

Complicated to Complex

Government Finance Officers Association of South Carolina
2023 Fall Conference



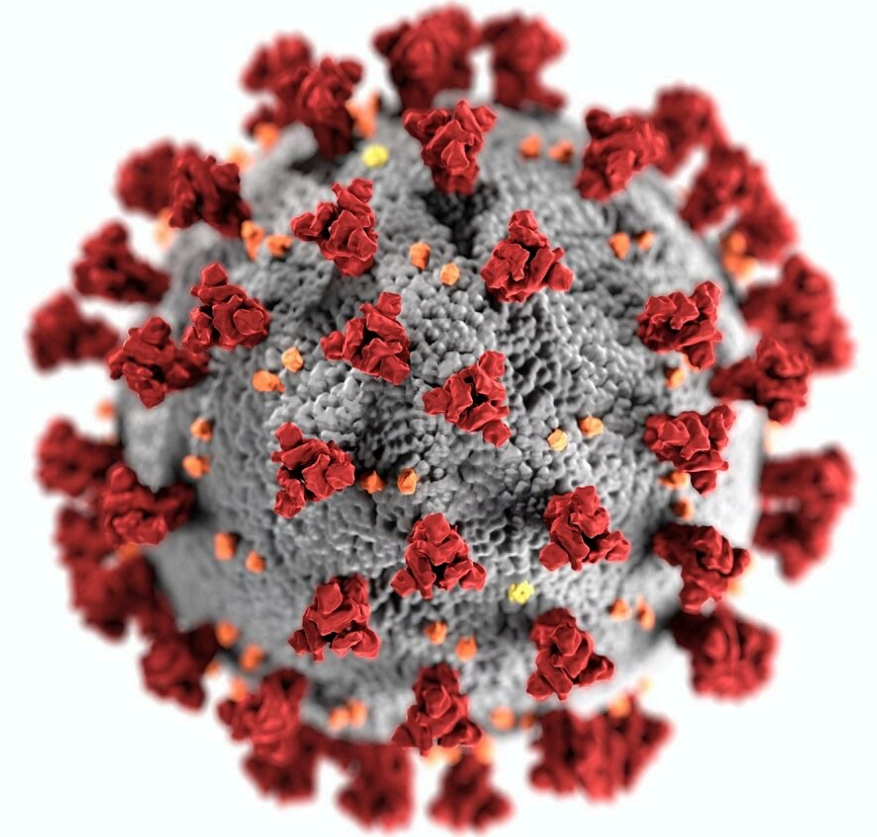
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SOUTH CAROLINA DEPARTMENT OF ADMINISTRATION
OCT. 12, 2023

Team of Teams (General Stanley McChrystal, 2015, Page 74)

- ▶ The technological changes of recent decades have led to a more *interdependent and fast-paced world*. This creates a state of *complexity*.
- ▶ *Complexity* produces a fundamentally different situation from the *complicated* challenges of the past; complicated problems required great effort, but ultimately yielded to prediction. Complexity means that, in spite of our abilities to track and measure, the world has become, in many ways, vastly *less predictable*.
- ▶ This *unpredictability is fundamentally incompatible with reductionist managerial models based around planning and prediction*. The new environment demands a new approach.

COVID-19

- ▶ No one predicted the impact this virus would have on the world.
- ▶ According to USA Facts, there were 17,869 COVID-19 deaths in SC as of July 23 and 1,481,646 across the United States. Nationwide deaths exceed the population of each of the 11 least populated states in the US.



“A Medically Induced Economic Coma”

-Council on Foreign Relations, April 8, 2020

“The Pandemic Was a Time Machine” (David Wallace-Wells, NY Times, Sept. 13, 2023)

Indicators taking us back in time:

- ▶ Decreased Life Expectancy (Mortality).
- ▶ Learning Loss for School Aged Children.
- ▶ Murder Rate Increase.
- ▶ Homelessness Increase.
- ▶ Overdose Deaths Accelerated.
- ▶ In the 2nd year, a Baby Boomlet.
- ▶ Unemployment and Inflation Exploded, then Subsided.

“Adapt Your Business to the New Reality” (Michael G. Jacobides and Martin Reeves, Harvard Business Review, September-October 2020)

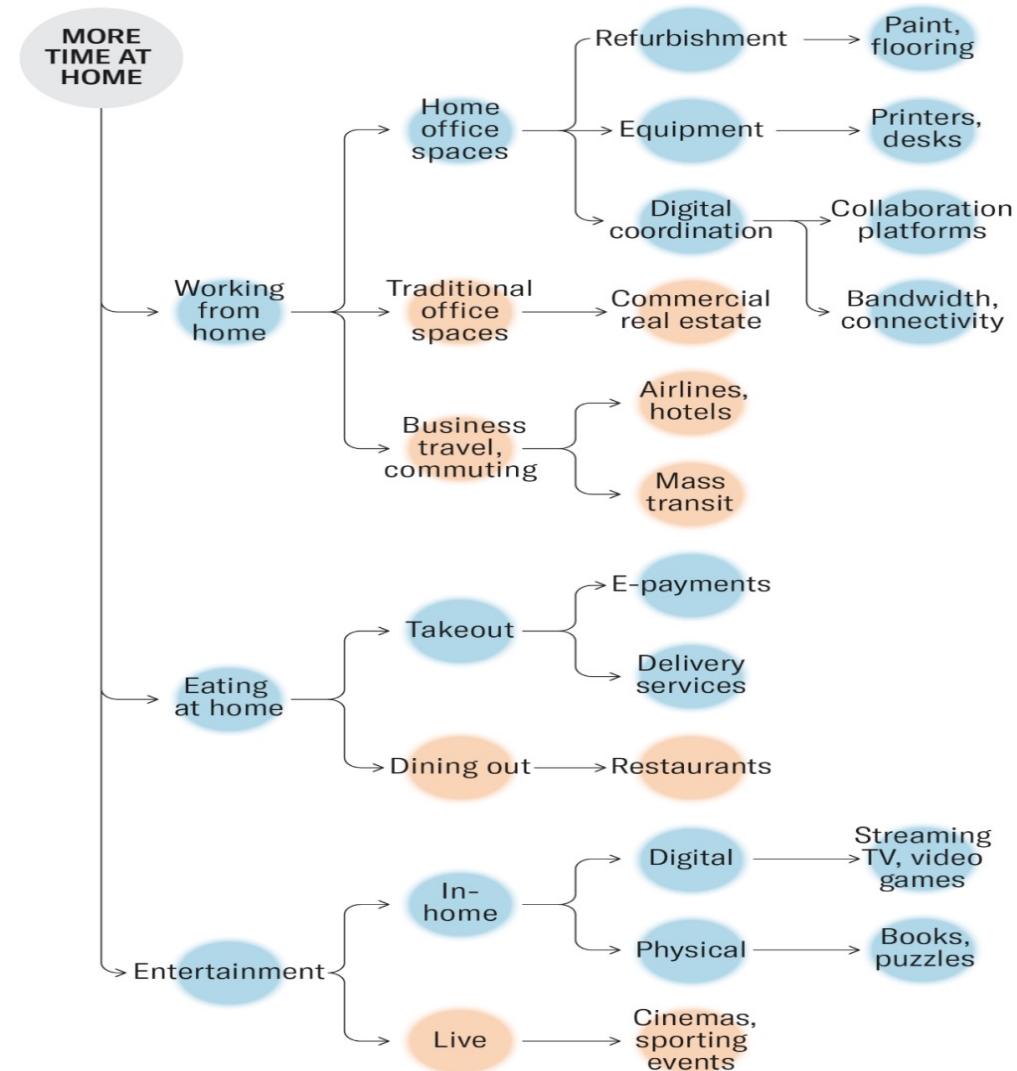
- ▶ Start by understanding how habits have changed.

STEP 1

Cascade changes in habit

Start by drilling down from a big behavioral shift to identify specific products or business opportunities that are likely to grow or contract as a result of the pandemic.

Key ● Potential increase ● Potential decrease



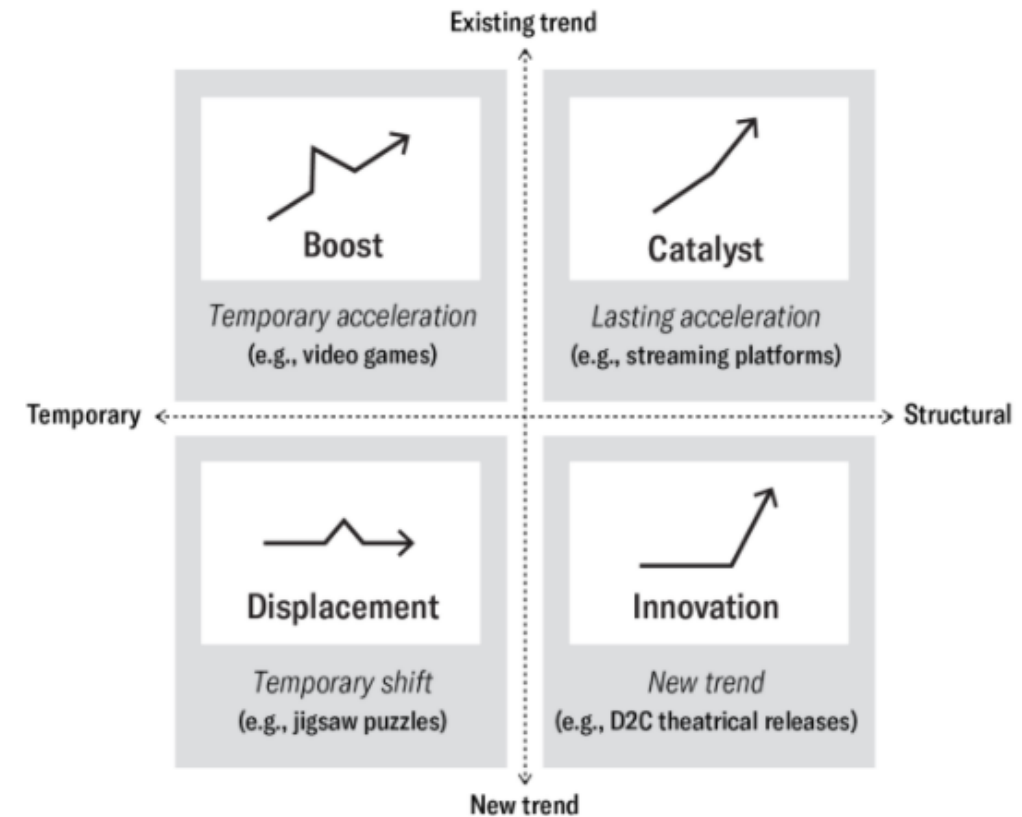
“Adapt Your Business to the New Reality” (Michael G. Jacobides and Martin Reeves, Harvard Business Review, September-October 2020)

- ▶ Start by understanding how habits have changed.

STEP 2

Identify type and duration of new trends

Categorize behavioral shifts according to whether they are likely to be short- or long-term and whether they existed before the pandemic or are new since it began. Entertainment, for instance, shows opportunities in each of the four quadrants.



Adaptation

New Trend



Structural Change



The Reaction of the Federal Government to the Pandemic

New Terms

- ▶ CARES
- ▶ ARPA
- ▶ ESSER
- ▶ Traunch



Keynesian Economics:

- ▶ The main plank of Keynes's theory, which has come to bear his name, is the assertion that aggregate demand—measured as the sum of spending by households, businesses, and the government—is the most important driving force in an economy.

Source: International Monetary Fund

The Expenditure Approach

Must Remember this Equation:

$$Y=C+I+G+NX$$

Y= Real GDP

C= Consumption (US)

I=Investment

G=Government Expenditures

NX= Net Exports (Exports-Imports)

Additional Federal Spending Providing a Stimulus Effect

IIA

- ▶ The Infrastructure Investment and Jobs Act (IIA), was signed into law by President Biden on November 15, 2021. The law authorizes \$1.2 trillion for transportation and infrastructure spending with \$550 billion of that figure going toward “new” investments and programs.

Inflation Reduction Act

- ▶ The Inflation Reduction Act is a law passed by the United States Congress in August 2022. The law is expected to raise \$737 billion, require total investments of \$437 billion and result in a deficit reduction of more than \$300 billion.

Magnitude of the Federal Stimulus in 16 Months

- ▶ In 2020, \$22 trillion is the size of the US economy (GDP).
- ▶ In a 12-month period, the federal government has injected the economy with roughly \$4 trillion (12 zeroes) in tax cuts or spending stimulus.
- ▶ That's 18% of annual GDP.

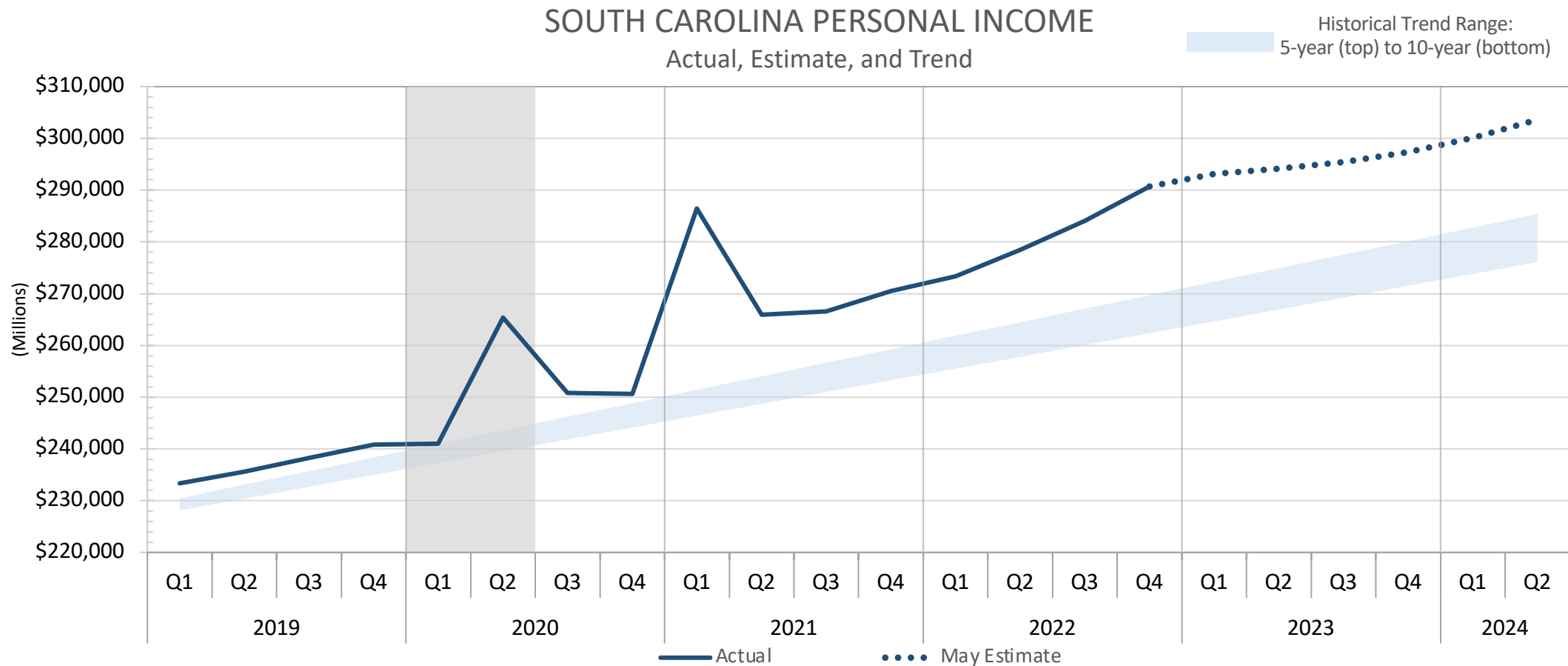


Topics

- ▶ SC's Economic and Financial Vital Signs
- ▶ The Underlying Factor – Demographics
- ▶ The Biggest Risk
- ▶ The Take Away

SC Personal Income

Personal Income is growing well above our historical trend, but growth is expected to slow in FY 2023-24

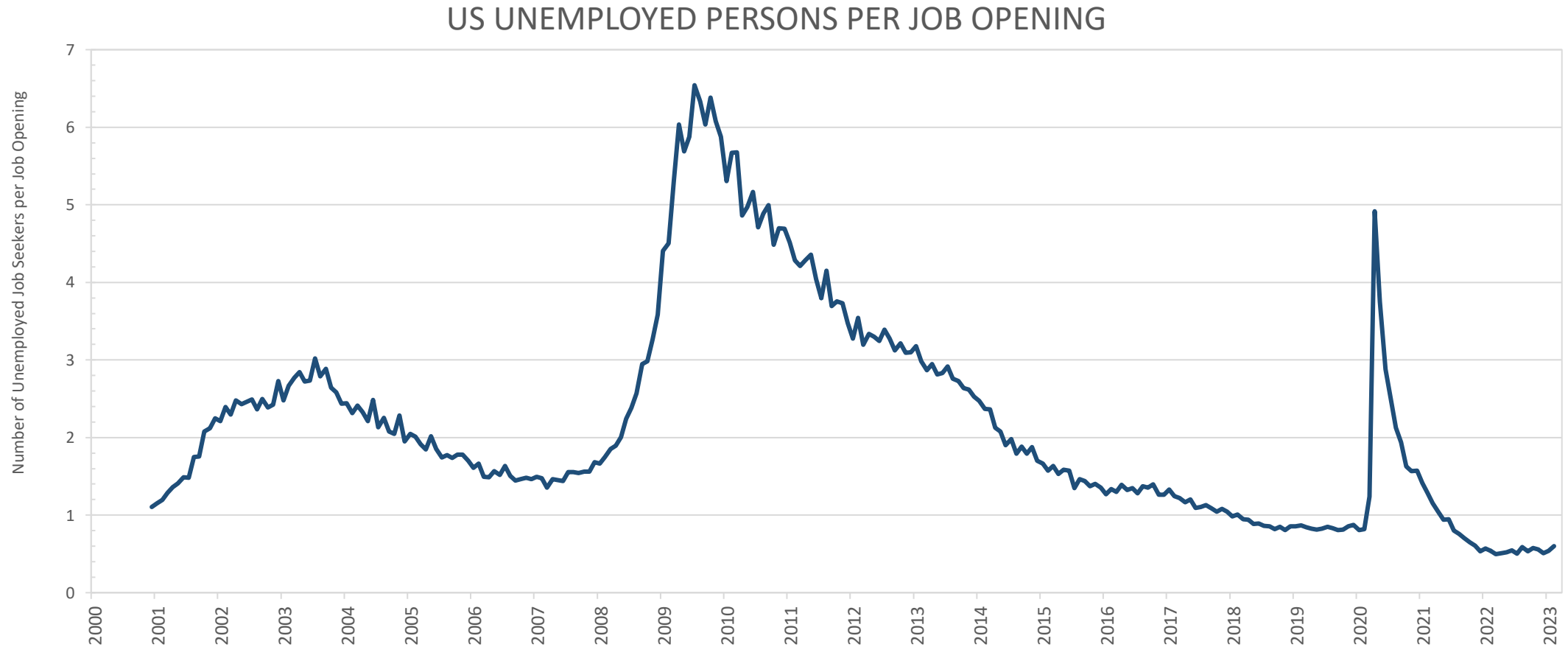


Data Source: U.S. Department of Commerce, Bureau of Economic Analysis; S.C. Board of Economic Advisors-RFA/lhj/05/09/2023

14 Note: SC's Personal Income is 1.3% of US personal Income.

US Unemployed Persons Per Job Opening

The US labor market remains at historic levels of tightness as employers compete over a smaller pool of potential workers



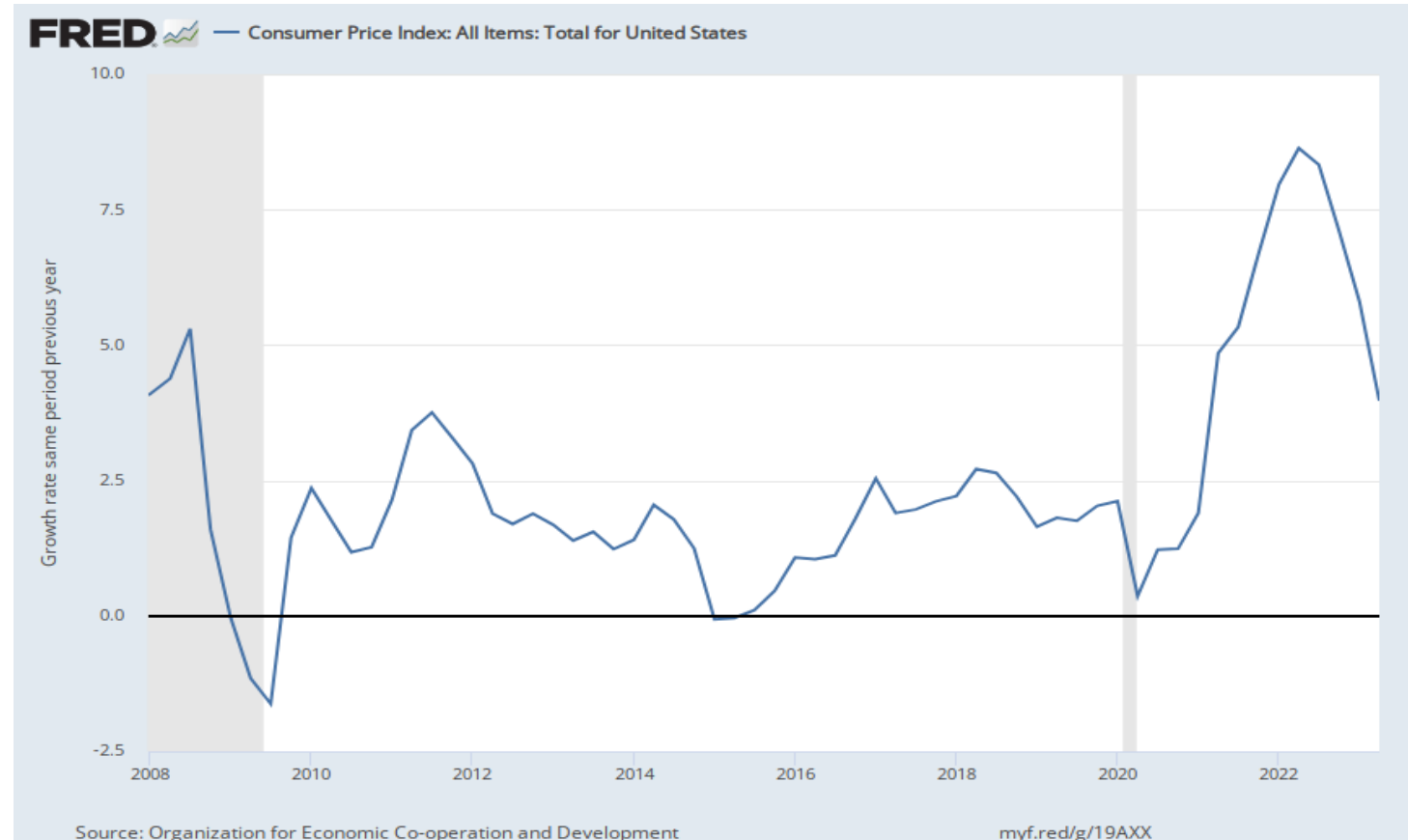
Source: U.S. Bureau of Labor Statistics, CPS and JOLTS; 259A - RFA/lhj/04/19/23

“SC Hits New Employment Record in August” (Jodi Shafto Charleston Post and Courier, Sept. 21, 2023)

- ▶ South Carolina hit another employment record in August as more workers found jobs even as businesses added fewer positions.
- ▶ New employment data adjusted for seasonal factors showed 2.4 million people were working in the Palmetto State last month, about 11,300 more than in July.
- ▶ About 4,000 formerly unemployed workers found jobs in August, trimming the unemployment rate to 3 percent from 3.1 percent in July, according to the Sept. 19 report from the state’s Department of Employment and Workforce.
- ▶ Conversely, unemployment across the country rose to 3.8 percent, the U.S. Bureau of Labor Statistics reported.
- ▶ South Carolina also reported some continued progress in raising its lagging labor force participation rate, defined as anyone who is working or actively looking for a job. It climbed by 7,300 people last month to more than 2.45 million. The figure is 80,800 higher than in August 2022.

Inflation

- ▶ The Inflation Rate (CPI-U) since the Great Recession shows price drops in 2009 followed by growth in prices in the 2.0% range.
- ▶ After the impact of COVID-19, price growth peaked in 2022 over 8% and is diminishing to a 4% rate (quarter over same quarter of the previous year).



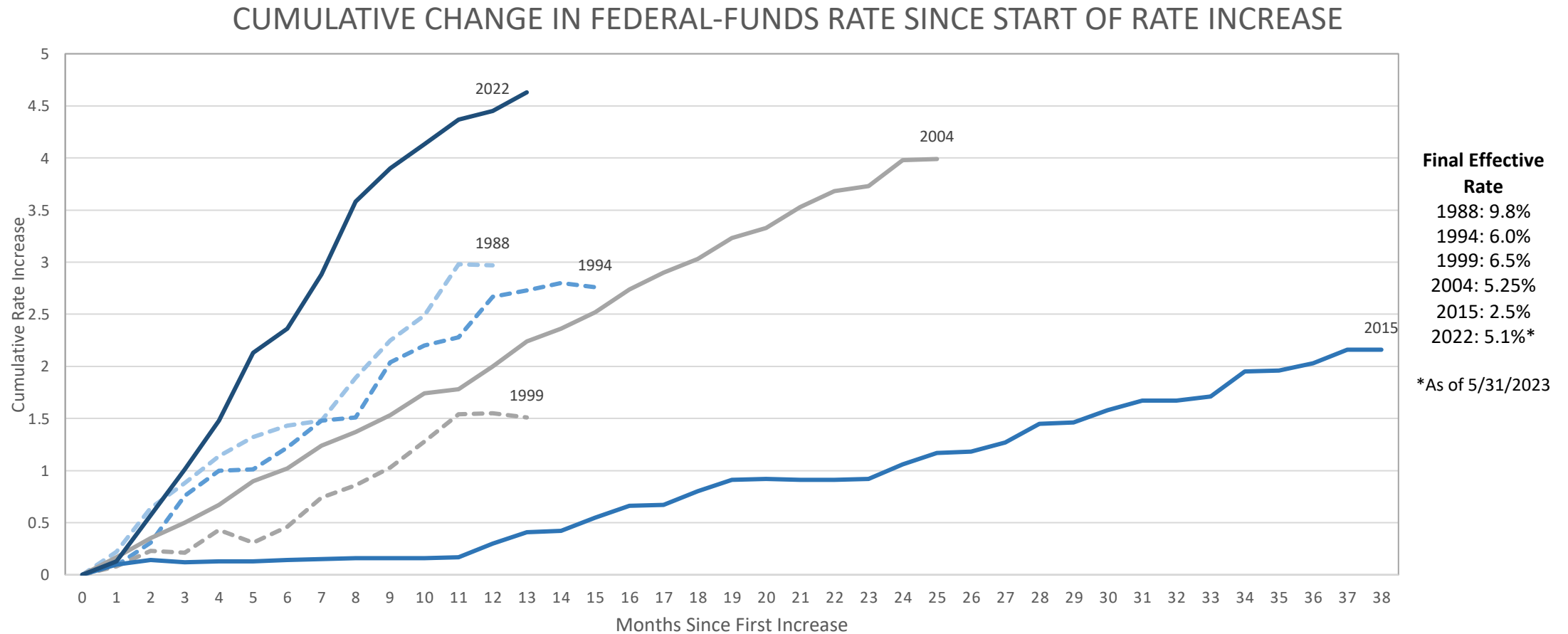
The Difference Between a 2% & 4% Inflation Rate

- ▶ With a 2% Inflation Rate, given compounding, prices will double every 36 years.
- ▶ With a 4% Inflation Rate, given compounding, prices will double every 18 years.

Consumer psychology changes with expected future price increases. This affects everything from real estate to family formation to consumption to birth rates and certainly governmental service demand.

Federal Funds Interest Rate Changes – History

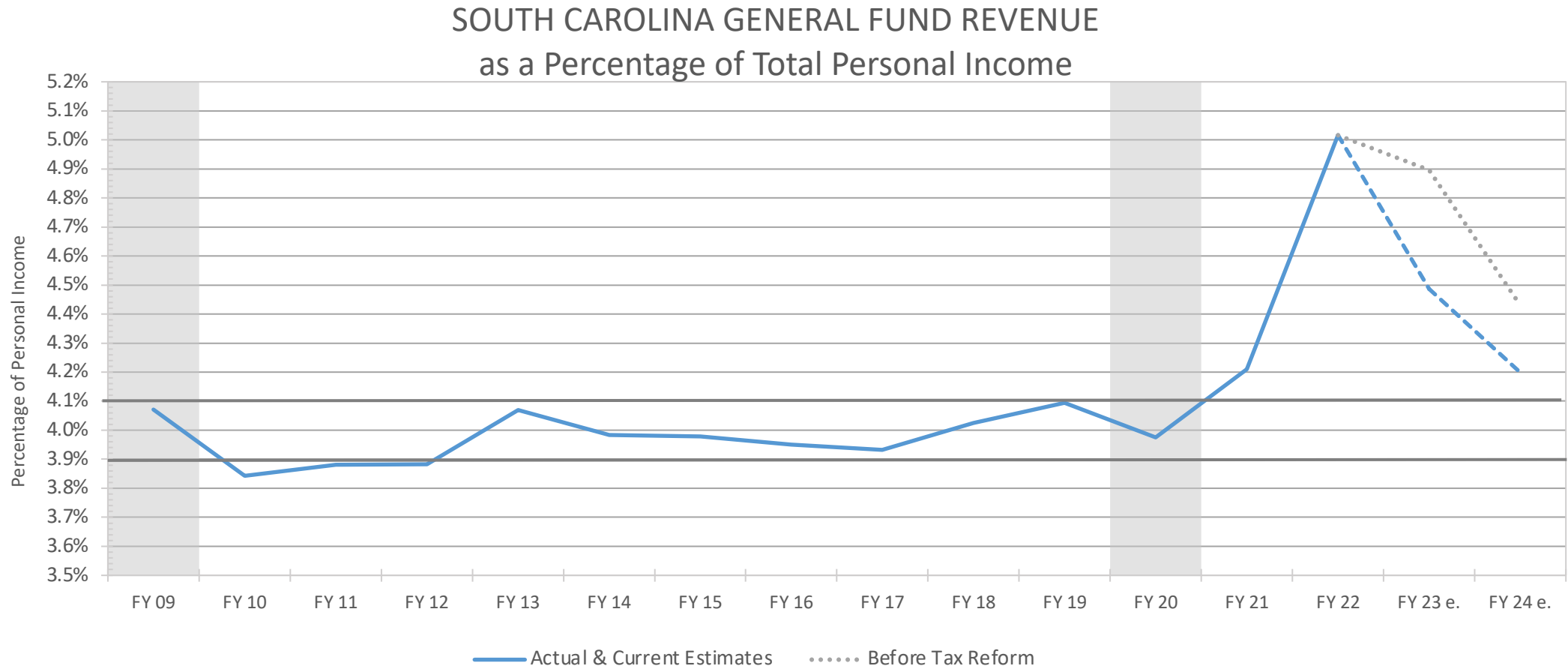
The current increases in the federal funds rate are faster than other periods in the last 30+ years



Source: Board of Governors of the Federal Reserve System via Wall Street Journal and FRED Economic Data 277C -RFA/lhj/6/01/2023

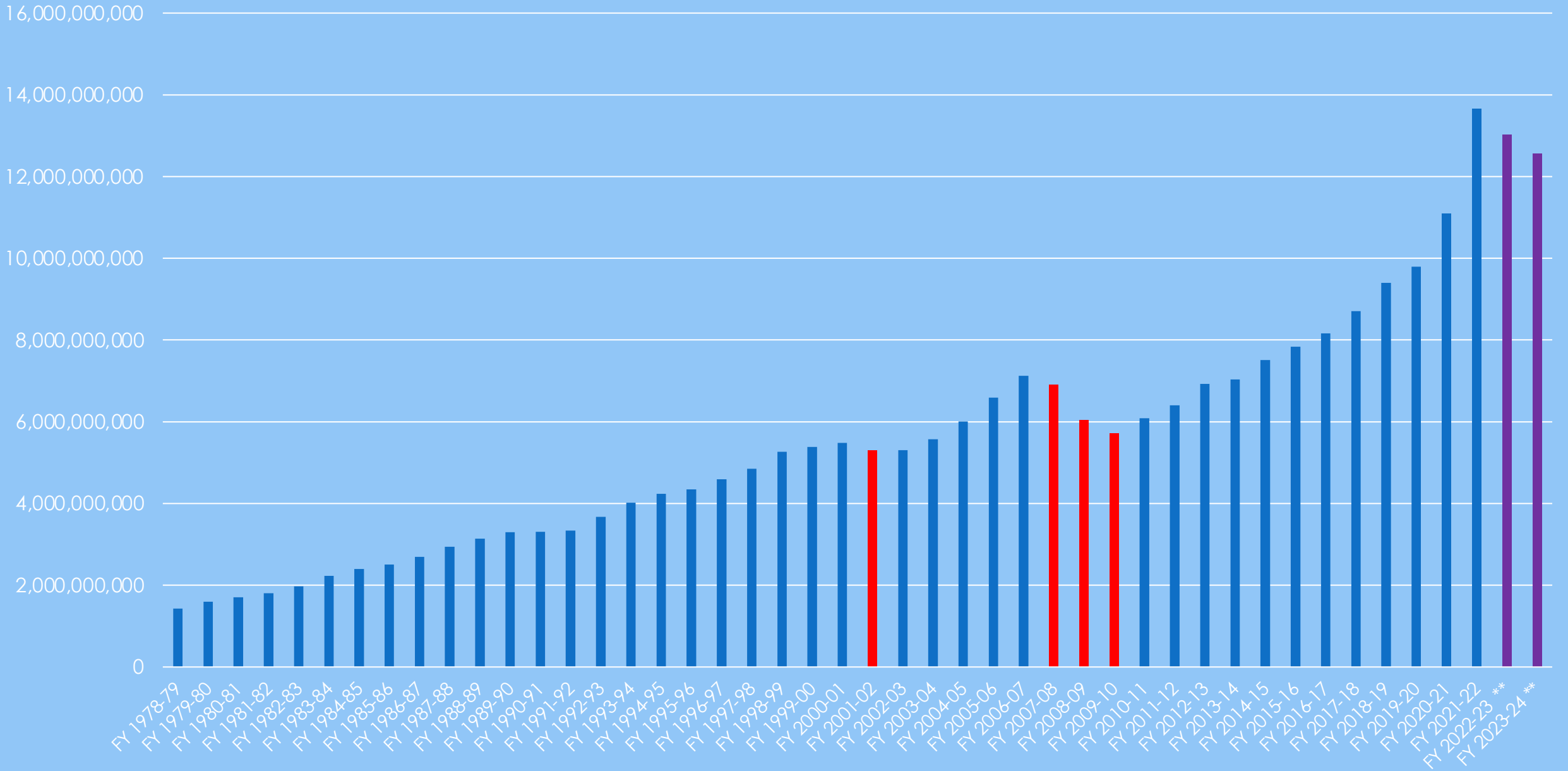
General Fund Revenue as a Percentage of Personal Income

Revenue has historically remained around 4% of income but has been well above that range since FY 2022; tax reform will bring revenue closer to this range, but estimates are still higher than normal



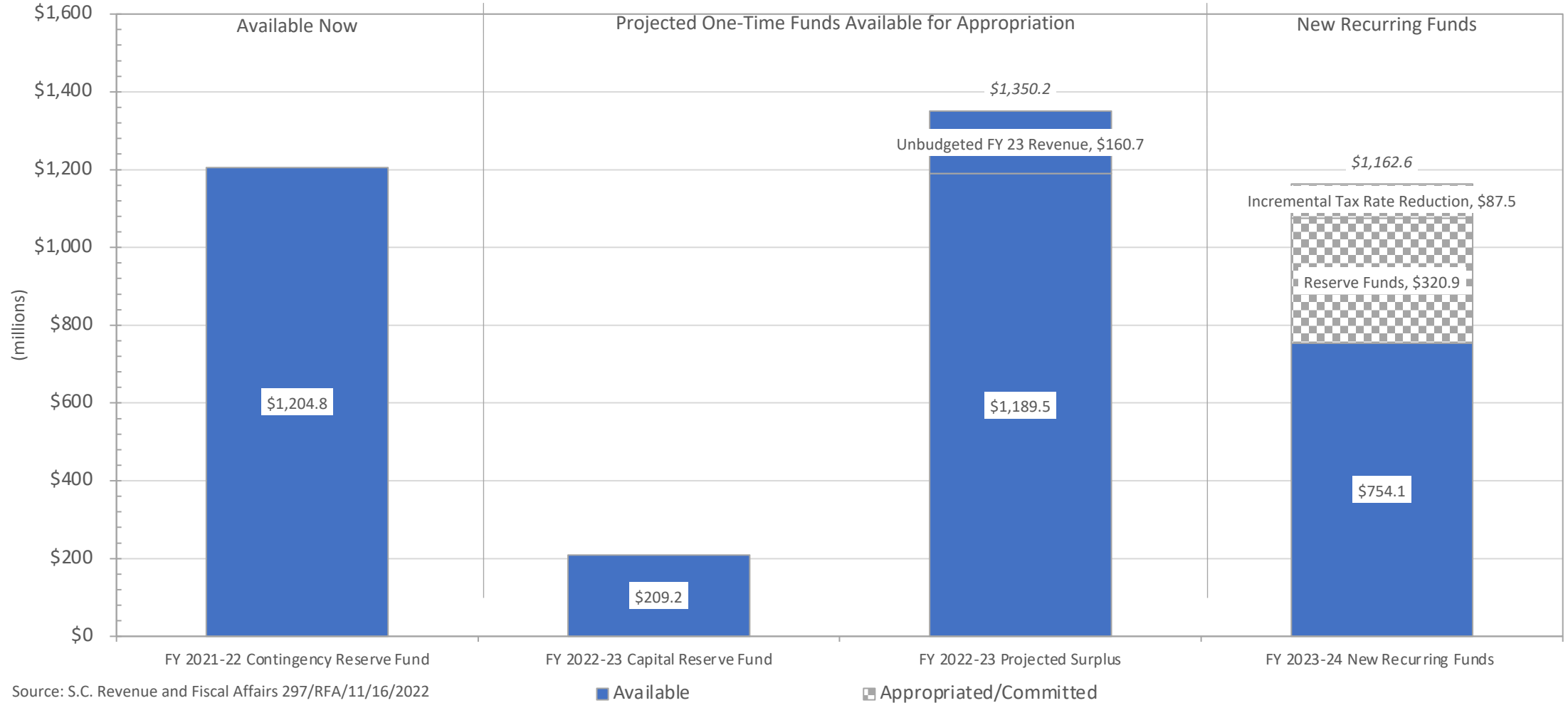
Source: U.S. Department of Commerce, Bureau of Economic Analysis; SC Revenue and Fiscal Affairs Office 34F-LHJ/5/10/23

Total General Fund Revenue



FY 2023-24 Available Funds

AVAILABLE FUNDS - FY 2023-24 BUDGET PROCESS
as of November 16, 2022

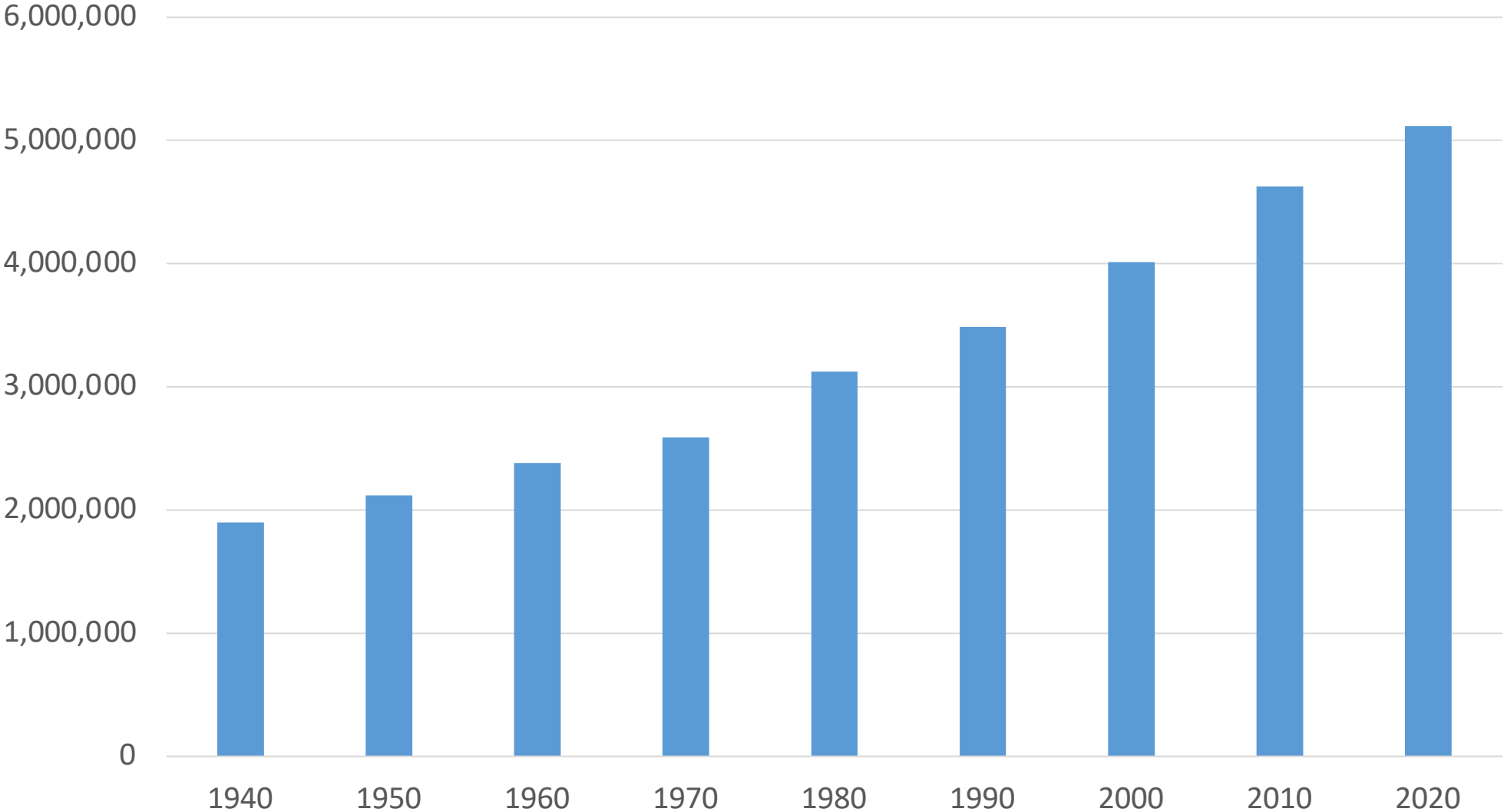


Source: S.C. Revenue and Fiscal Affairs 297/RFA/11/16/2022

Complicated to Complex

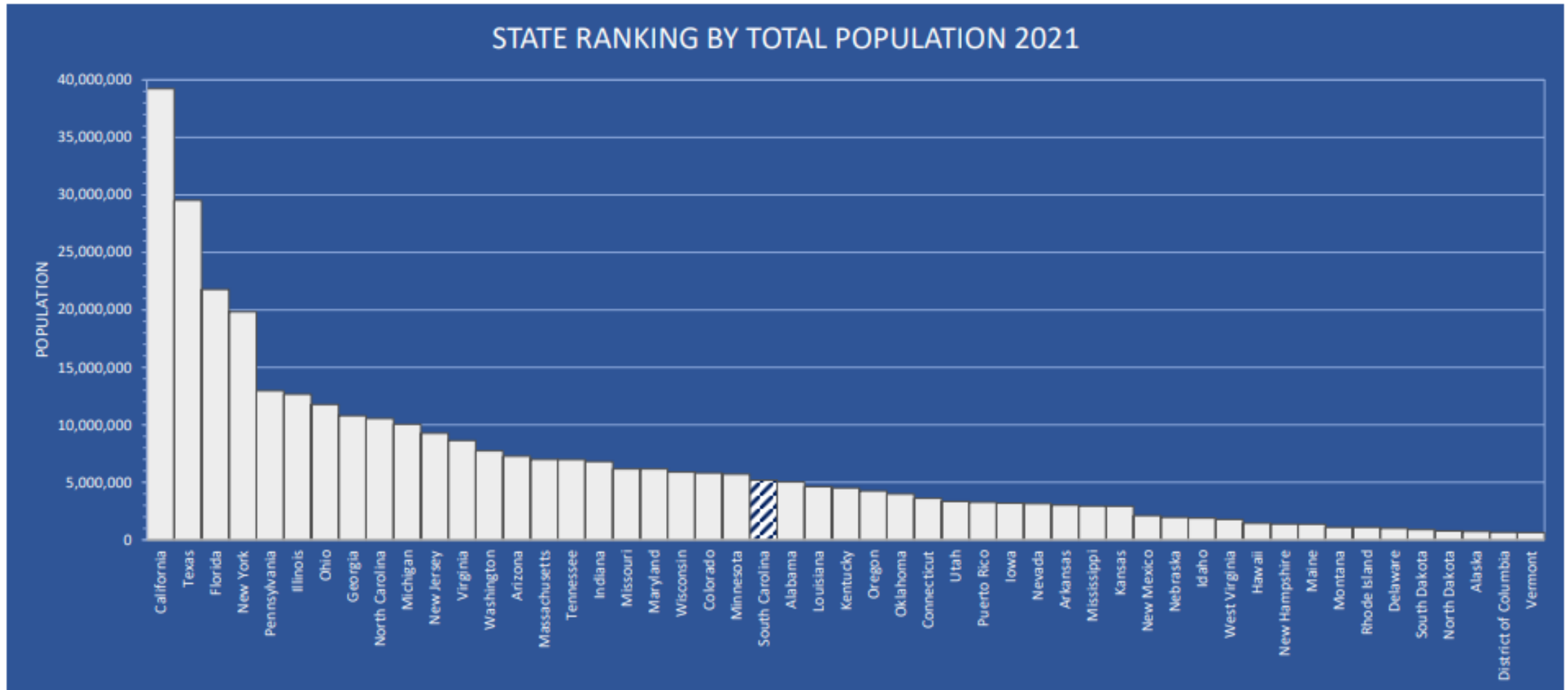
The base of governmental services are the numbers of people served and their specific needs. There are complicated but somewhat predictable trends in population in South Carolina. The question is whether the complexity of a pandemic altered these trends in a way that cannot be predicted.

Population of South Carolina: Average Annual Increase 1.25%



South Carolina is the 23rd Most Populous State in the US

Accounting for 1.5% of the total US population in 2021

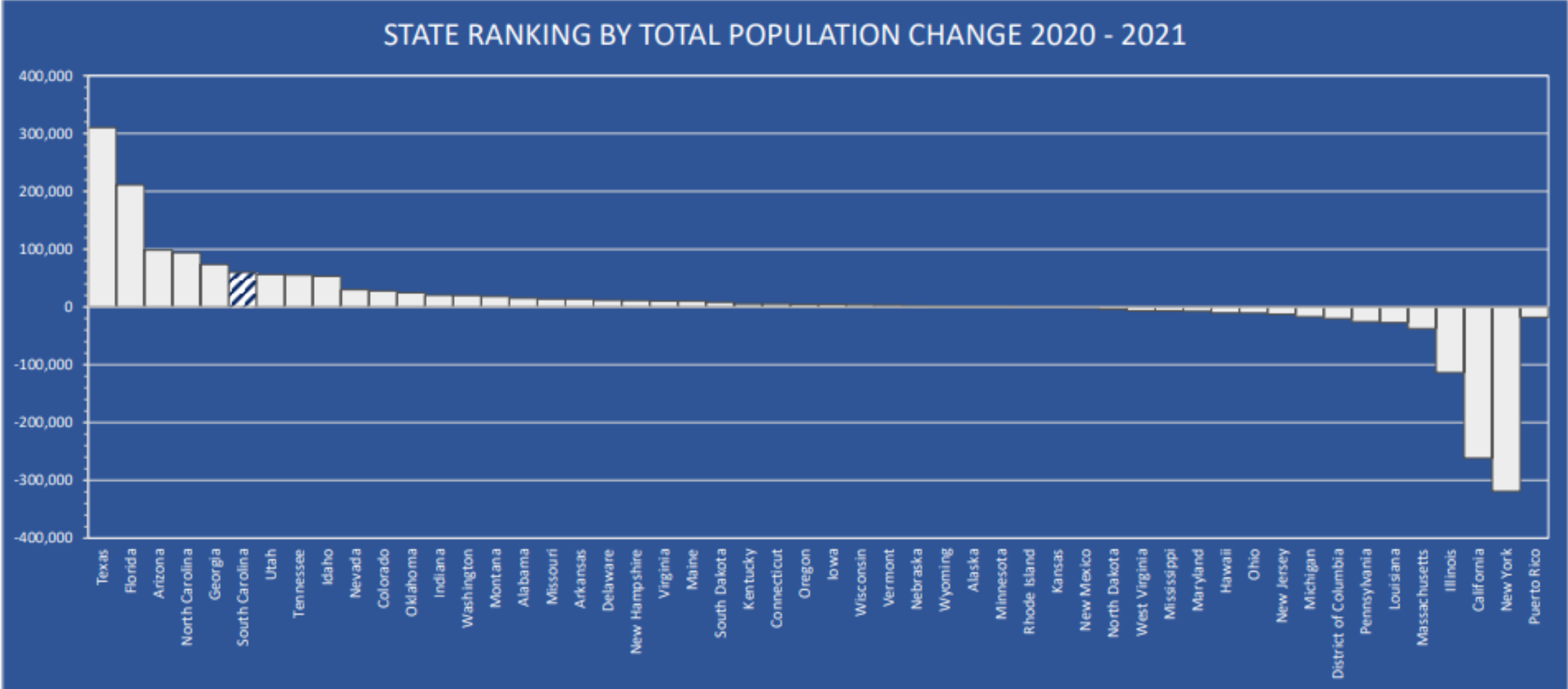


Source: Population Estimates Program Vintage 2021 estimates. File Name: Annual Estimates of Resident Population Change for the United States, States, District of Columbia, Puerto Rico, and State Rankings: April 1, 2020 to July 1, 2021



South Carolina had the 6th Largest Population Increase in the US

Population increased by 59,976 from 2020 to 2021



Source: Population Estimates Program Vintage 2021 estimates. File Name: Annual Estimates of Resident Population Change for the United States, States, District of Columbia, Puerto Rico, and State Rankings: April 1, 2020 to July 1, 2021

Population: Numbers and Growth

Biggest States by Population

1. California
2. Texas
3. Florida
4. New York
5. Pennsylvania
6. Illinois
7. Ohio
8. Georgia
9. North Carolina
10. Michigan

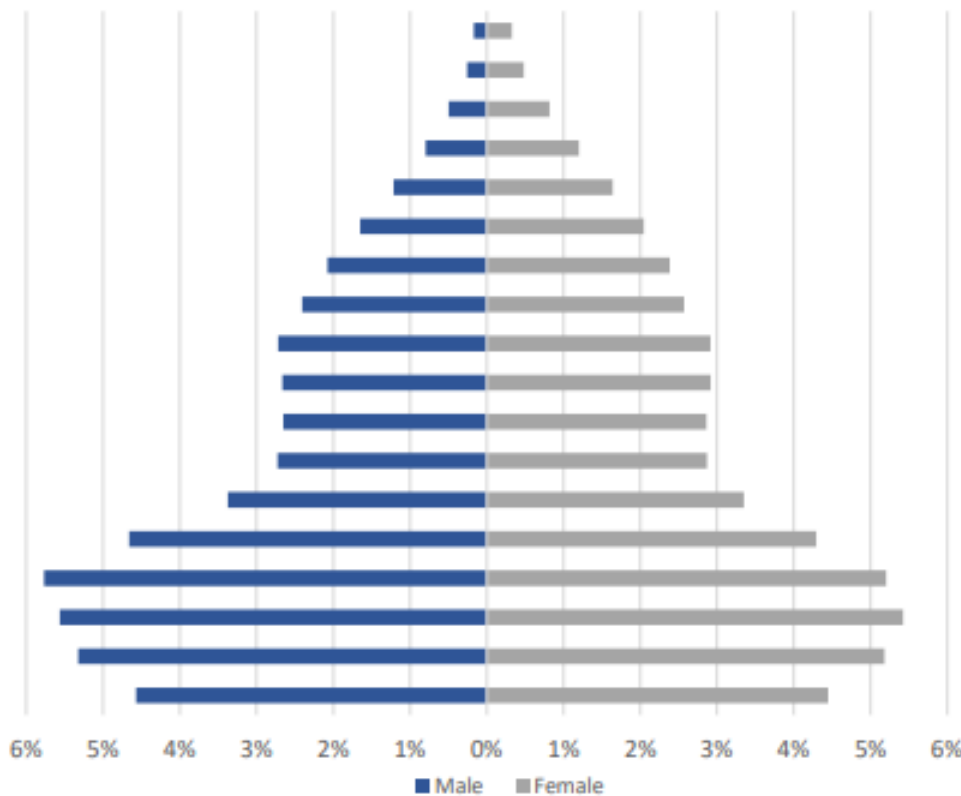
Population Growth (Decline) by State '20-'21

1. Texas
 2. Florida
 3. Arizona
 4. North Carolina
 5. Georgia
 6. South Carolina
-
48. Illinois
 49. California
 50. New York

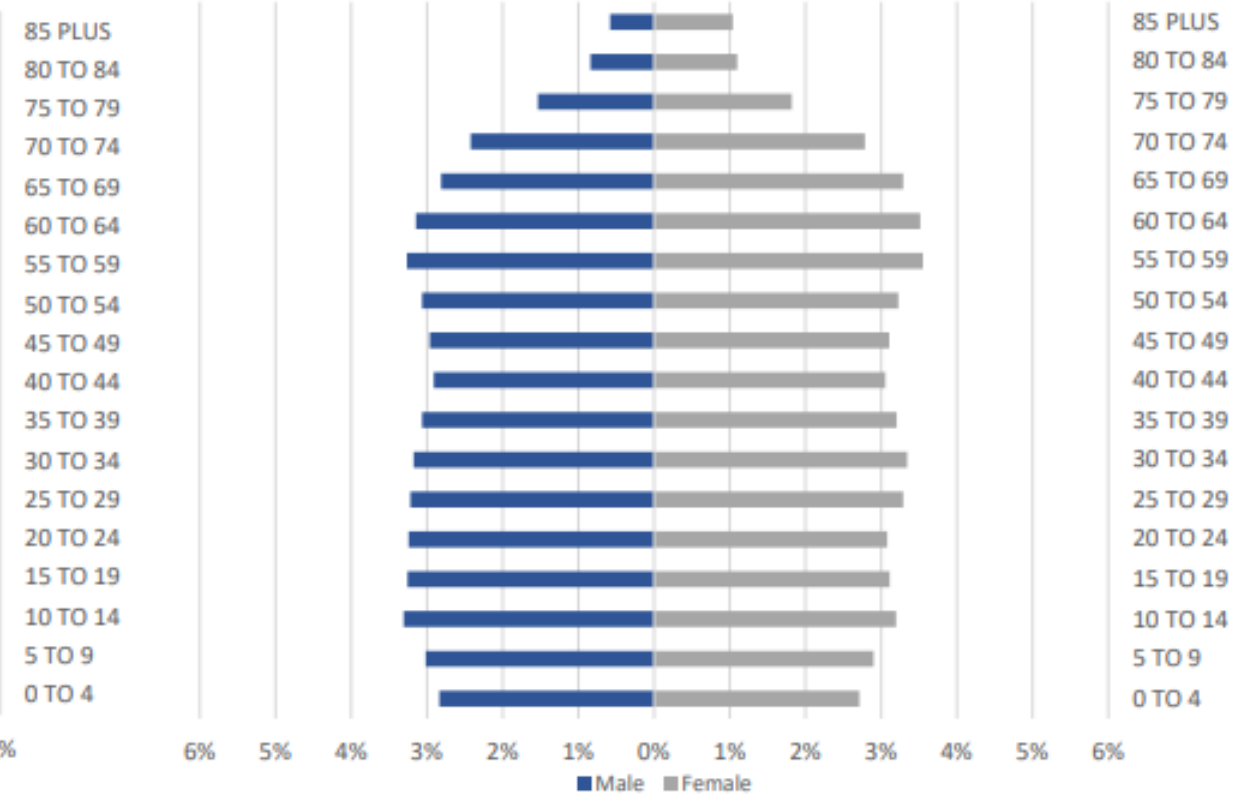
SC Population Pyramid

The age distribution of South Carolina's population has shifted dramatically since 1970; the median age has increased from 24 in 1970 to 40 in 2020

1970 POPULATION PYRAMID



2020 POPULATION PYRAMID

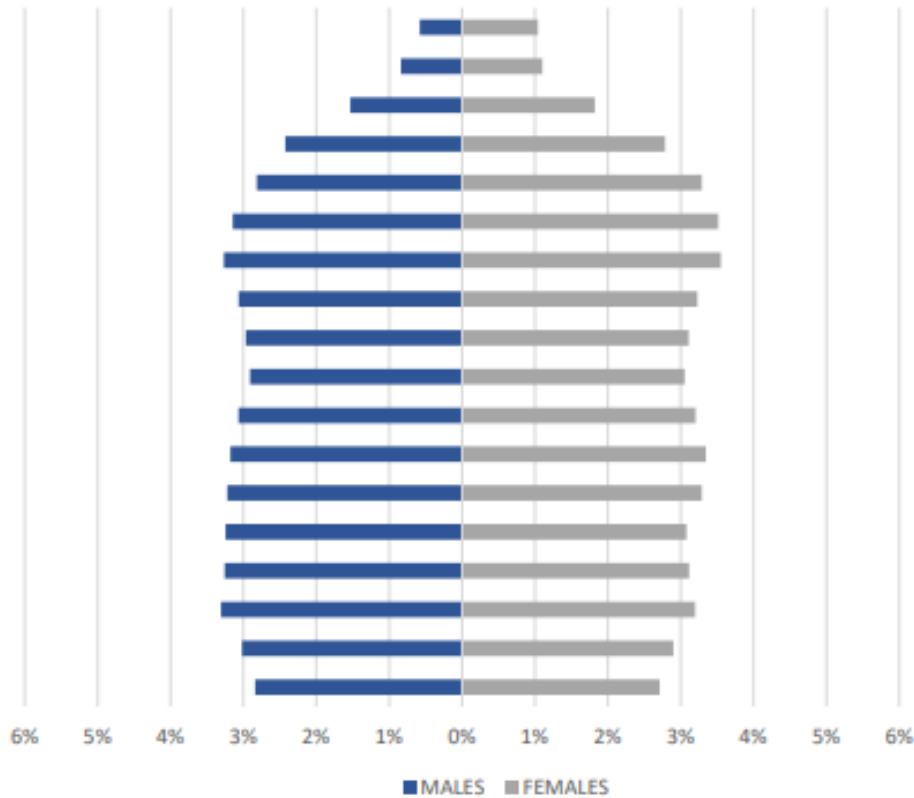


Source: S.C. Revenue and Fiscal Affairs Office 320 /08/25/2020

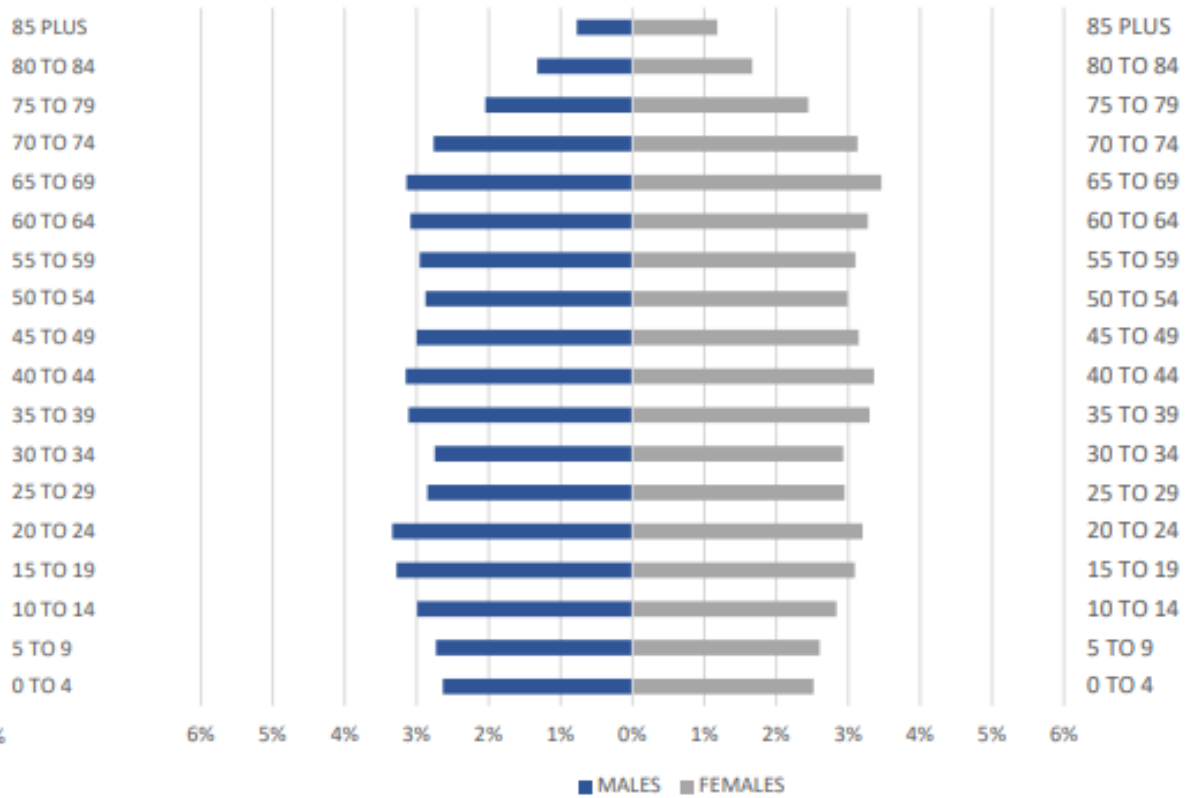
SC 2030 Population Projections

The median age is expected to increase from 40 to 42 over the next decade; all baby boomers will be older than 65

2020 POPULATION PYRAMID



2030 POPULATION PYRAMID



SC Population Pyramid Observations, 1970-2030

In 1970, a population graph of SC looked like a pyramid.

- ▶ 'Baby-Boomers' were between the age of 6 and 24.
- ▶ The SC median age (24) was younger than the US median age (28).

In 2020, the graph becomes less of a pyramid and more cylindrical.

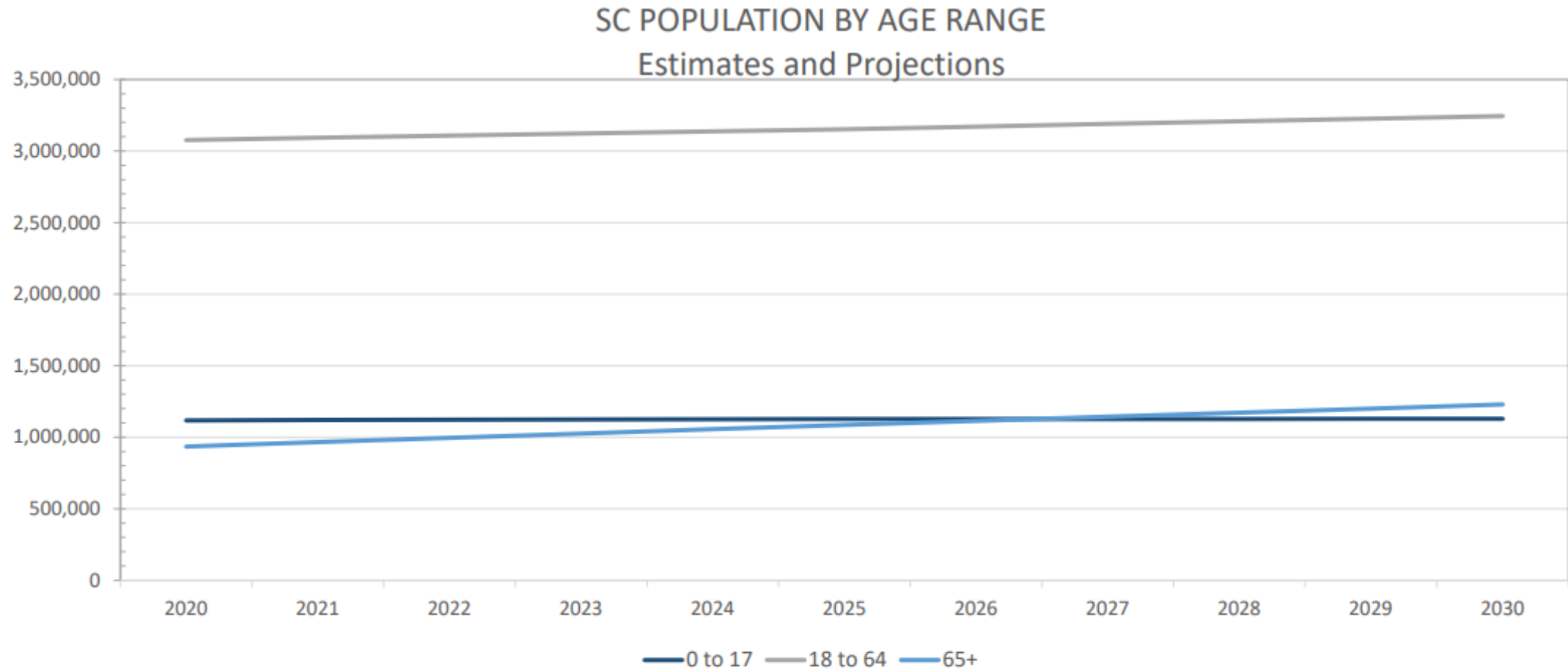
- ▶ Workforce age population represents 60% of the total population; down from 63% in 2010.
- ▶ 'Baby-Boomers' were between the age of 56 and 74.
- ▶ The SC median age (40) was older than the US median age (39).
- ▶ The birth rate in 2020 was 10.7 (per 1000 people) down from 16.8 in 1990.

Into 2030, the top of the pyramid continues to flatten out.

- ▶ Deaths exceeded births in 2021.
- ▶ More people are expected to live into their 80s and beyond.
- ▶ Growth of the 65+ population is expected to be twice that of the 18-64 population.
- ▶ The 65+ population is projected to surpass the 0-17 population in 2027.

SC Population by Age Group

Population in the 65 plus age range is projected to surpass the under 18 age range by 2027



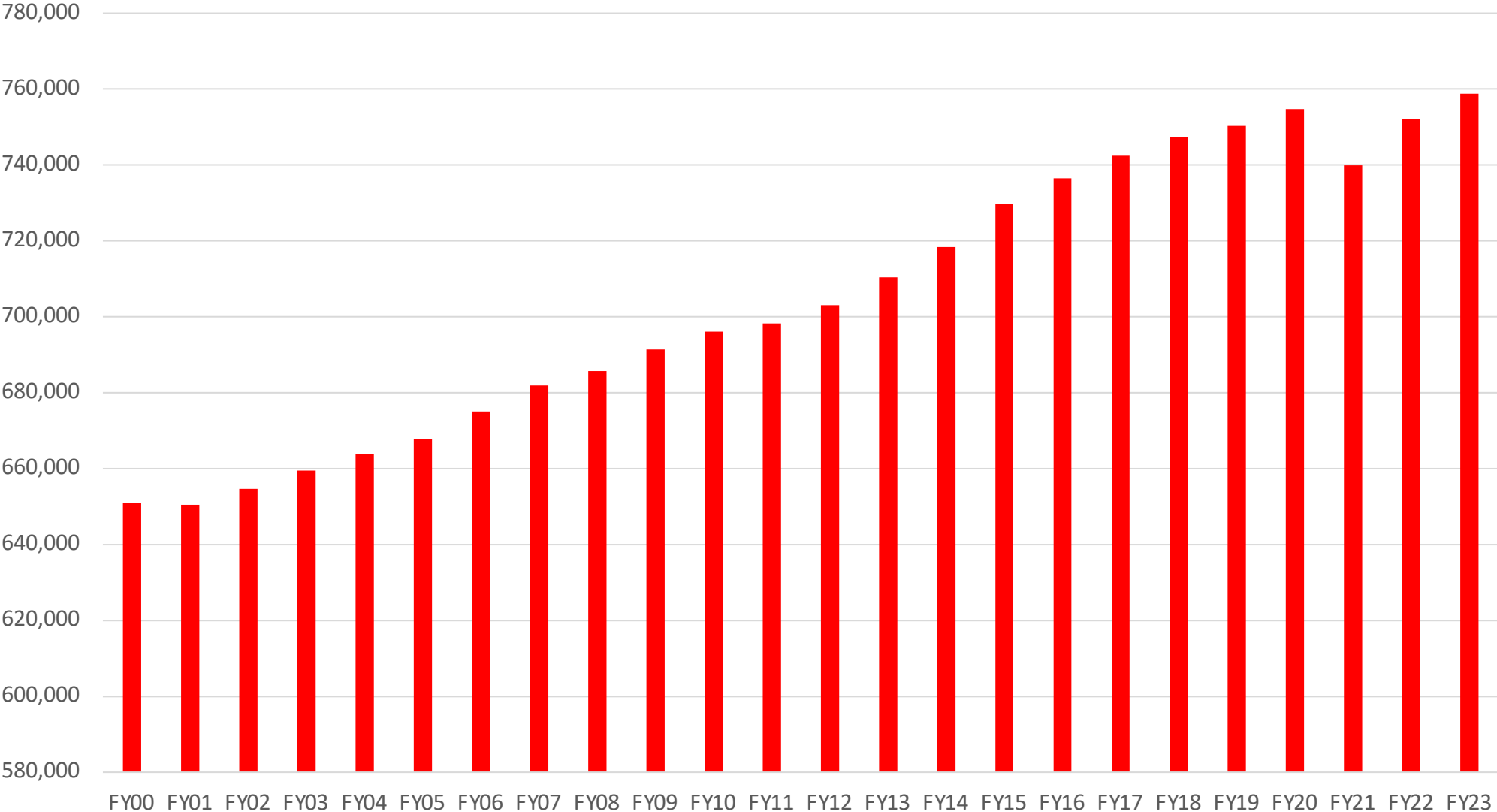
Source: U.S. Census Bureau, population estimates 2020, 2021; S.C. Revenue and Fiscal Affairs Office projections -319/lhj/08/29/2022

The Populations in South Carolina Receiving Services Reflect This Demographic Change

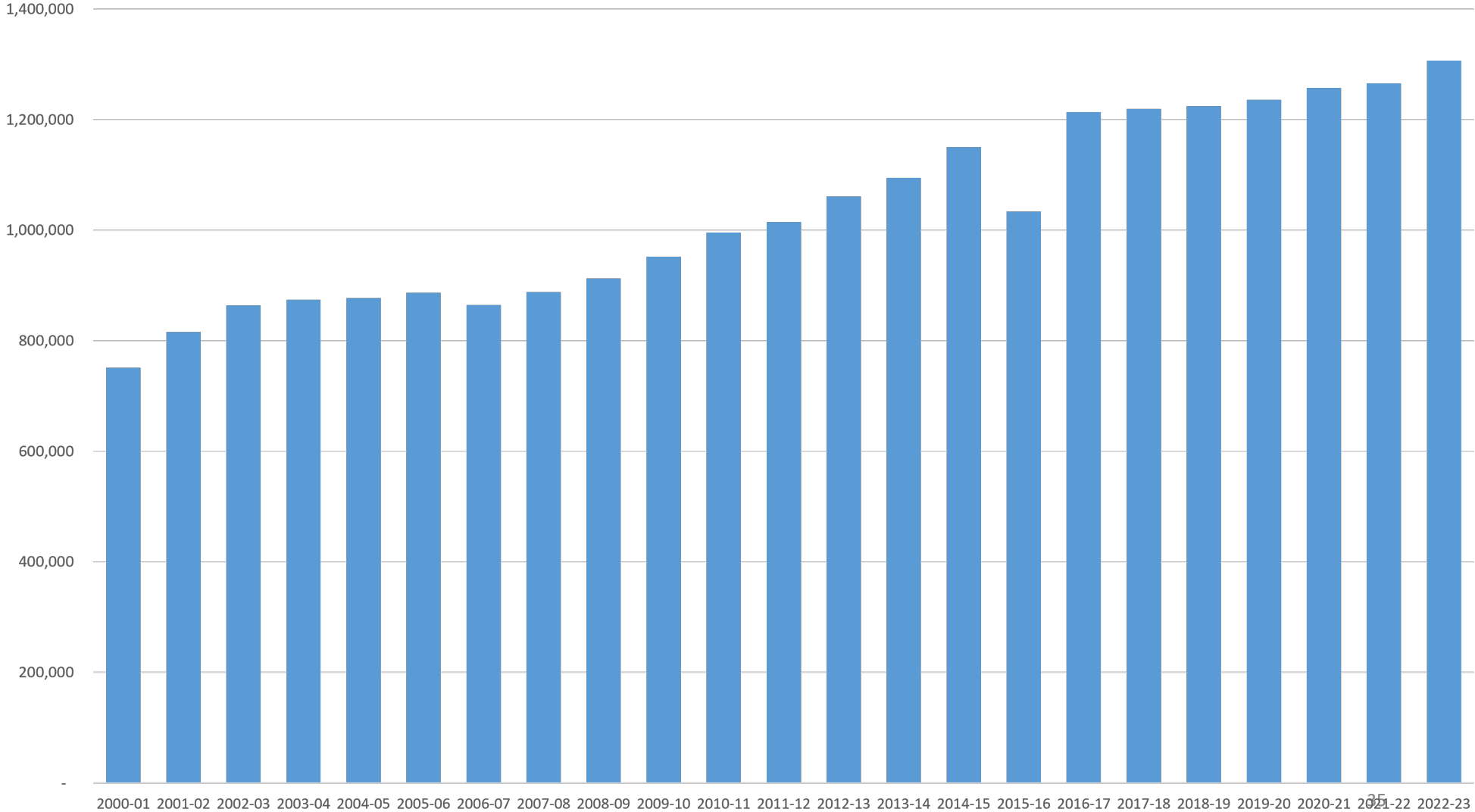
“Every silver lining's got a touch of grey.”

-The Grateful Dead

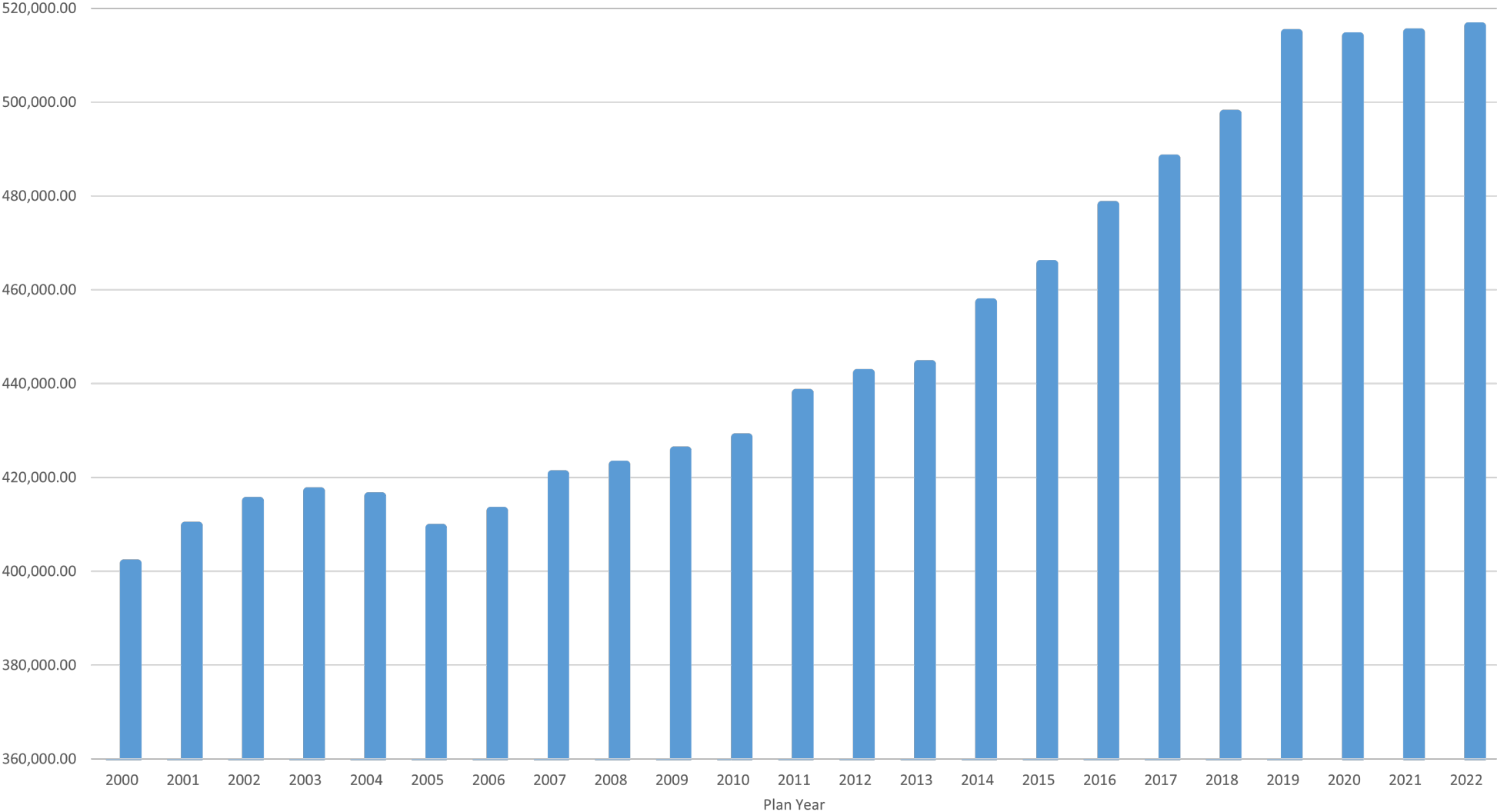
K-12 Enrollment for School Districts: Average Annual Increase 0.67



Medicaid Recipients Unduplicated: Average Annual Increase 2.5%



State Health Plan Covered Lives: Average Annual Increase 1.1%

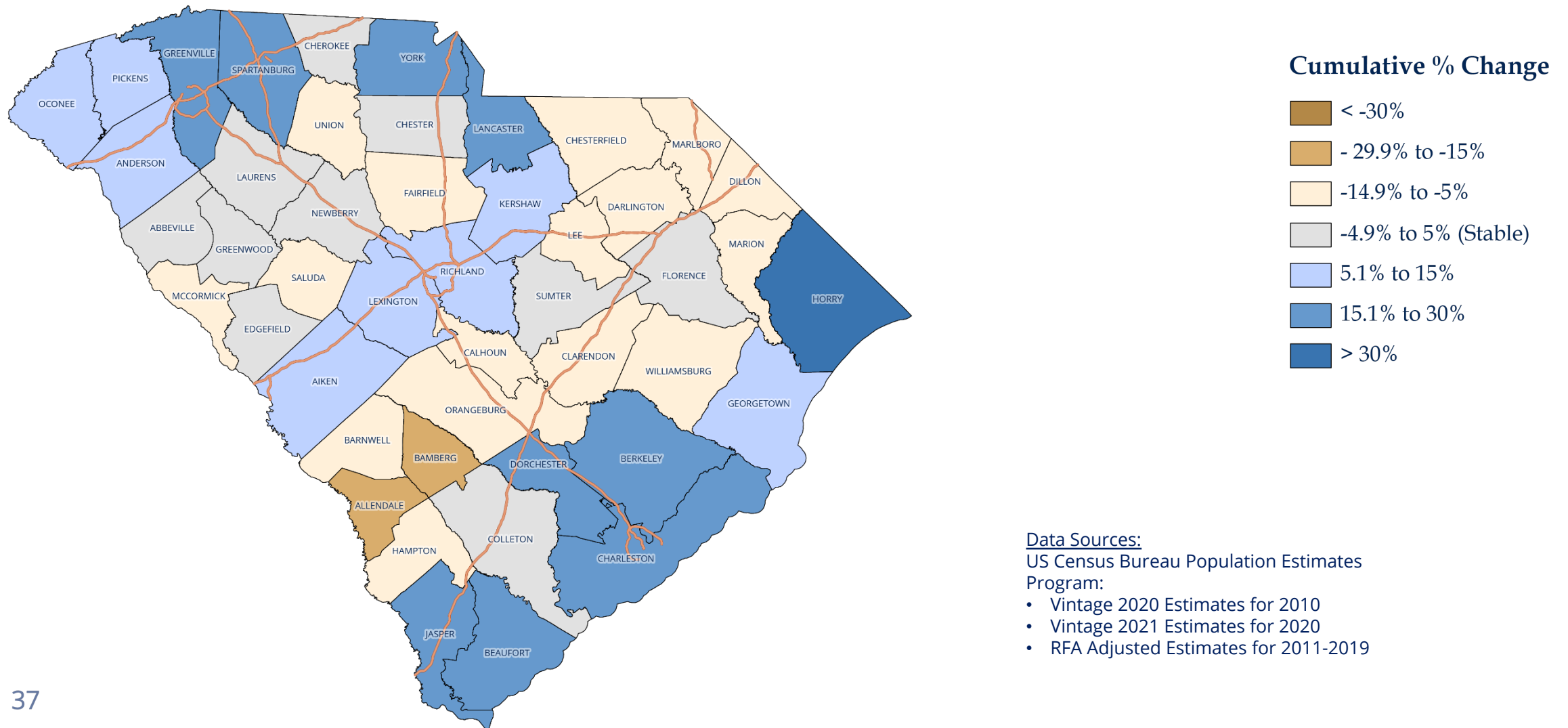


Within Our State, Important Locational Populations Shifts Are Occurring

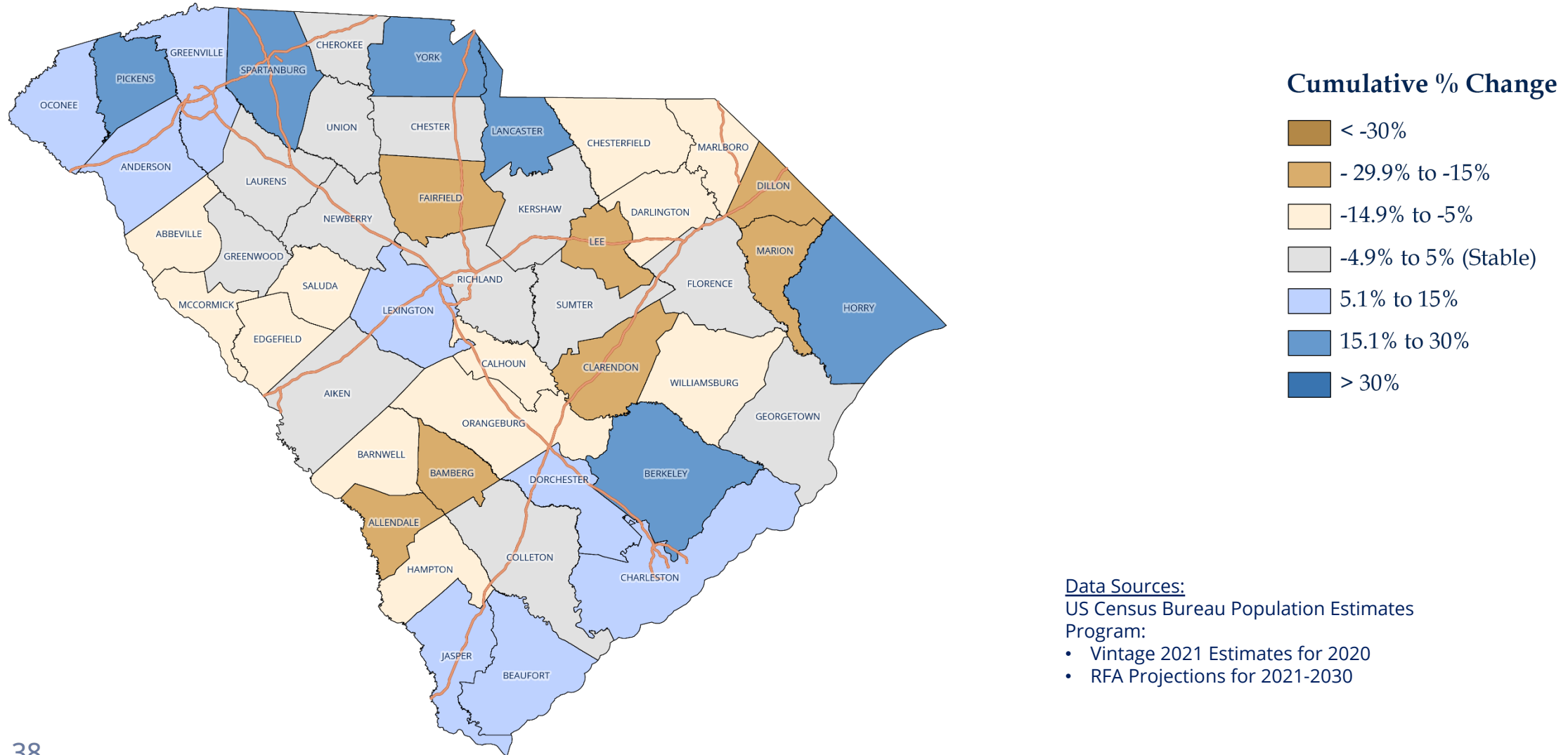
Rural to Urban

South Carolina's Population Change, 2010-2020

Varied by county from +30.8% (Horry) to -22.8% (Allendale)



South Carolina's Projected Total Population Change, 2020-2030 (By County)



Data Sources:
 US Census Bureau Population Estimates Program:
 • Vintage 2021 Estimates for 2020
 • RFA Projections for 2021-2030

South Carolina Population Projections by County, 2030

Observations

- ▶ Horry is expected to move up to the 2nd most populous county in 2030 and Richland is projected to drop to 4th.
- ▶ 50% of the counties are likely to make up 90% of the state's population.
- ▶ Nine counties are projected to have a population of less than 20,000.
- ▶ Eight counties are projected to have a population of greater than 250,000.

South Carolina Population Change, 2020-2030

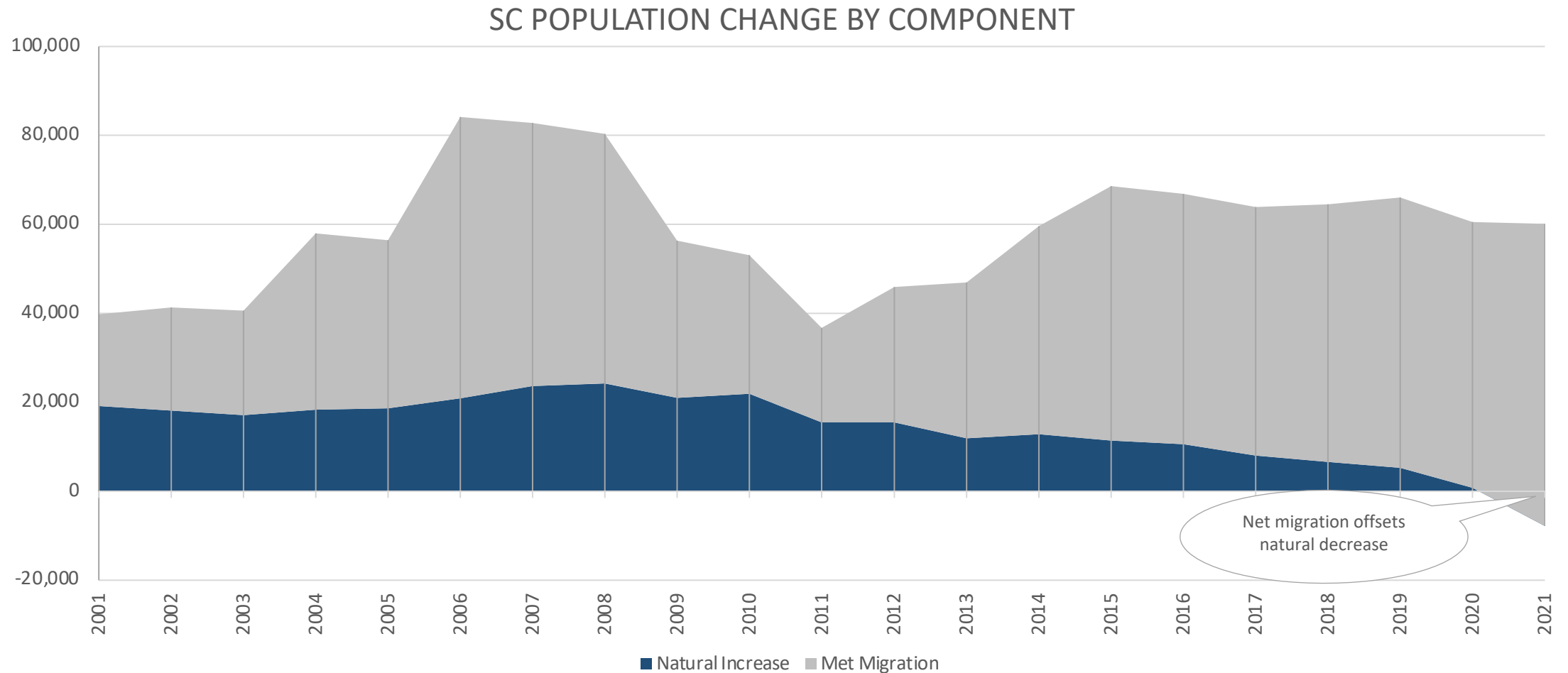
Observations

- ▶ The I-95 corridor is expected to decline in population.
- ▶ Total population in seven rural counties is expected to decline by 15 to 30% over the next decade:
 - ▶ Allendale, Bamberg, Clarendon, Dillon, Fairfield, Lee and Marion.
- ▶ Population growth in the coastal counties is expected to vary over the next decade.
- ▶ Horry is projected to have the highest gain again this decade, followed by York, Spartanburg and Greenville.
- ▶ Orangeburg, Darlington, Chesterfield and Florence are projected to have the largest population decreases.

Components of Population Change Natural Growth Versus Migration

Components of Population Change

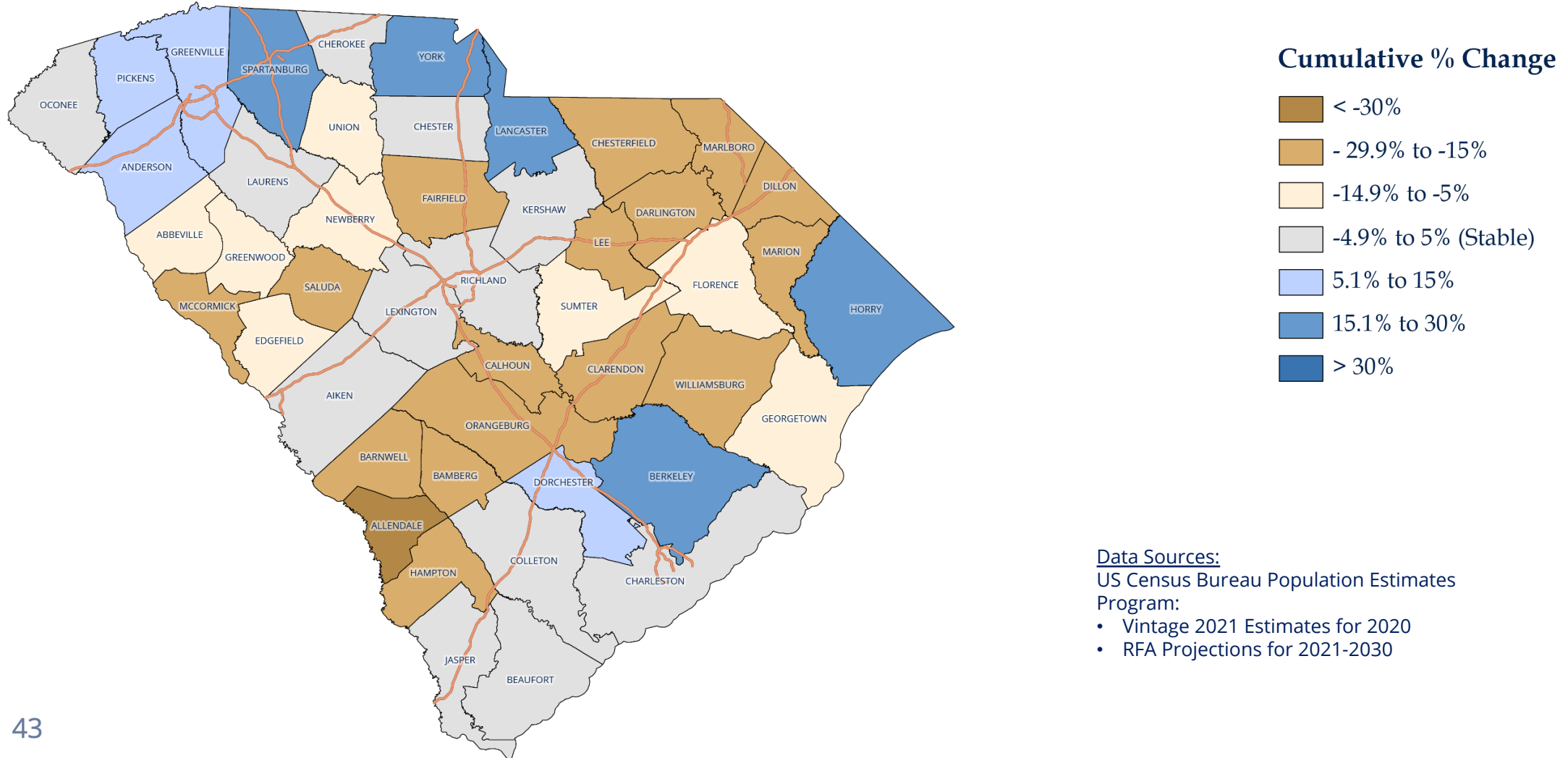
Natural v. Migration; deaths exceeded births in 2021



Source: US Census Bureau Population Estimates 321-RFA/08/29/2022

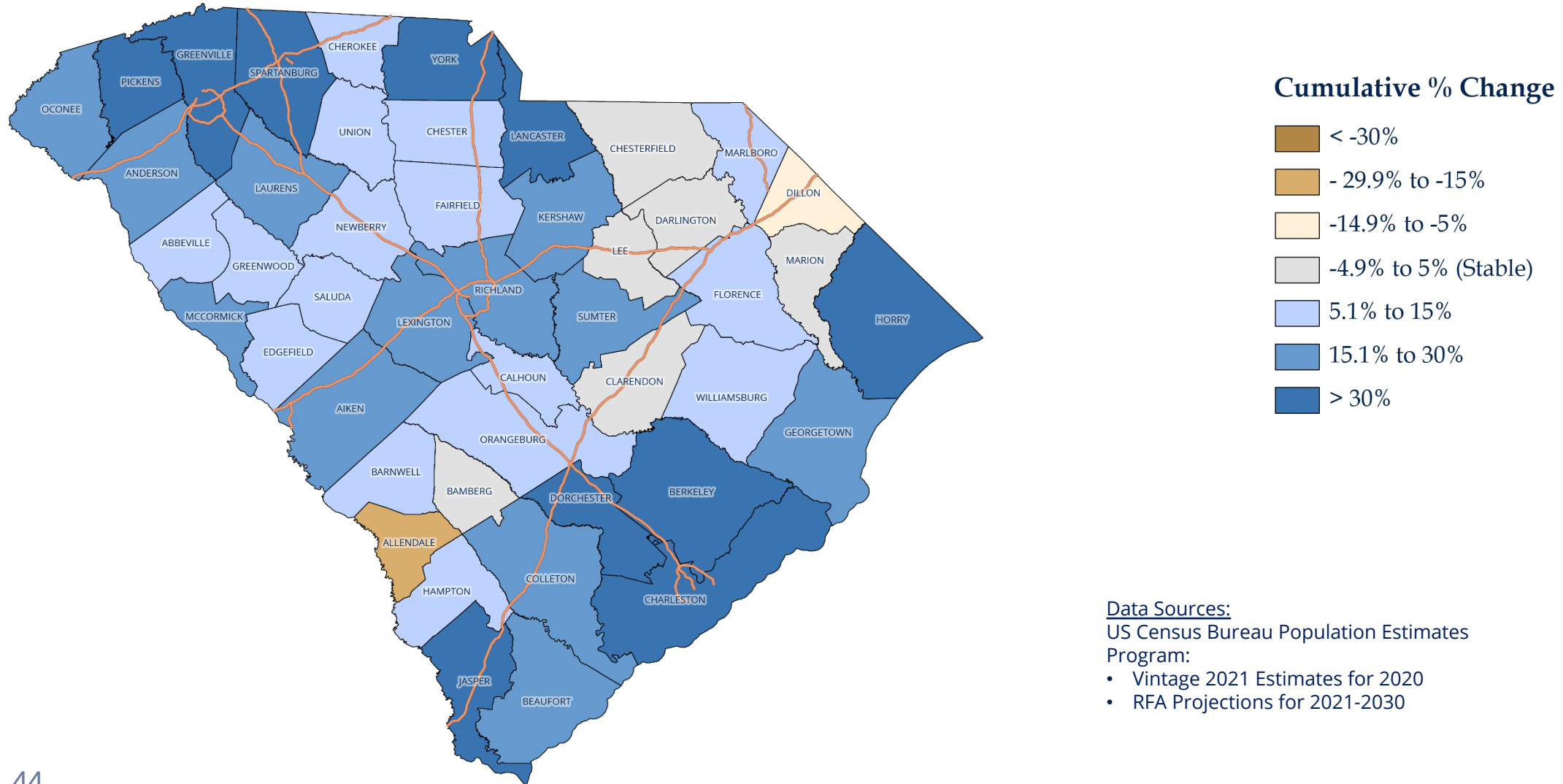
SC Estimated Workforce Age (18-64) Population, 2020-2030

Nine counties increased in this age group



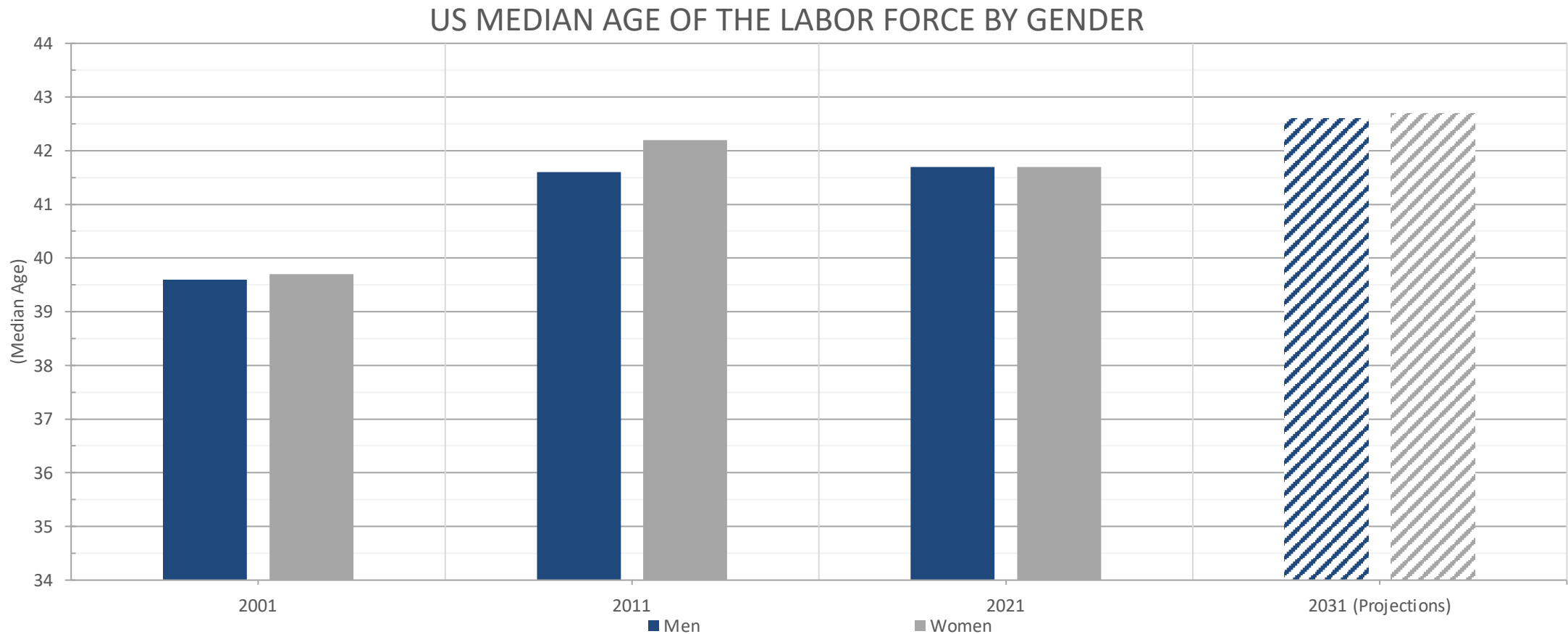
SC Estimated Retirement Age (65+) Population, 2020-2030

Thirty-eight counties experienced an increase in this age group



US Median Age of the Labor Force

The median age remained almost the same for men but fell for women from 2011 to 2021; both are projected to increase by one year to 42.6 and 42.7, respectively, by 2031



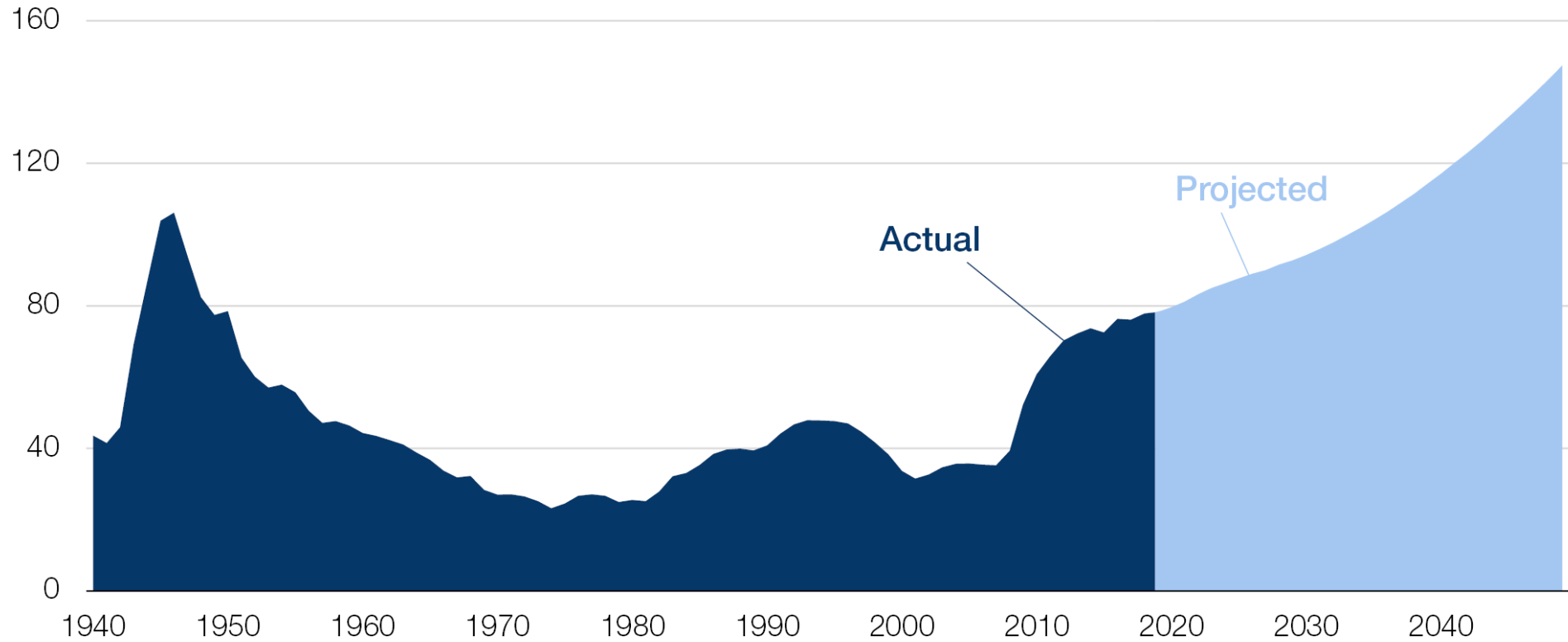
Data Source: U.S. Bureau of Labor Statistics, Employment Projections Program as of 9/8/2022 326A-RFA/lpw/10/25/22

The Biggest Risk

The Problem is the Problem

Federal Debt Held by the Public

Percent of GDP



Source: Congressional Budget Office

How Gerontocracy Explains the Matt Gaetz Clown Show

Ross Douthat Editorial, NY Times, Oct. 4, 2023

- ▶ “The basic gerontocratic fiscal trap is easy to describe: As societies grow older, with longer life expectancies and fewer kids, their old-age commitments become steadily more costly as the share of voters who benefit from those commitments (and turn out to vote) increases. This makes it harder to fix fiscal problems, and it makes the path of least political resistance the protection of the old and the shortchanging of the young — who, thus shortchanged, start fewer families and deepen societal senescence.”

Complexity

How do we manage our governmental resources to produce results in an environment where things are so complex that prediction is next to impossible?

The “Take Away”

- ▶ Communication
- ▶ Cooperation
- ▶ Collaboration

Team of Teams (General Stanley McChrystal, 2015, Page 198)

- ▶ Cooperation across silos would be necessary for success, and while systemic understanding was a valuable first step, we needed to build more trust if we were to achieve a fluid, teamlike cooperation that we needed across our force.
- ▶ To that end, we used embedding and liaison programs to create strong lateral ties between our units, and with our partner organizations. Where systemic understanding mirrors the sense of purpose that bonds small teams, this mirrored the second ingredient to team formation: “trust.”
- ▶ Together, these two elements completed the establishment of shared consciousness, something that was vital to our success.

Thank You