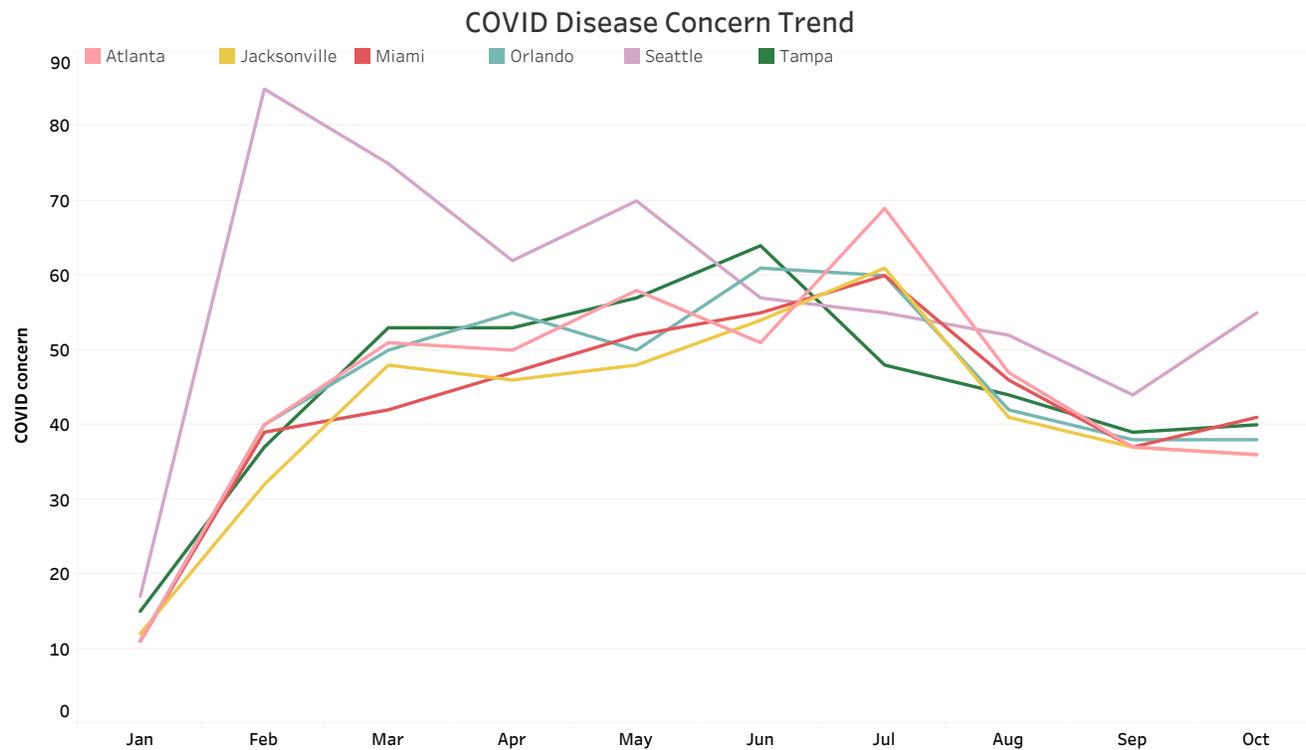
- a) Domestic abuse: *“domestic abuse”*
- b) Divorce: *“divorce lawyers”*
- c) Fun activities: *“family games” + “fun games” + “cleaning”*

# COVID-19 Disease Concern

## Insights

- The COVID-19 disease concern peaked during the months of February to June. It declined in the following months. But, there is a bounce in concern after September.
- The Tampa Bay region's COVID-19 disease concern peaked in June.
- The Tampa Bay MSA showed least concern among the comparison MSAs in the month of July.

**About:** Google Trends based proxy for disease concern during the COVID-19 pandemic.  
**Source:** Google Trends.

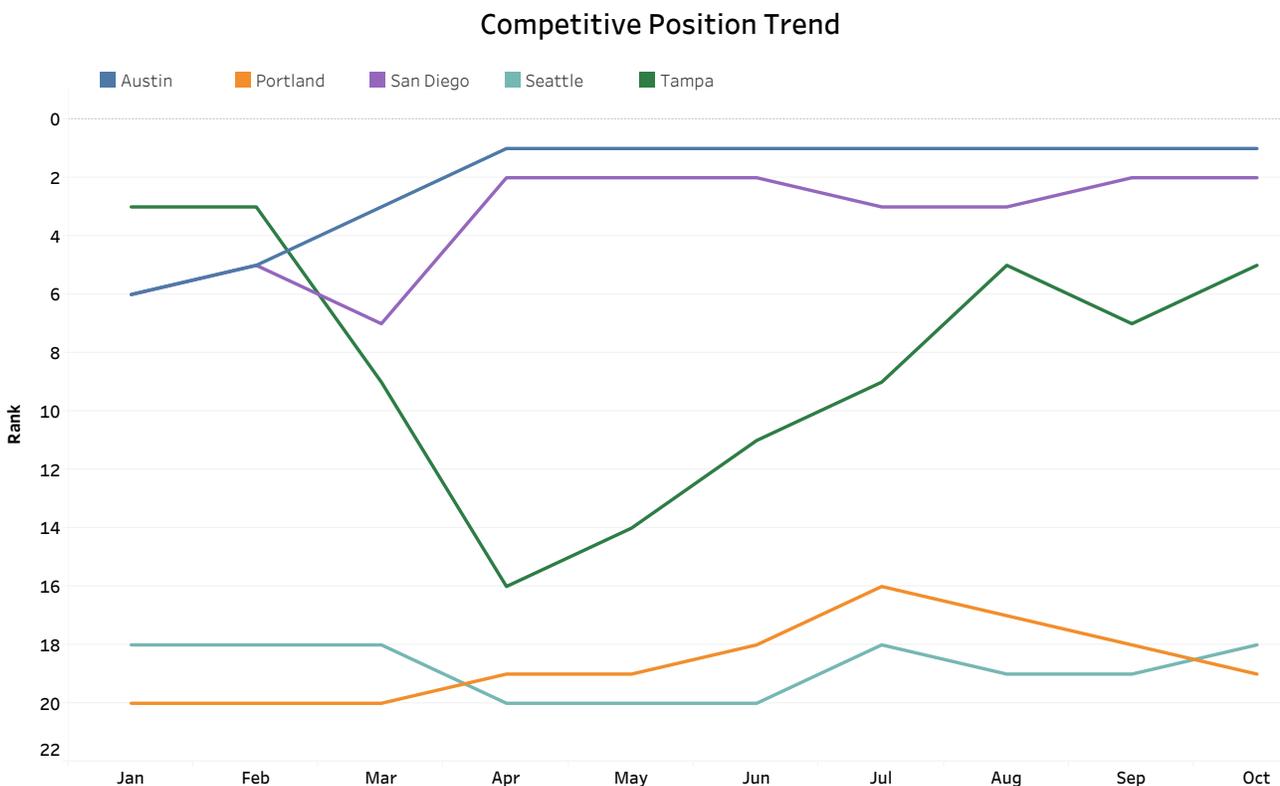
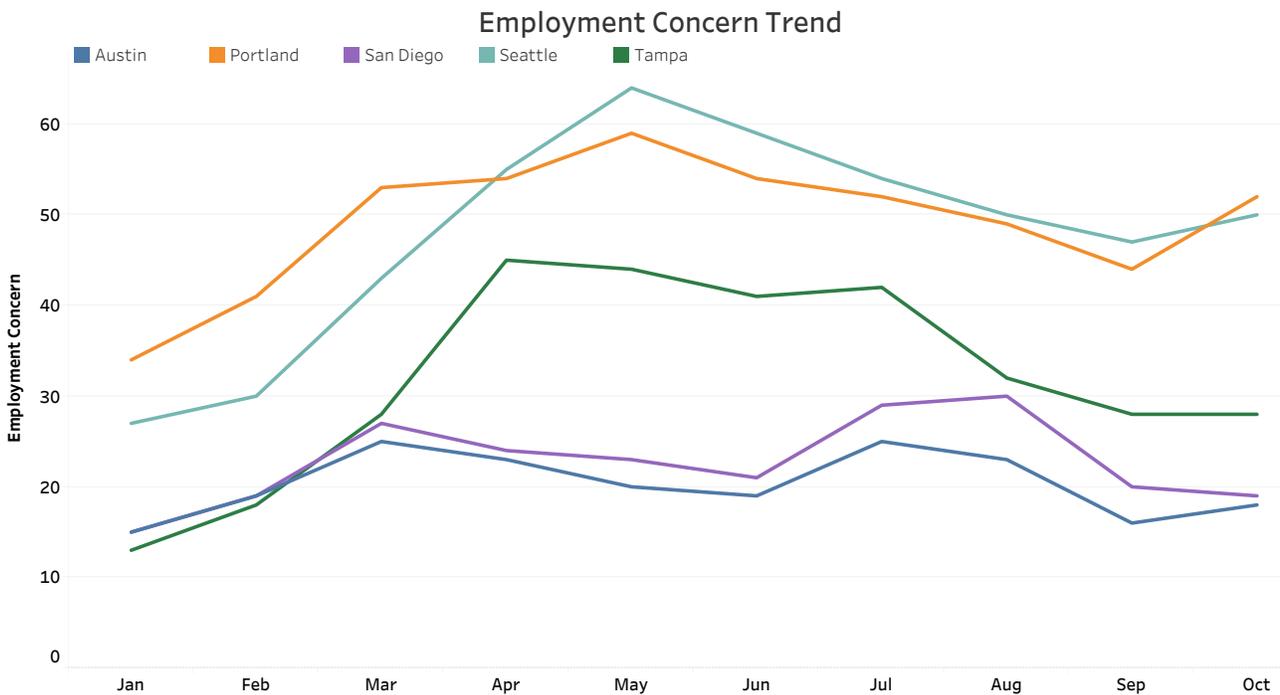


# Employment Concern

## Insights

- The Seattle and Portland MSAs exhibited the highest concern for unemployment and unemployment benefits the Austin and San Diego MSAa exhibited the least concern.
- The Tampa Bay MSA's concern for unemployment peaked during the month of April to July but has consistently declined since then.
- Austin remained at the top in terms of competitive positioning.
- The Tampa Bay MSA's competitive position declined from No. 3 in Feb to No. 16 in April, and improving ever since. It is at No. 5 as of October.

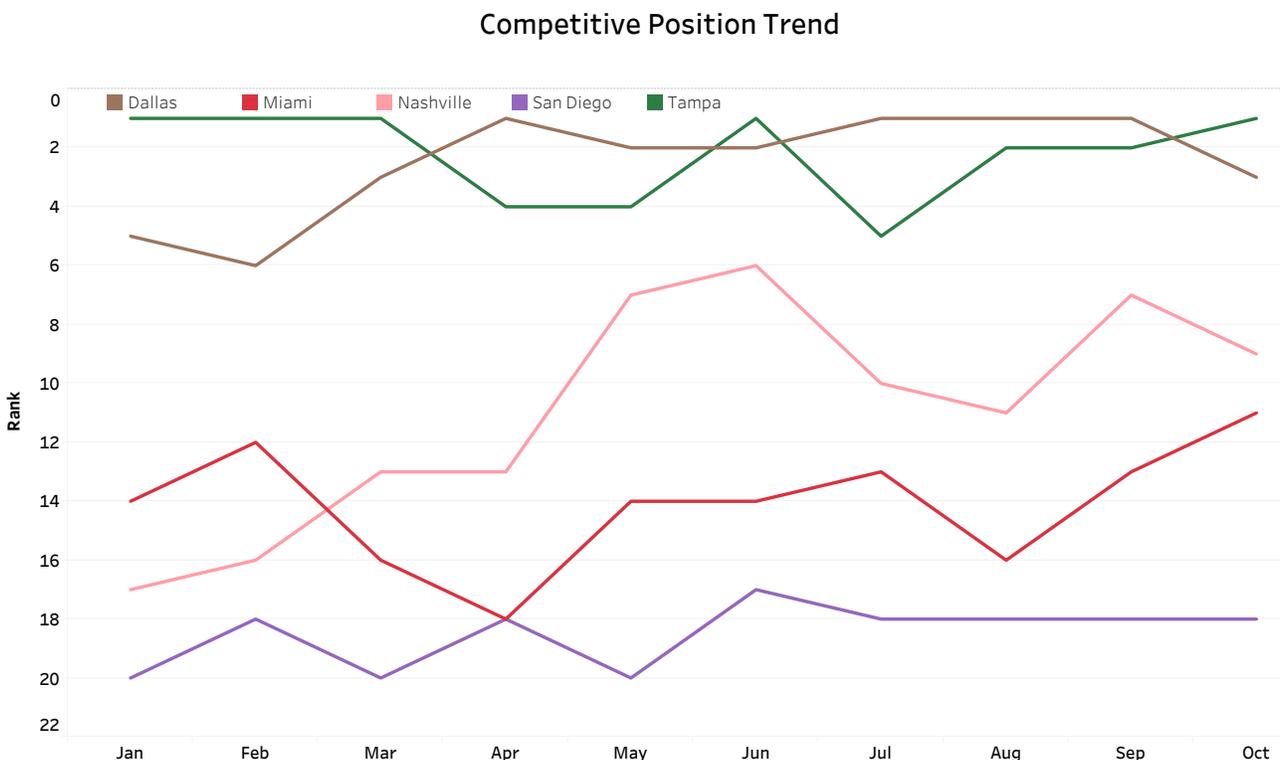
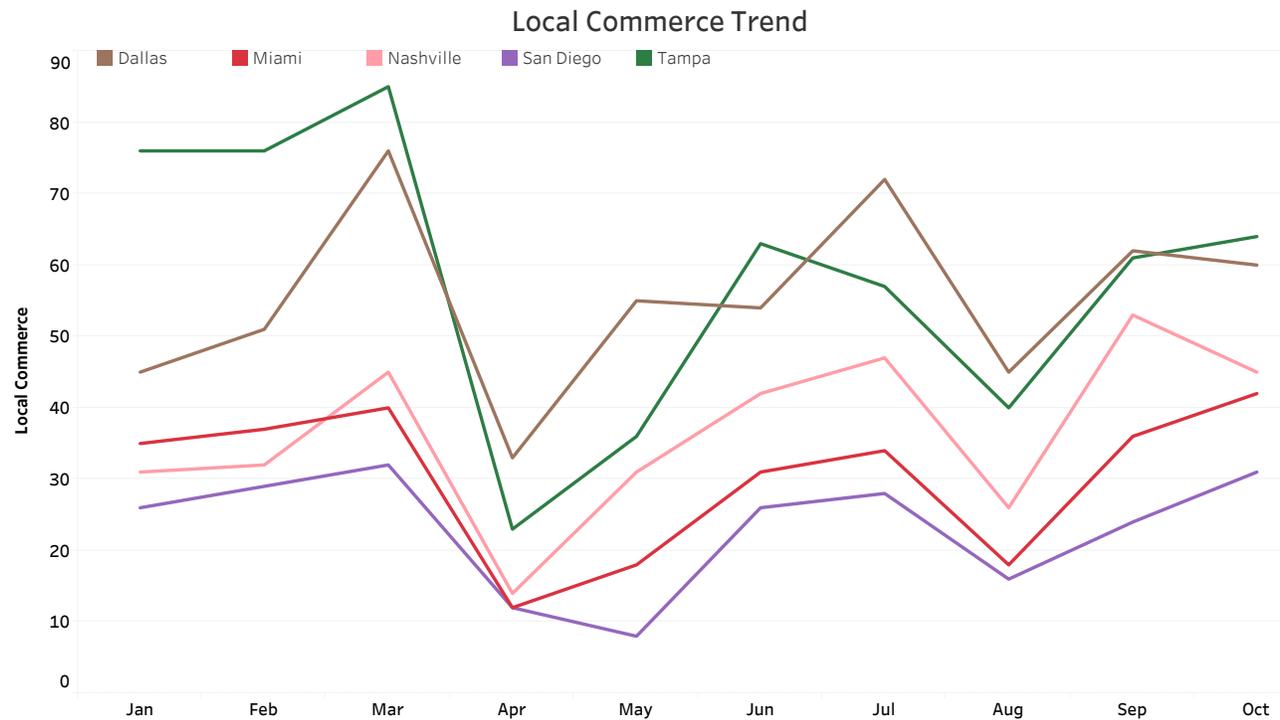
**About:** Google trends based proxy for unemployment during COVID-19 pandemic.  
**Source:** Google Trends.



## Insights

- Local commerce across all MSAs dipped during the months of April and August. There has been an upward trend for the months of September and October.
- Among the comparison MSAs, Tampa Bay has been positioned in the Top 5 during most of the months. Tampa Bay MSA was in the No. 1 position in October.

**About:** Google trends based proxy for local commerce during COVID-19 pandemic.  
**Source:** Google Trends.

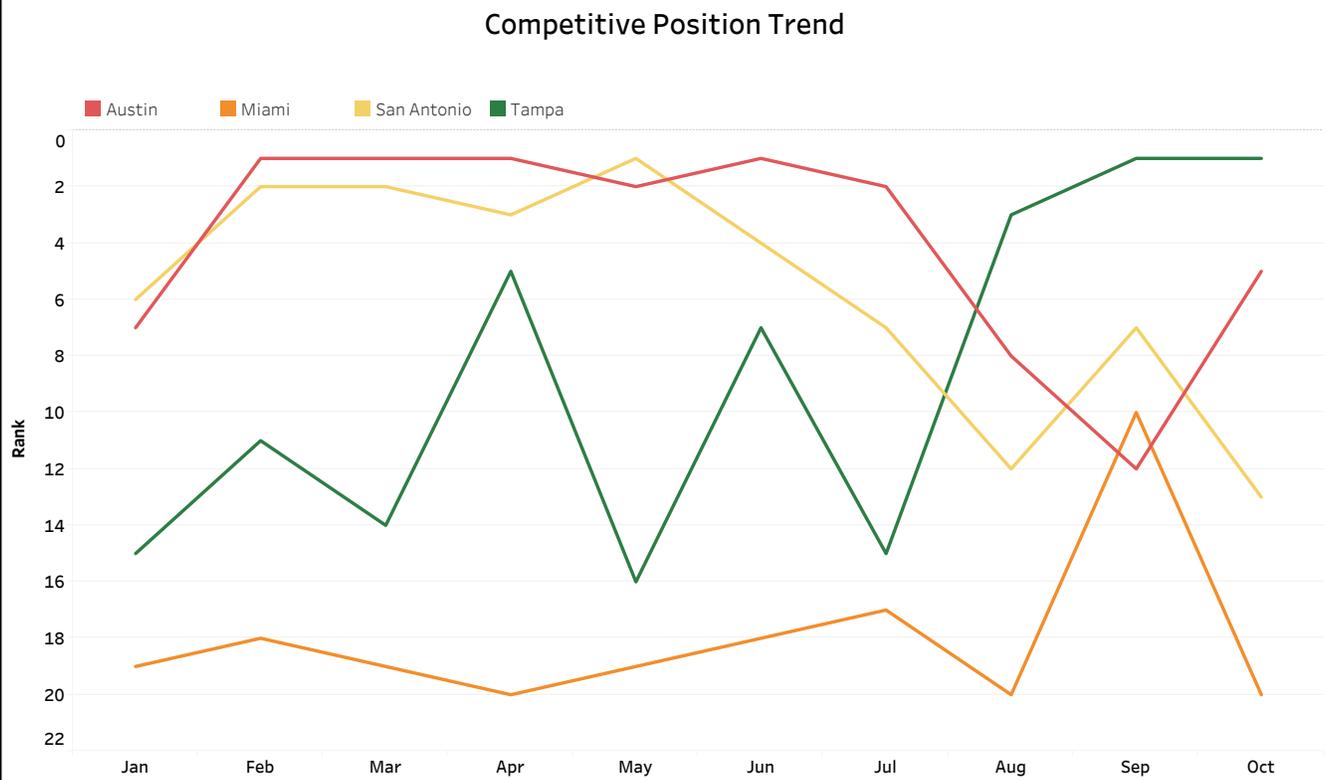
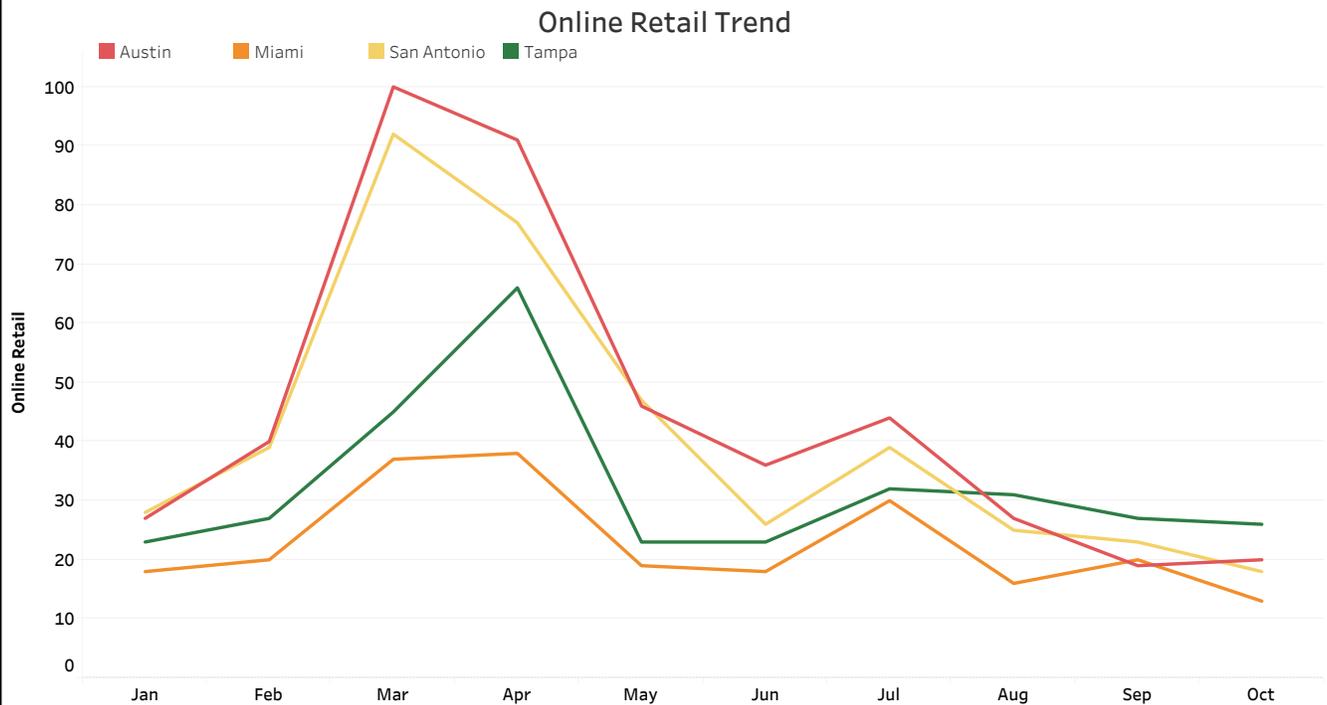


# Online Retail

## Insights

- There was a short-term boom in retail categories (online grocery) during the months of March and April but it has been declining ever since.
- Miami was in last place in terms of competitive trend. The Austin MSA was at the top position from January to July.
- The Tampa MSA's competitive position has improved over the months and has been first position since September.

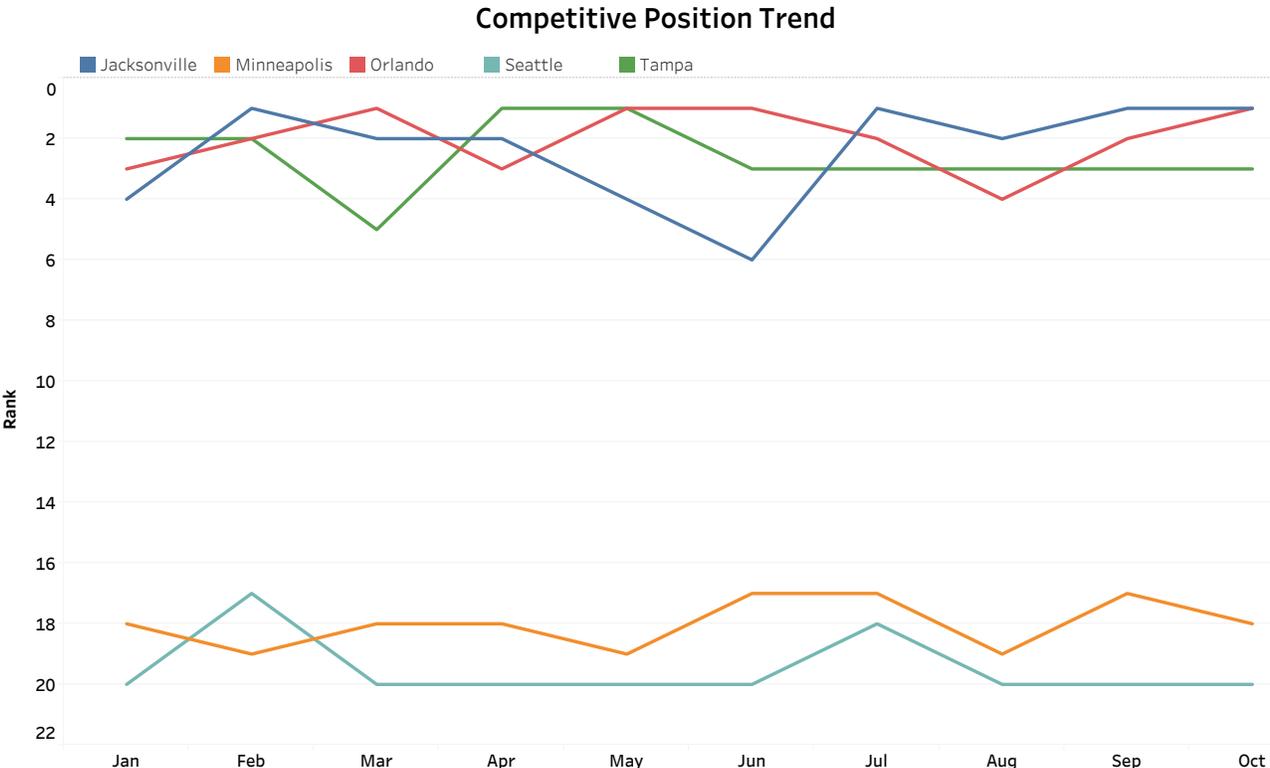
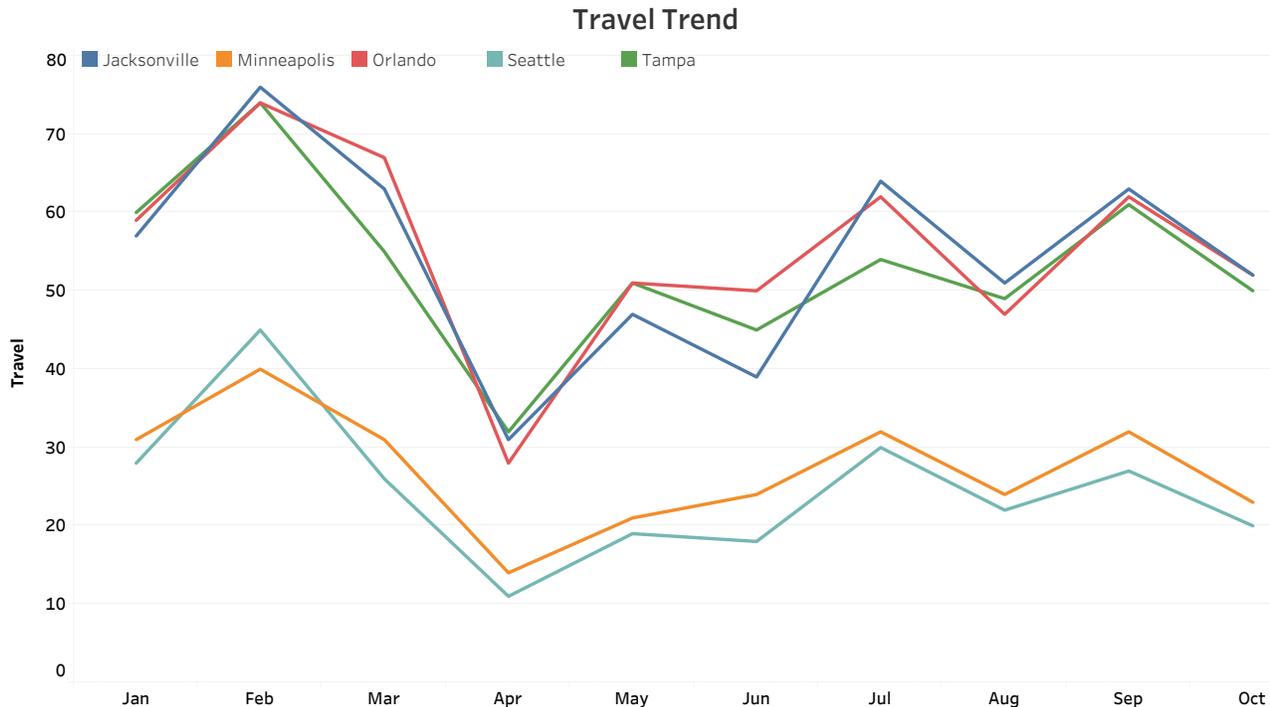
**About:** Google trends based proxy for online retail during COVID-19 pandemic.  
**Source:** Google Trends.



## Insights

- The popularity of travel-related searches declined steeply from February to April for all MSAs. It has slowly picked up since then.
- In terms of competitive position, the Florida MSAs of Orlando, Jacksonville and Tampa Bay have performed better than most other MSAs.

**About:** Google trends based proxy for travel during COVID-19 pandemic.  
**Source:** Google Trends.

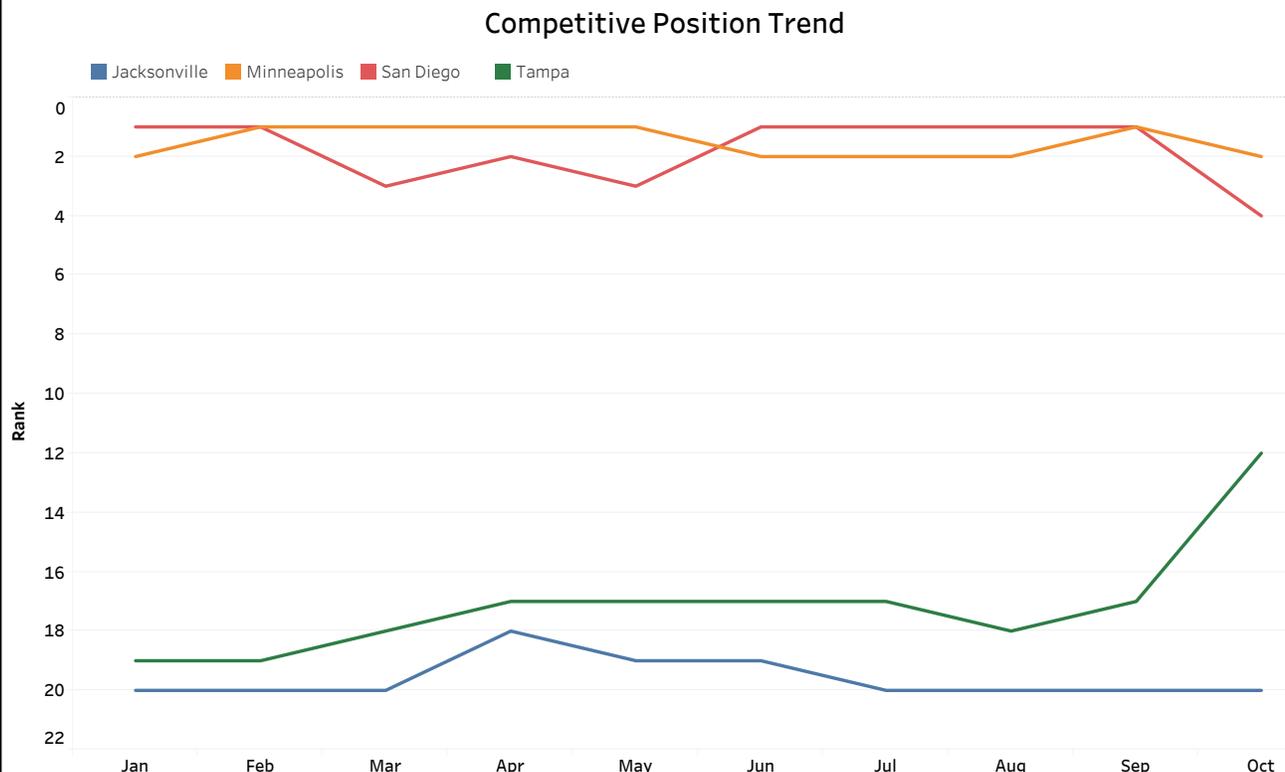
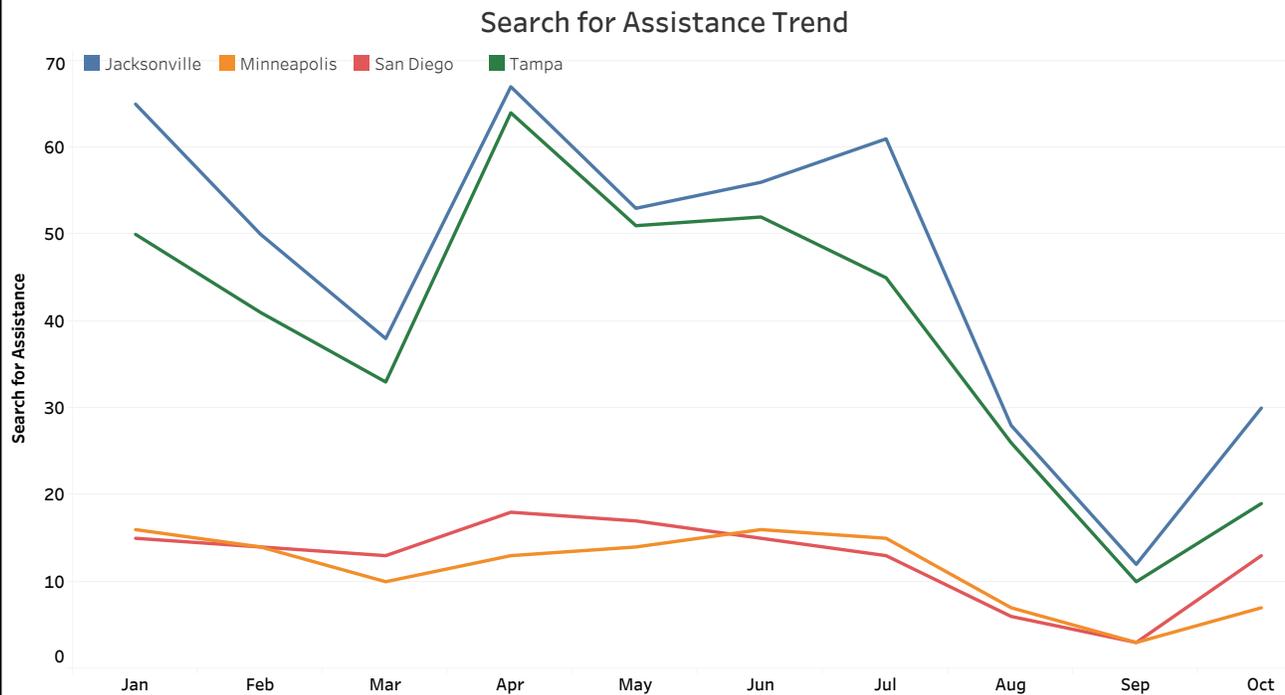


# Search for Assistance

## Insights

- Jacksonville's search for assistance has remained at an all time high throughout the months January to October.
- Search for assistance has been lowest for San Diego and Minneapolis for most of the months.
- The level of search for assistance peaked during the months of April and July for Tampa Bay region. It then dipped during the month of September. There has been an upward trend since September.

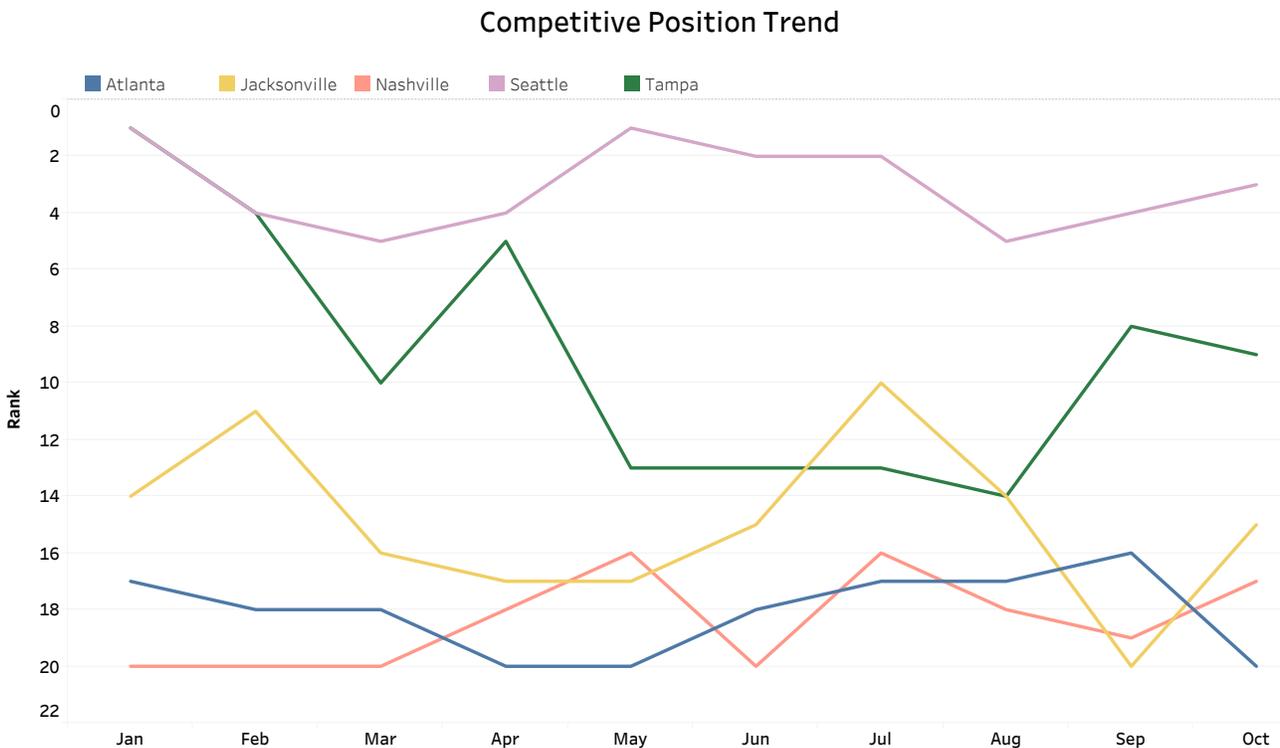
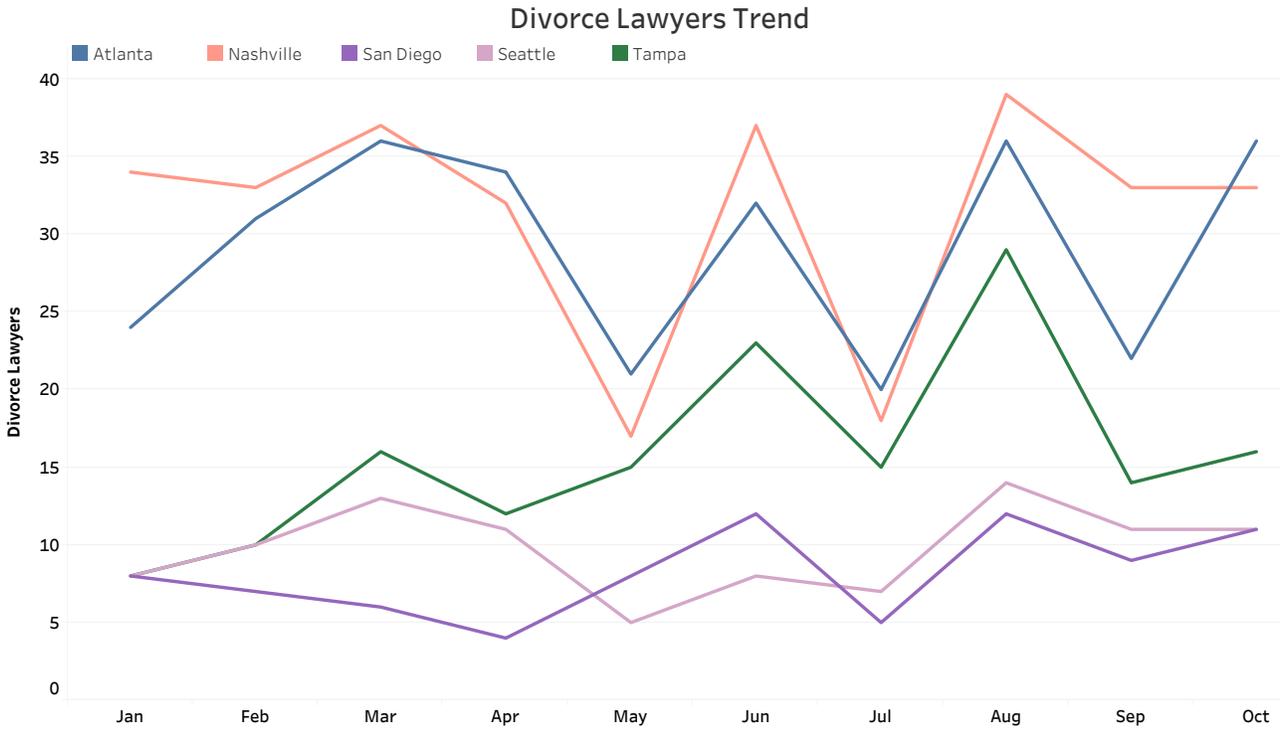
**About:** Google trends based proxy for search for assistance during COVID-19 pandemic.  
**Source:** Google Trends.



## Insights

- The popularity of the “divorce lawyers” query peaked in the months of March, June and August for most MSAs.
- The popularity of the “divorce lawyers” query in the Tampa Bay region has been on upward trend.

**About:** Google trends based proxy for divorce lawyers during COVID-19 pandemic.  
**Source:** Google Trends.

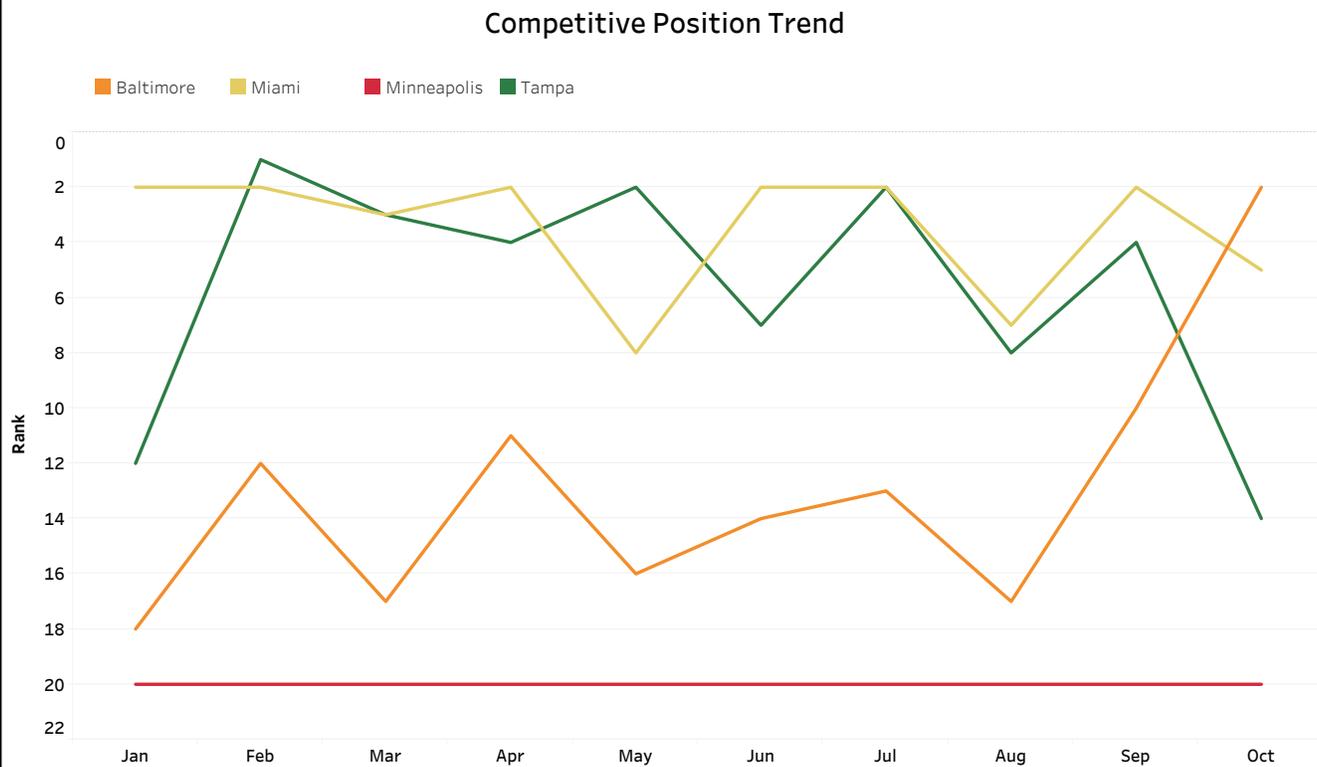
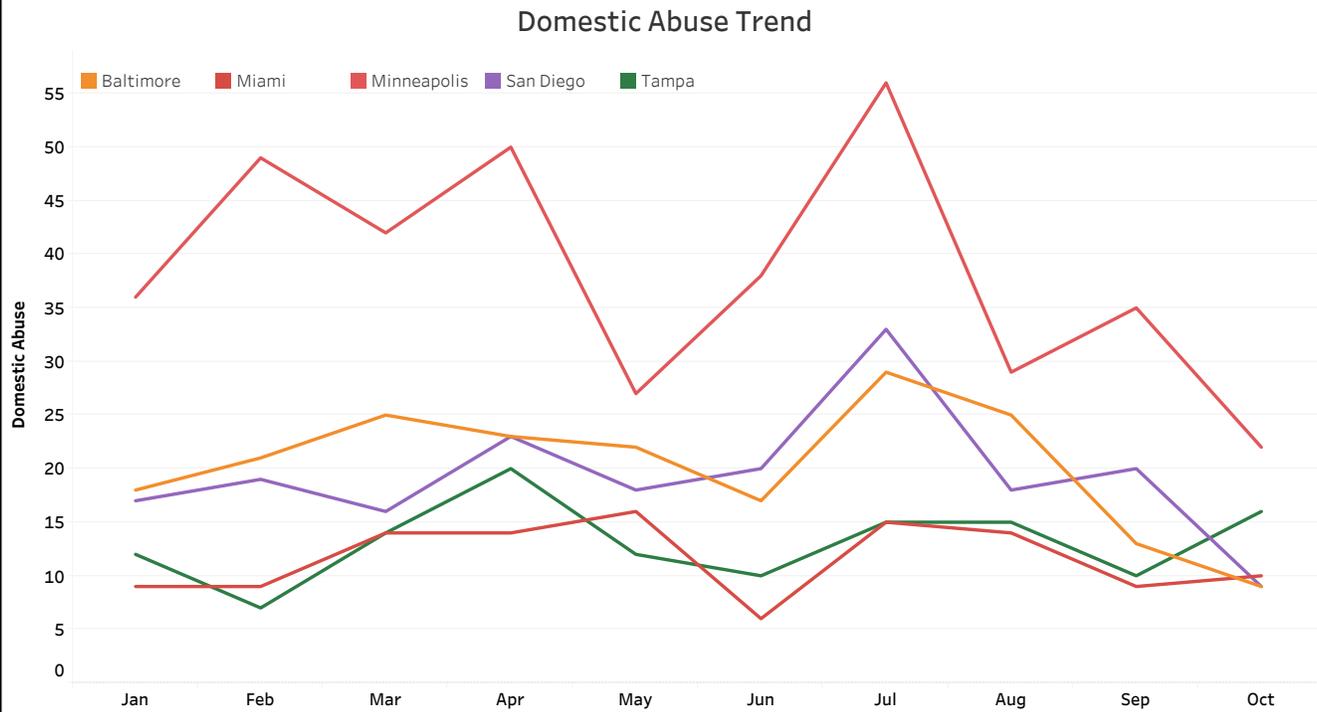


# Domestic Abuse

## Insights

- Domestic abuse searches had an initial peak from February to April. It peaked again from June through August.
- The MSAs of San Diego and Baltimore saw an increase in popularity domestic abuse query from June to August.
- Minneapolis had unusually relative search volume for domestic abuse query as compared to all other MSAs.
- The Tampa Bay and Miami MSAs had low relative search volume compared to other MSAs.

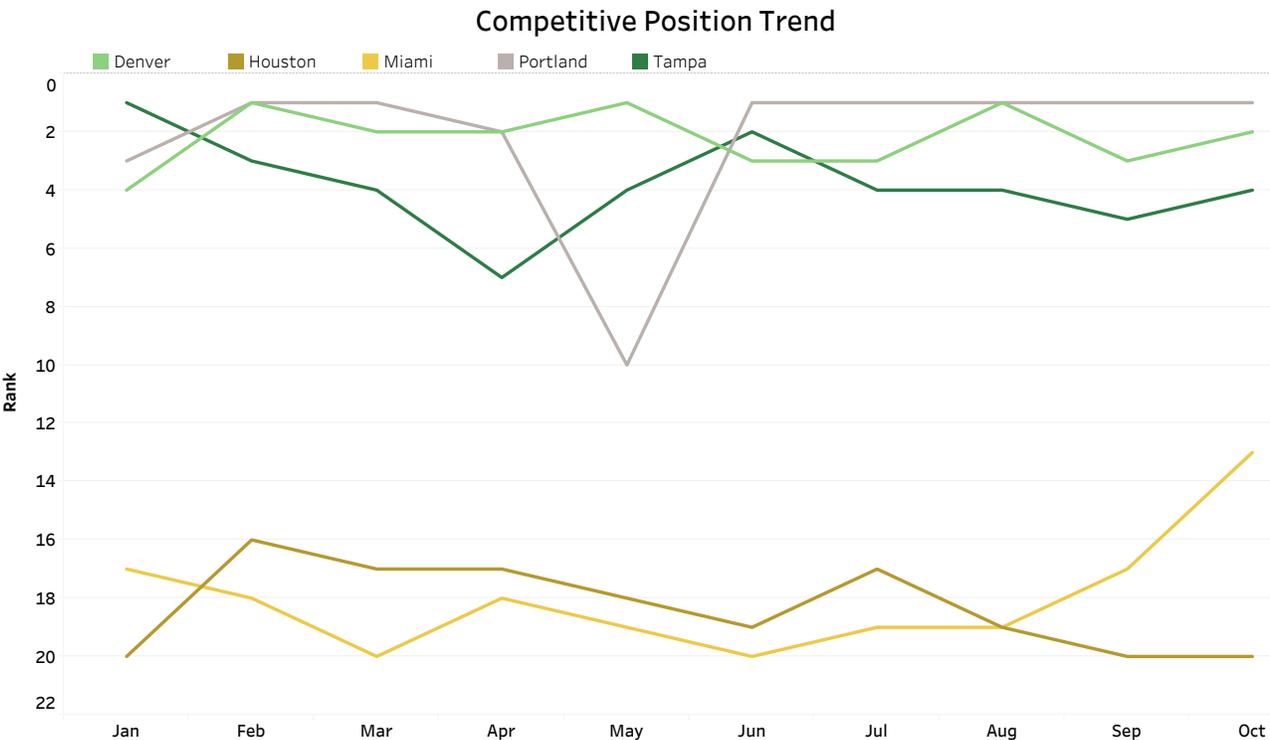
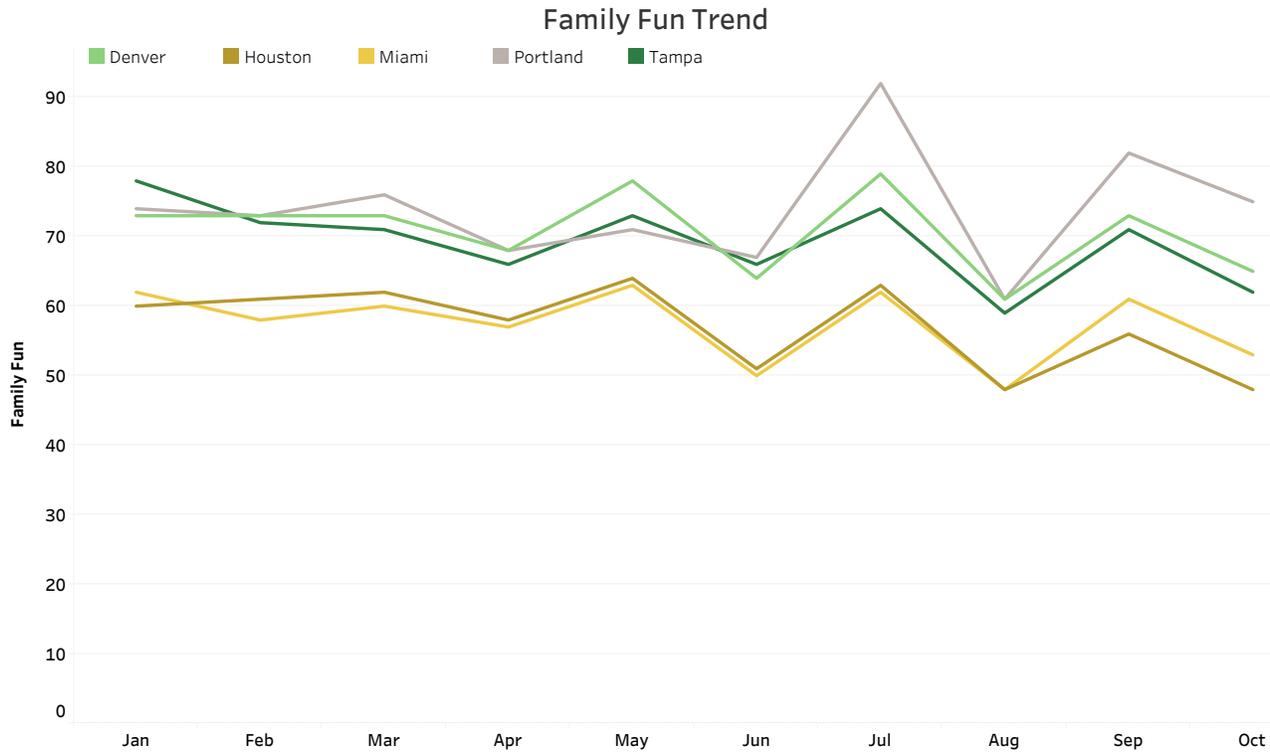
**About:** Google trends based proxy for domestic abuse during COVID-19 pandemic.  
**Source:** Google Trends.



## Insights

- The Denver, Portland and Tampa Bay MSAs consistently ranked in the top 5 positions for most of the months.
- Portland remained in the No. 1 position for the most part of the year studied except for the month of May.
- The Tampa MSA's competitive position increased from March to June and declined gradually in the later months.

**About:** Google trends based proxy for family fun during COVID-19 pandemic.  
**Source:** Google Trends.



# Key Takeaways from Google Trends Analysis

- The Tampa Bay MSA has been moderately impacted by COVID-19 in terms of employment. Normal commercial activity was at its lowest level in April (during the lockdown). However, the Tampa Bay MSA, along with other MSAs, is on the path of recovery.
- Travel activity in the Tampa Bay MSA is recovering after touching the lowest point in April. Among the comparison MSAs, travel activity in the Tampa Bay MSA has consistently been higher than majority of the MSAs.
- While searches related to domestic violence remained relatively flat during the period, the Tampa Bay MSA saw an increasing trend in the volume of searches for divorce lawyers.



# Real-Time Signals on Job Opportunities

The availability of jobs is one of the most important signals of economic strength for any region. Traditionally, such data has been collected with a time lag and reported by federal and state agencies. However, the opportunity to derive real-time insights about labor markets using signals from online platforms such as LinkedIn and Indeed exists. These platforms are increasingly used by both job seekers and employers.

From LinkedIn, data was collected on the number of job openings related to the different job levels such as internship, entry-level, associate, mid-senior, director, and executive. Given the importance of the technology industry, data on information technology job postings were collected across MSAs from LinkedIn. Using the industry-wise job openings data from LinkedIn, the top three job providing industries in the Tampa Bay region were identified. Researchers then plotted trend lines for finance, retail and information technology job openings per million individuals.

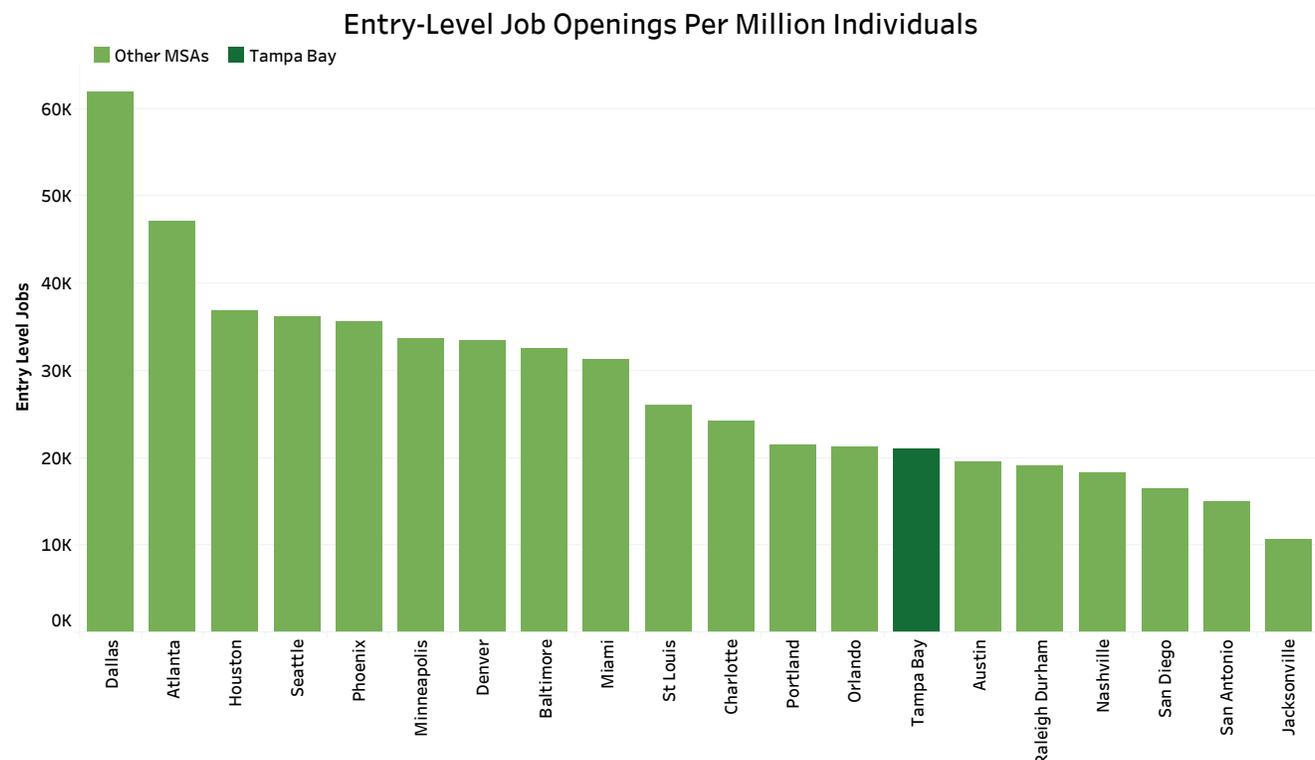
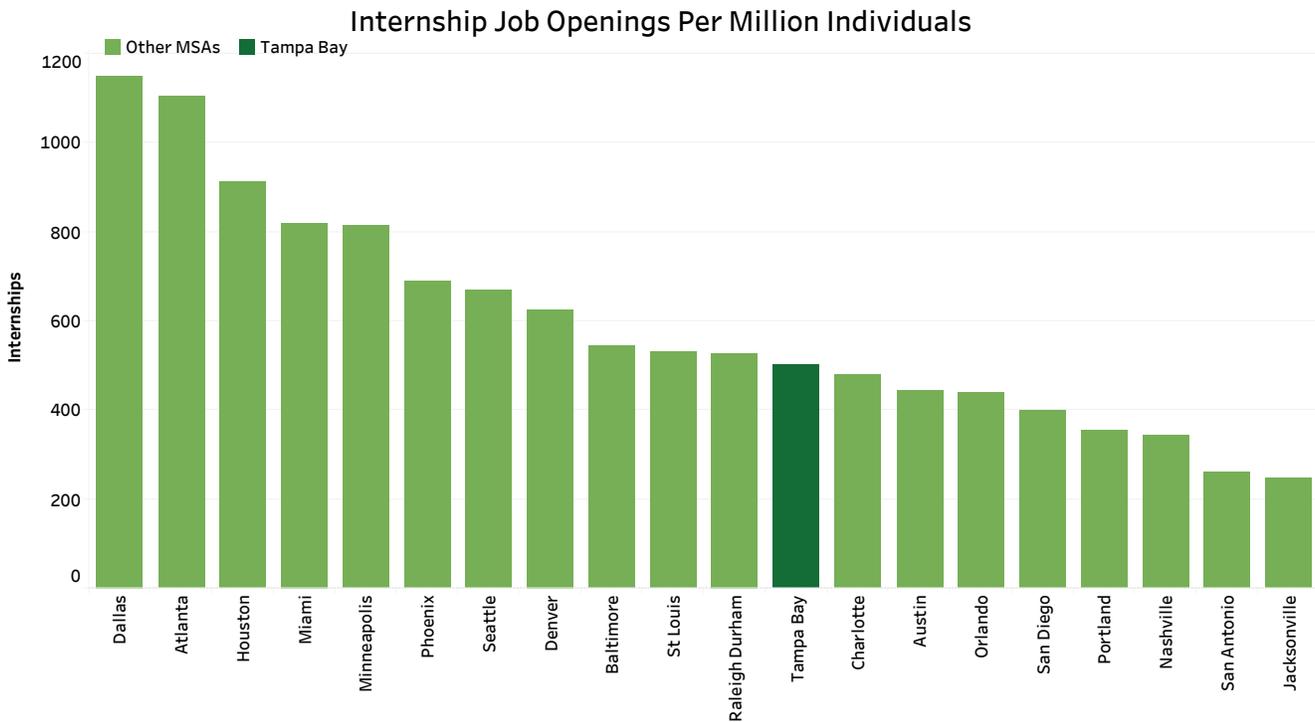


# Job Openings

## Insights

- The Dallas MSAs tops the list in terms of both number of internship job openings per million individuals and the number of entry-level jobs per million individuals.
- The Tampa Bay MSA is No. 12 in terms of internship job openings per million individuals and No. 14 in terms of number of entry-level jobs per million individuals.

**About:** Online platform such as LinkedIn and Indeed provide real-time signals, which can be useful to derive insights about the state of the labor market of a region.  
**Source:** LinkedIn.



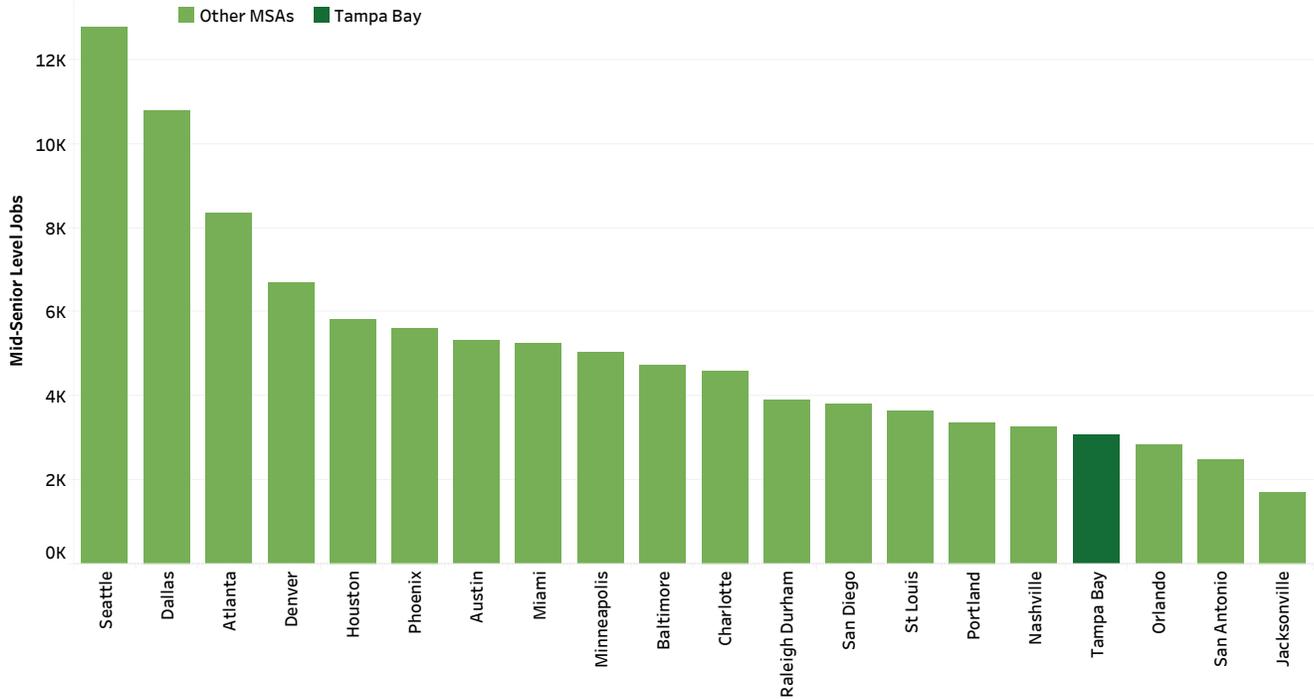
## Insights

- The Tampa Bay MSA performed better than both the Orlando and Jacksonville MSAs in terms of number of mid-senior-level and executive-level job openings per million individuals.
- In terms of competitive position, the Tampa Bay MSA was in the lowest quintile on both metrics.

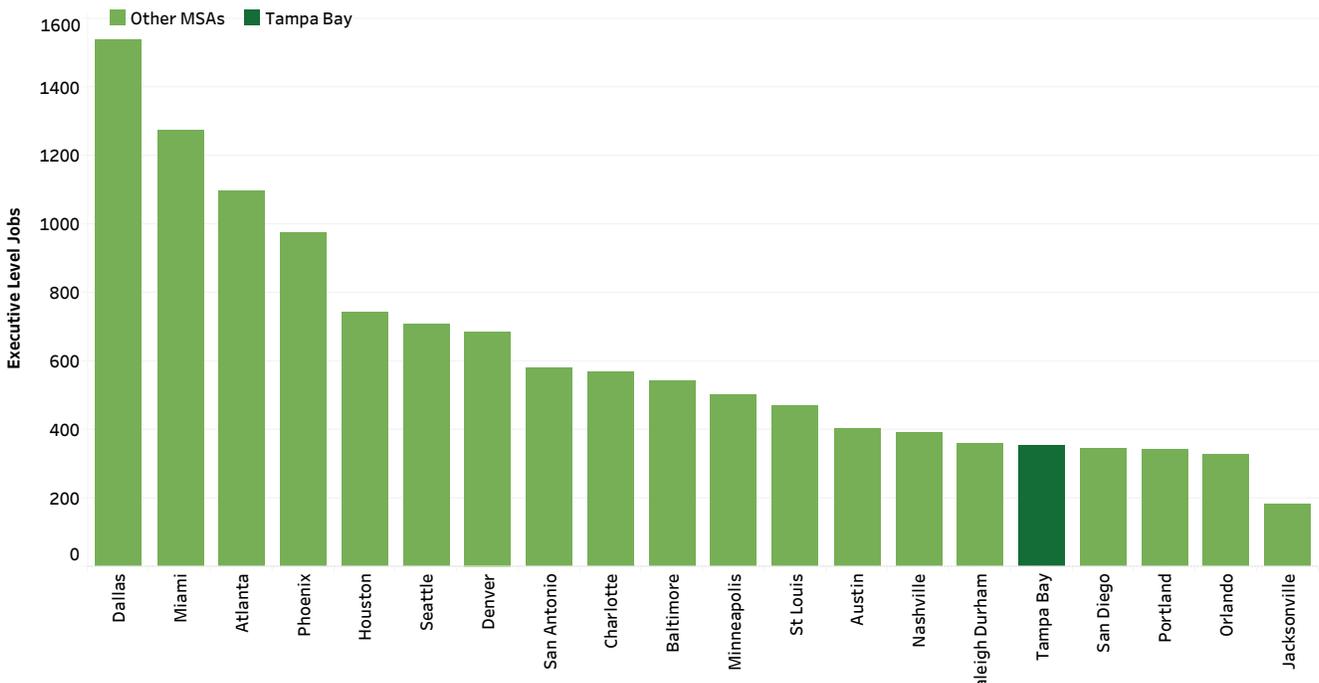
**About:** Online platform such as LinkedIn and Indeed provide real-time signals, which can be useful to derive insights about the state of the labor market of a region.

**Source:** LinkedIn.

### Mid-Senior-Level Job Openings Per Million Individuals



### Executive-Level Job Openings per Million Individuals



# Job Openings

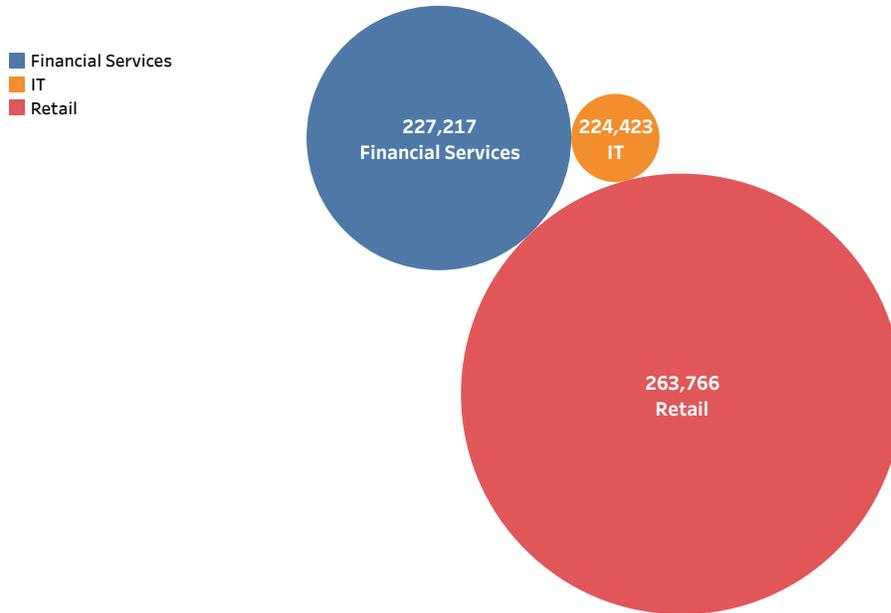
## Insights

- Retail and financial services are driving the most number of job openings in the Tampa Bay region. This could provide guidance for how to nurture professional talent in the region.
- The Tampa Bay MSA falls near the middle in high paying and low paying job openings.

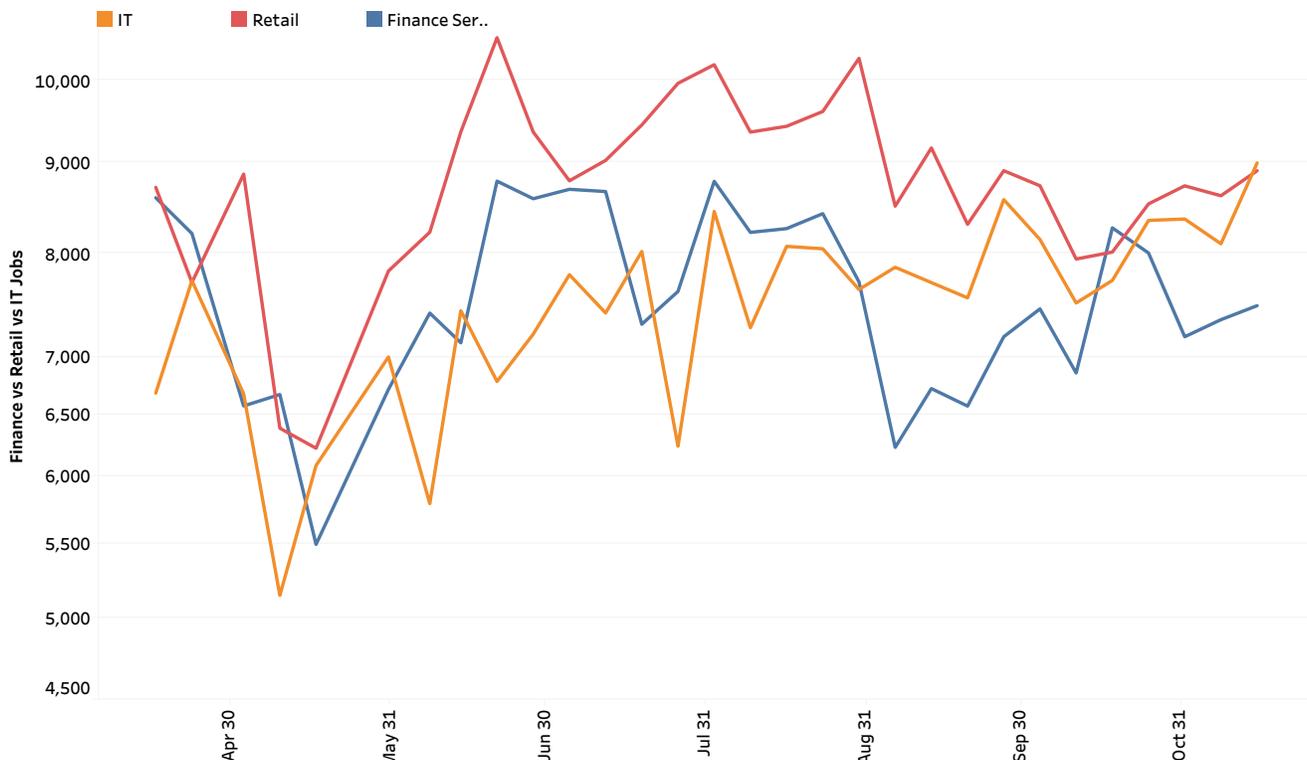
**About:** Online platform such as LinkedIn and Indeed provide real-time signals, which can be useful to derive insights about the state of the labor market of a region.

**Source:** LinkedIn and Indeed.

### Services With Most Number of Job Openings in Tampa Bay



### Finance vs Retail vs IT Jobs



# Key Takeaways from Job Openings Analysis

- In terms of job openings, the Tampa Bay region ranks in the lowest quantile.
- The finance, information technology and retail industries have the greatest volume of job openings in the Tampa Bay region.
- Like most industries, the number of job openings for these three industries suffered a dip in April, however, the trend in the number of job openings has been increasing in recent months.

## Final Key Takeaways

1. The Tampa Bay MSA has the lowest GRP per capita among the comparison MSAs.
2. Income inequality in the Tampa Bay MSA has been declining for the last few years.
3. Investments in transit infrastructure, higher education and labor force participation are key to economic growth.
4. The Tampa Bay MSA was relatively less impacted by COVID-19 pandemic when compared to the Miami and Orlando MSAs.
5. The regional economy in the Tampa Bay MSA is recovering after suffering a dip in the month of April.
6. Local commerce and travel in the Tampa Bay MSA have been less affected than in most other MSAs.
7. Consumer spending levels in the Tampa Bay region recovered to the 100 percent of the January value by mid-October.
8. The Tampa Bay MSA stands in the lowest quantile in terms of number of job openings per million individuals.
9. The region's finance, information technology and retail industries, which are top three biggest contributors to employment in service sector in the Tampa Bay MSA, are showing an increasing trend of job openings after suffering a dip in April.

## Next Steps

- USF researchers plan to continue expanding the kinds of real-time big data signals for this type of study. For example, scholars are exploring real-time sources on traffic patterns and retail purchase behavior across MSAs.
- Most of the real-time big data signals obtained were through APIs and scraping. USF faculty and student researchers will explore the possibility of building direct and deeper partnerships with the source companies. They encourage the community to reach out should there be opportunities to connect with local or regional providers of such real-time big data signals.
- USF researchers will consider deeper study of whether any of the big-data signal can serve as a reliable proxy of traditional economic indicators. This can be valuable because the proxy can be used to assess the economic health of the region on a real-time basis and can help in faster policy decision making.
- USF Muma College of Business faculty are building an index of real-time big data signals which can gauge economic prosperity in real time. Such an index would be a single number that can provide a composite measure of economic health of a region.
- Faculty and student researchers look forward to directly partnering with the business community to help potentially leverage real-time big data signals for long-term growth.

**Community ideas and feedback are welcome!**



# USF Muma

College of Business

UNIVERSITY of SOUTH FLORIDA

## 2021 TAMPA BAY E-INSIGHTS REPORT



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