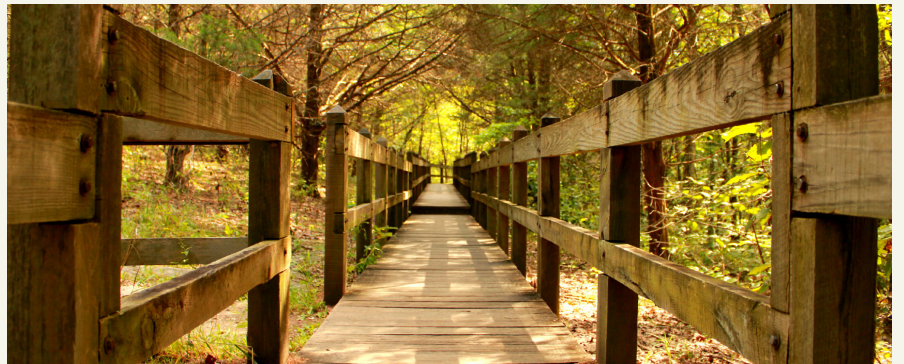




City of Columbia, Missouri

# Community Trend Manual

For the Fiscal Year Ended - Sept. 30, 2022





July 22, 2023

De'Carlon Seewood  
City Manager  
City of Columbia  
Columbia, Missouri 65201

The City of Columbia Finance Department has prepared a Trend Manual since the early 2000s. In 2021, the Trend Manual was split into a financial document and a community document. The purpose of the Community Trend Manual is to aid in understanding factors that affect our community. This document summarizes the City's socioeconomic trends to be reviewed by the Council, City management, local businesses, civic organizations, and other stakeholders.

This Community Trends Manual focuses exclusively on historical trends for our community, including the City's demographic and socioeconomic conditions. Prior to FY 2021, this information was included in a singular Trend Manual document, but we have separated it for current and future periods. Our FY 2018 – FY 2022 Financial Trend Manual presents the City's financial strengths and weaknesses for each of our City's funds and departments, with Community Trends being a stand-alone document.

The Community Trends Manual is separated into six sections: Demographics, Standard of Living, Local Economy, Fiscal Health, Community Services, and Environmental Indicators. Each subsection presents insights, analysis, and the latest data on select characteristics of the City of Columbia. In this way, we are supporting our Resilient Economy Strategic Plan Priority Area by increasing accessibility to data relevant to socioeconomic trends. The inclusion of Environmental Indicators helps us to better track our progress toward our environmental goals outlined in the Climate Action and Adaptation Plan (CAAP).

As always, our goal with the Trend Manual is to assist policymakers, including City Council and City management, with making informed decisions based on historical evidence. We hope that making Community Trends a stand-alone document helps make it more accessible to anyone interested in learning more about our community.

Respectively submitted,

A blue ink signature of Matthew Lue, written in a cursive style.

Matthew Lue  
Director of Finance

A blue ink signature of Deepayan Debnath, written in a cursive style.

Deepayan Debnath  
Economist

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CoMo.gov

*Our vision: Columbia is the best place for everyone to live, work, learn and play.*

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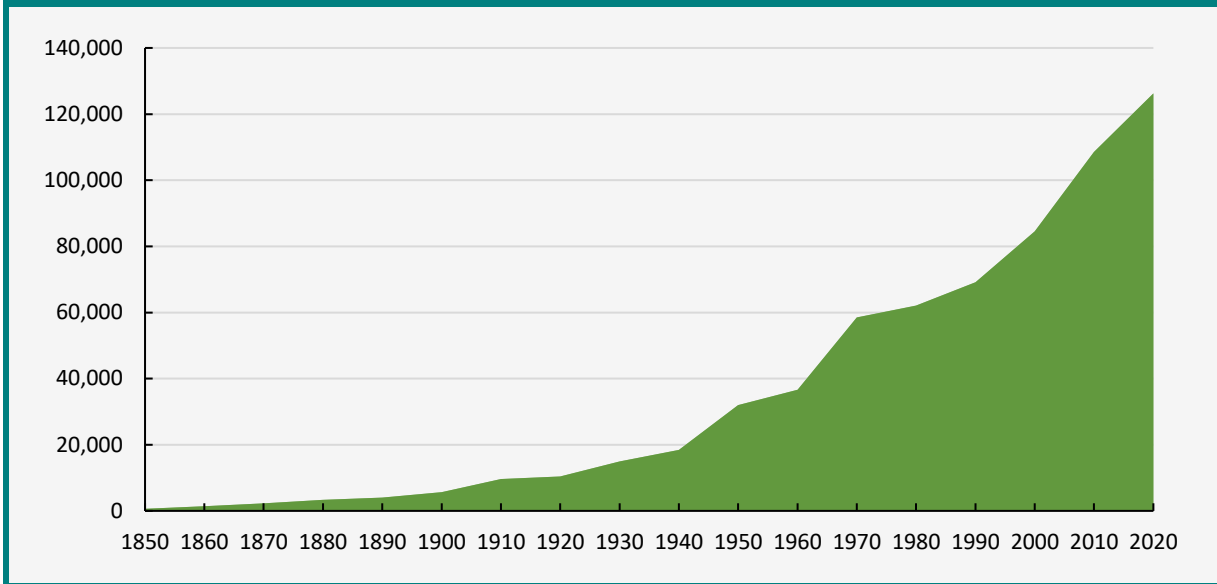
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# Demographics

## Population and Density

### Population Since 1850 [1]



### Population and Density [2] [3] [4]

Year	Estimated population*	Square Miles	Population Density
2018	123,182	66	1,868
2019	123,204	67	1,847
2020	126,254	67	1,891
2021	126,850	66	1,909
2022	128,555	68	1,897

**\*Total population for 2022 is sourced from the Population Estimates Program (PEP), while all other years are sourced from the American Community Survey (ACS).**

### Analysis

Columbia, MO, first appears on the US Census's online records in 1850 with a population of 651. Since then, the population has grown to about 128,555 people. From 2018-2022, the City's population has grown 4.4% at an average of 1.1% per year.

Population density affects the allocation of goods and services within a community. A higher population density can lower the per capita cost of services such as police, fire, or street maintenance. For the period shown, population density increased by 1.5%.



**The Population Estimates Program (PEP) projects total populations outward from the most recent Census count based on the known characteristics of a community. The American Community Survey (ACS) combines PEP estimates with regularly collected survey data to estimate various socioeconomic characteristics of a community. The total population can differ between them depending on the timing of the surveys administered.**



## Demographics

### Population by Race

#### Diversity [3] [5]

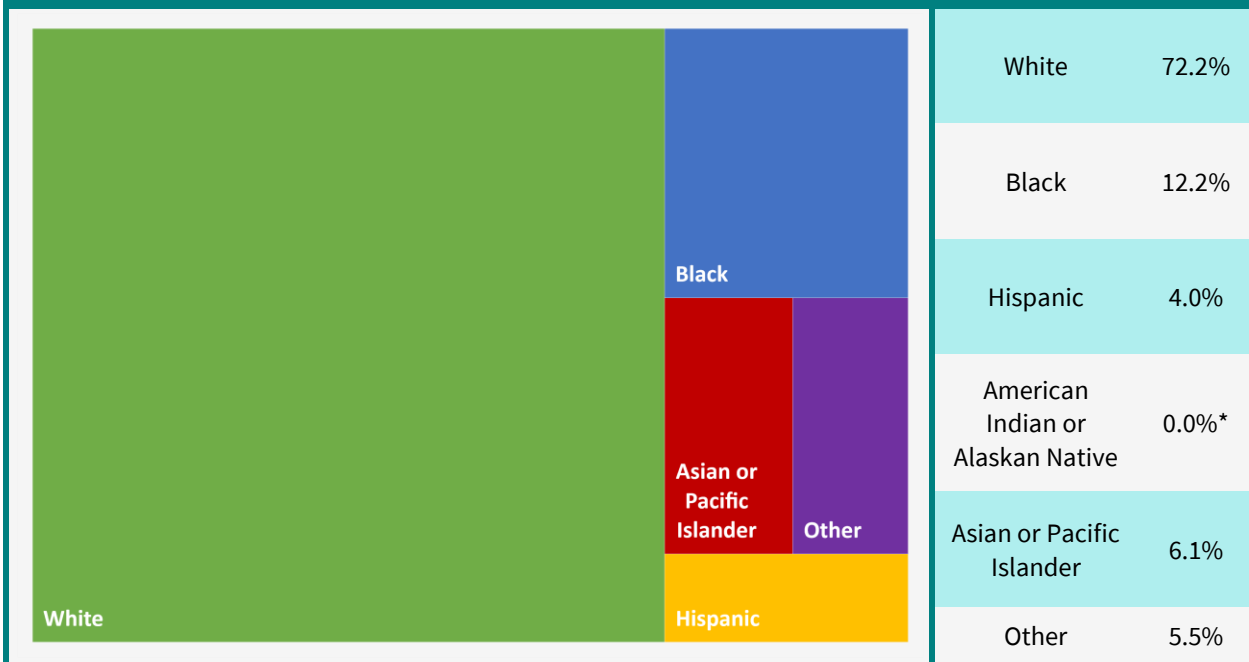
By the 2020 Census counts, Columbia has a diversity index of 47.2%, 6.4% higher than that of Missouri, making it one of the more diverse communities in the state.

The Census releases ACS data in the latter part of the year, so ACS data used in some sections of this report will only reflect years up until 2021.

#### Population by Race [3]

Year	Estimated Population	White	Black	Other
2017	121,720	89,099	13,146	19,475
2018	123,182	92,510	11,086	19,586
2019	123,204	91,541	13,060	18,604
2020	126,254	89,767	14,898	21,589
2021	126,850	91,586	15,476	19,789

#### 2021 Racial Proportions [3]



\*By ACS One-Year estimates, the proportion of Native American or Alaskan Native population is around 0.002% of the population.



The Census uses a variation of Simpson's Diversity Index to measure diversity in a community. It is equivalent to the probability that two randomly selected individuals from a population will be from different racial categories.

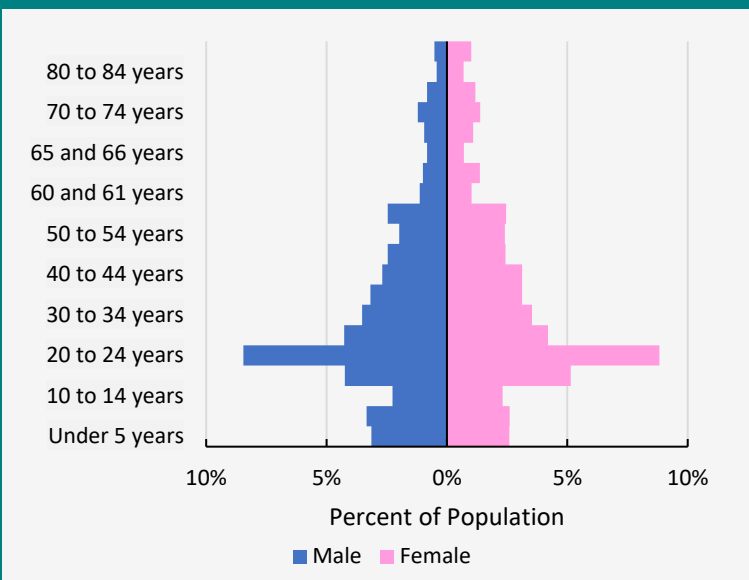
# Demographics

## Population by Age

### Population by Age

The city of Columbia, home of the University of Missouri, is host to a sizeable college-aged population. Excluding the college-aged population, the population pyramid for Columbia exhibits characteristics of a slowly growing community.

### 2021 Population Pyramid [3]



### Minor and Elderly Population [3]

Year	Percent of Population Age 17 and Under	Percent of Population Age 65 and Older	Total Percent of Population Age 17 and Under or Age 65 and Older
2017	18.1%	9.8%	27.9%
2018	18.0%	10.2%	28.2%
2019	18.5%	9.4%	27.9%
2020	19.8%	10.7%	30.5%
2021	19.2%	10.8%	30.0%

### Analysis

The percentage of individuals living in the community who are age 17 or under or who are age 65 or older is one measure of the community's needs. The indicator helps to assess the level of needs, both current and future. These population groups tend to need more services than the average individual and do not have the income to pay for those services. During the period shown, the portion of the population that is either 17 and under or 65 and older has increased by 2.1 percentage points. This increase is split nearly evenly between the two categories.

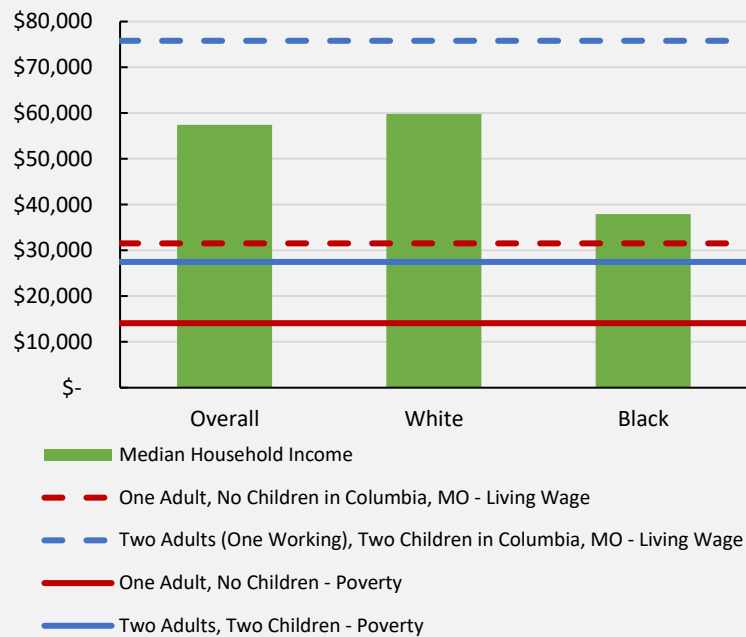
# Standard of Living

## Median Household Income

### Standards of Living

The official poverty threshold is based on a minimum food budget and the consumer price index but does not account for changes in most household expenses and does not vary by geography. MIT offers an alternative poverty threshold with their Living Wage Calculator. Analyzing both can offer greater perspective on the well-being of a community.

### 2021 Median Household Income [6] [7]



### Median Household Income [7] [8]

Year	Median Household Income	Median Household Income (2017 Dollars)	Inflation	White	Black	Gap
2017	\$47,236	\$47,236	1.7%	\$50,954	\$31,454	\$19,500
2018	\$49,277	\$48,348	1.9%	\$53,330	\$34,247	\$19,083
2019	\$51,276	\$49,572	1.5%	\$55,581	\$32,331	\$23,250
2020	\$53,447	\$51,183	1.0%	\$56,331	\$33,237	\$23,094
2021	\$57,463	\$52,367	5.1%	\$59,814	\$37,958	\$21,856

### Analysis

Median household income grew at an average of 5.0% per year while, overall, it increased by 21.7% from 2017 to 2021. During the same period, the average annual inflation rate was 2.2%. This indicates that the growth in median household income has outpaced the growth of inflation. Median household income for white households increased by 17.4%. Median household income for black or African American households increased by 20.7% and the gap between white and black or African American median household income increased by 12.1%. This indicator is considered to be a warning trend due to the growing gap that exists between median income for white versus black households.



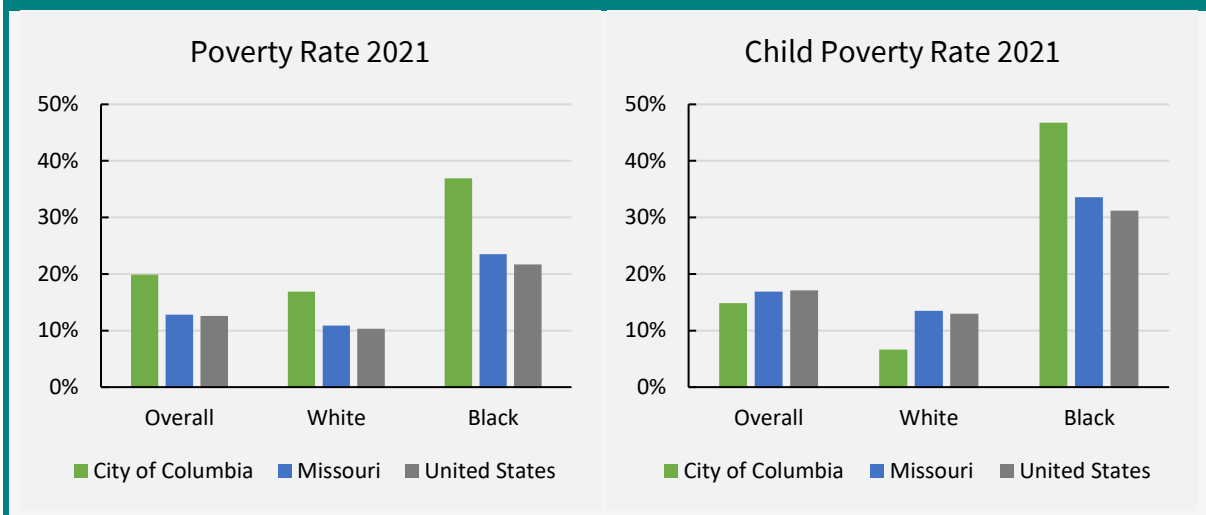
# Standard of Living

## Poverty Rates

### Poverty

A community's level of poverty can impose additional hardships beyond the individual challenges associated with lower incomes. Concentrated poverty can result in lower-quality education and healthcare resources, lower home values, higher crime rates, and diminished employment networks and economic opportunities. The poverty rate of an area can signal a future increase in the level and cost of services as low-income households will have relatively higher needs.

### Poverty Rate by Race [7]



Year	City of Columbia			State of Missouri			United States		
	Overall	White	Black	Overall	White	Black	Overall	White	Black
2017	22.9%	20.9%	30.9%	14.6%	12.4%	26.7%	14.6%	12.0%	25.2%
2018	22.2%	19.5%	32.7%	14.2%	12.0%	26.1%	14.1%	11.6%	24.2%
2019	21.8%	18.7%	35.1%	13.7%	11.7%	24.7%	13.4%	11.1%	23.0%
2020	20.2%	16.7%	41.3%	13.0%	11.2%	23.6%	13.4%	10.6%	22.1%
2021	19.9%	16.9%	36.9%	12.8%	10.6%	23.5%	12.6%	10.3%	21.7%

### Analysis

Columbia's overall poverty rate decreased by 3.0 percentage points to 19.9% from 2017 to 2021. The rate has been significantly above both the Missouri and United States poverty rates for the period shown. When examining the poverty rates by race, the rate for whites decreased by 4.0 percentage points while the rate for Black or African Americans increased by 6.0 percentage points in Columbia. Columbia's child poverty rate for both overall and white children is below that of Missouri and the United States, while the Black or African American child poverty rate remains significantly higher.

# Standard of Living

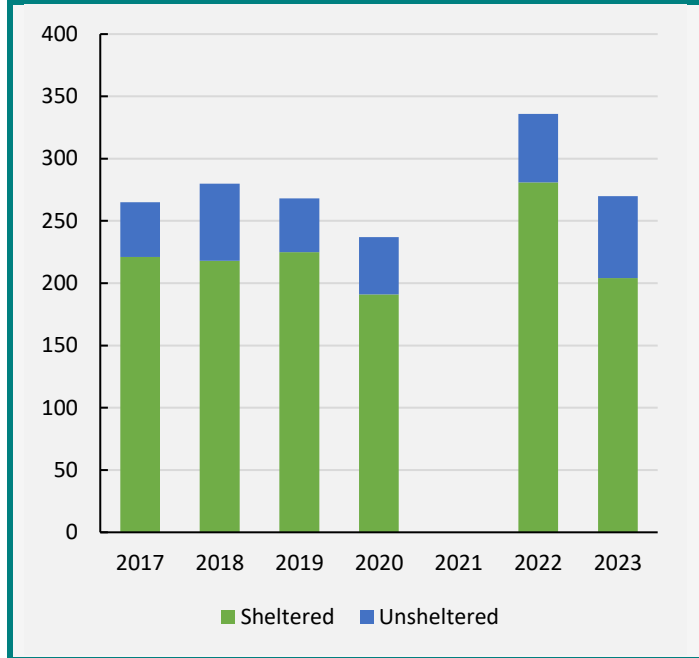
## Homelessness

### Tracking Homelessness [9]

The Missouri Balance of State (BoS) Continuum of Care (CoC) conducts a Point-In-Time Count throughout its 101 county geographic areas each year as required by the US Department of Housing and Urban Development (HUD). The count helps Missourians monitor trends in the homeless population and increases public awareness of homelessness.

In the last Point-In-Time Count, there were 270 persons found to be experiencing homelessness in Boone County.

### Homeless Point-in-Time Counts



### Sheltered and Unsheltered Counts [9]

Year	Sheltered	Unsheltered	Total Homeless
2017	44	221	265
2018	218	62	280
2019	225	43	268
2020	191	46	237
2021	-	-	-
2022	281	55	336
2023	204	66	270

### Homelessness [9]

The City’s investment in contracts for homeless services will increase from \$68,200 in 2016 to at least \$1,044,435 in 2024. The City also purchased the Ashely St. Center to be utilized for homeless services.

**\* The Point-In-Time Count was not conducted nationally in 2021 due to the COVID-19 pandemic.**



**Point-in-time counts are conducted in the last 10 days of January and count the number of people experiencing homelessness on a single night. The homeless population likely fluctuates throughout the year, but point-in-time counts are the most reliable and consistent estimate of people experiencing homelessness in the United States. [10]**

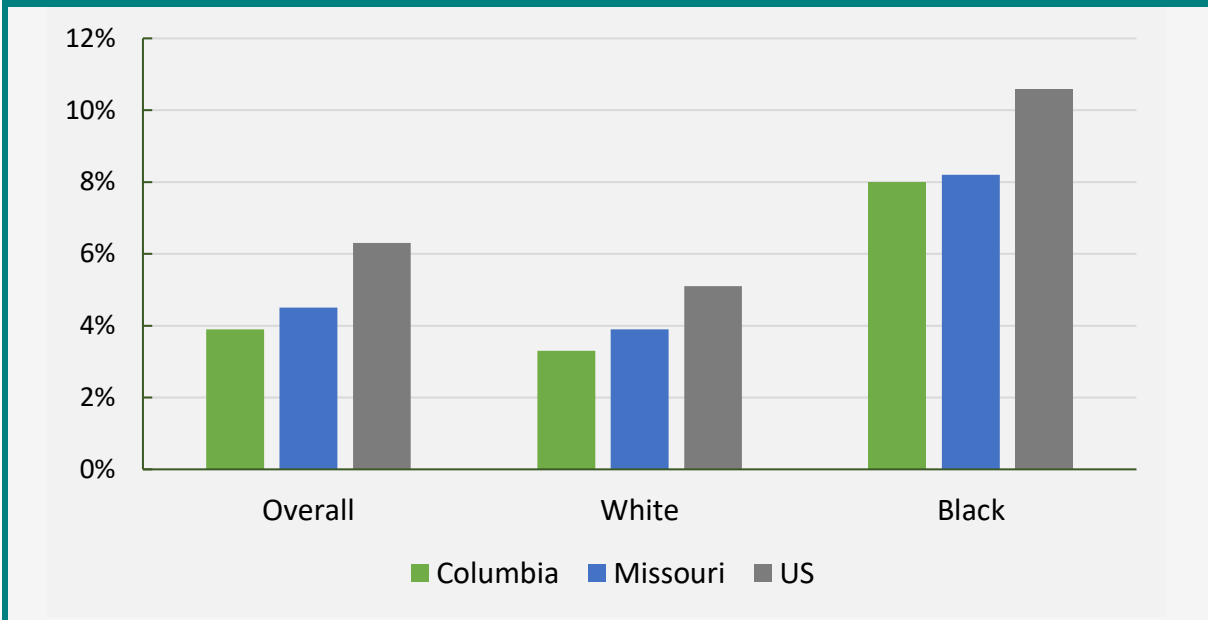
# Local Economy

## Unemployment Rate

### Unemployment Rate

The City of Columbia's largest workforce sectors are education, health, and social services which has enabled the City to continue to stay below the national and state unemployment rates. For 2021 the City's overall unemployment rate is 3.9%, compared to the state's rate of 4.5% and the national unemployment rate of 6.3%. While there has been a decrease in unemployment rates for both White and Black or African American residents, the unemployment rate for Black or African American residents in Columbia is 4.7 percentage points higher than that of White residents.

### 2021 Unemployment Rate by Race [7]



Year	City of Columbia			State of Missouri			United States		
	Overall	White	Black	Overall	White	Black	Overall	White	Black
2017	4.3%	3.3%	7.5%	5.8%	4.9%	12.1%	6.6%	5.5%	11.9%
2018	4.1%	3.3%	7.7%	5.1%	4.4%	10.6%	5.9%	4.9%	10.6%
2019	4.4%	3.4%	9.9%	4.6%	3.9%	9.2%	5.3%	4.5%	9.5%
2020	3.5%	2.9%	7.3%	5.1%	3.9%	8.2%	5.4%	4.6%	9.2%
2021	3.9%	3.3%	8.0%	4.5%	3.9%	8.2%	6.3%	5.1%	10.6%



# Local Economy

## Housing Market

### The Housing Market

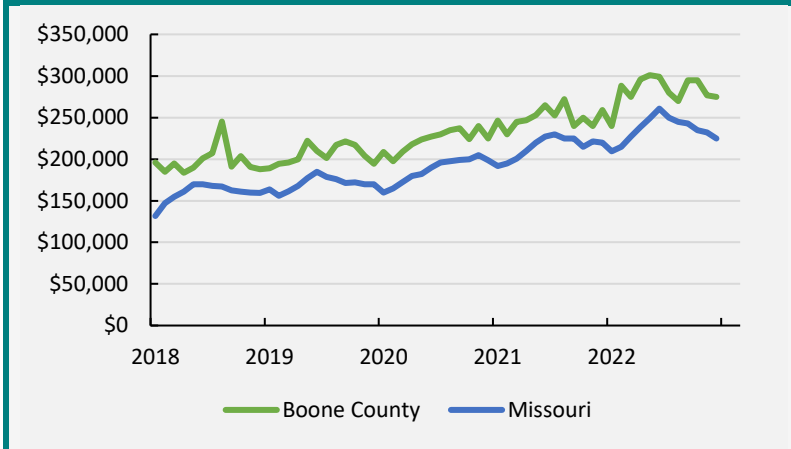
Housing market measures are some of the most closely watched economic indicators. Home prices and sales affect many parts of the economy such as personal wealth, consumer confidence, bank lending behavior, and construction investment. Moreover, property taxes are a major source of government revenue and the primary source of funding for education in Columbia.

Overall, home prices in Columbia have steadily increased for the period shown while home sales peaked in 2021. Median sales price rose by 42.7% from 2018 to 2022 with an average annual growth of 9.3%. Total home sales rose an average of 7.7% per year from 2018 to 2021 then fell by over 20% between 2021 and 2022, resulting in a slightly lower volume of homes sold than in 2018.

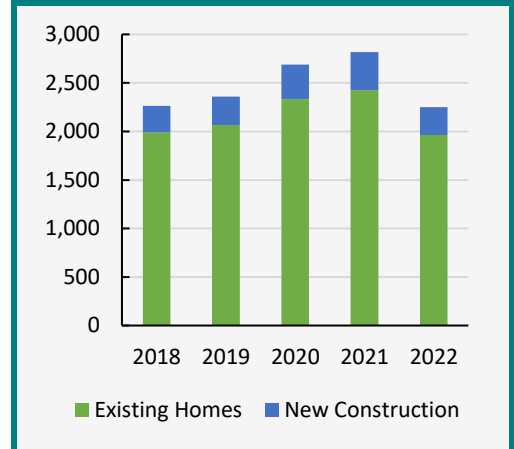
### Housing Market Data [11]

Year	Median Price	Average Price	Homes Sold
2018	\$197,970	\$226,011	2,277
2019	\$205,567	\$234,730	2,370
2020	\$222,883	\$257,032	2,688
2021	\$249,968	\$290,644	2,819
2022	\$282,565	\$325,108	2,254

### Median Home Prices [11] [12]



### Columbia Home Sales [11]



The National Association of Realtors estimates that, in the state of Missouri, every home sale generates two jobs. [13]

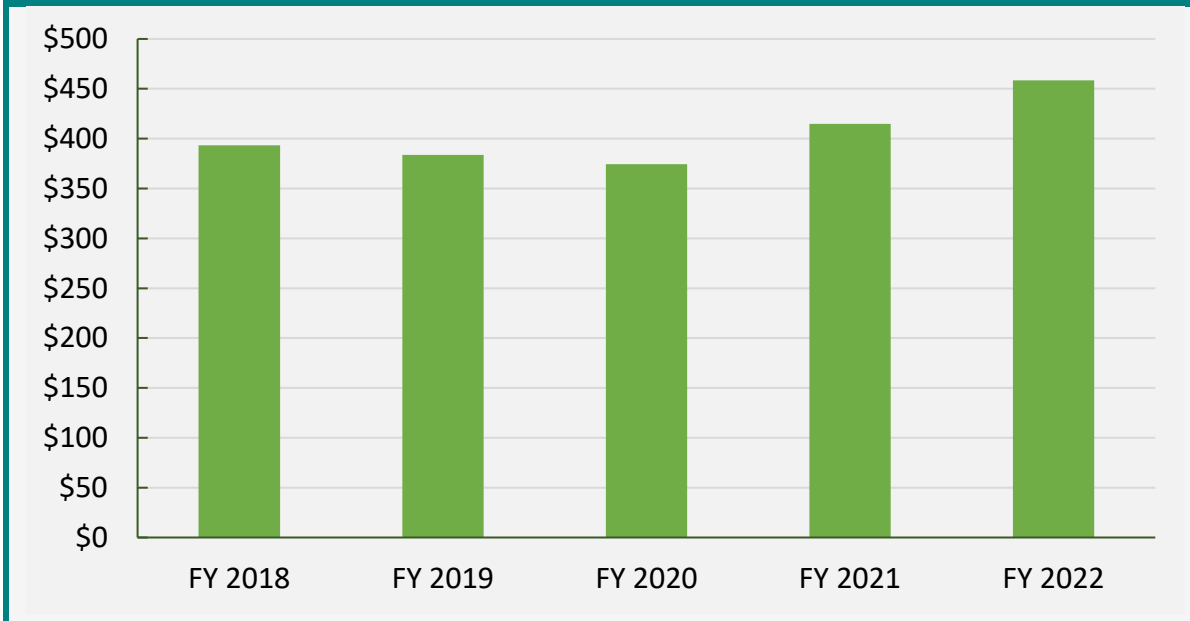
# Fiscal Health

## Local Tax Collection

### Sales Tax

A general sales tax is levied on all persons selling tangible personal property or rendering taxable services on a retail basis within the City limits. The total sales tax paid to state, county, and city government in Columbia is 7.975%. Missouri collects sales tax at a rate of 4.225%, Boone county at 1.750%, while the City of Columbia's portion of the tax amounts to a total of 2.000% of gross retail receipts. The City's entire portion of the tax made up 11.8% of all revenue received by the City in FY 2022. From FY 2018 to FY 2022, sales tax revenue increased by \$10,493,544 or 21.7% while the population increased by 4.4%. The per capita sales tax during this period increased by only \$65.18 or 16.6%. Sales taxes are collected as a proportion of transaction value, so much of the increase in sales tax collection is tied to recent increases in price levels.

### Sales Tax per Person



### Sales Tax [3] [4]

Fiscal Year	Total Sales Tax	Population*	Sales Tax per Person
2018	\$48,461,688	123,182	\$393.42
2019	\$47,264,643	123,204	\$383.63
2020	\$47,278,467	126,254	\$374.47
2021	\$52,611,482	126,850	\$414.75
2022	\$58,955,232	128,555	\$458.60

\*The population for 2022 is sourced from Population Estimates Program (PEP), while all other years are sourced from the American Community Survey (ACS).

# Fiscal Health

## Local Tax Collection

### Motor Fuel Tax

Motor fuel taxes are dedicated funding sources as they provide funding for the construction and maintenance of highways. Motor fuel tax is currently collected at a rate of \$0.245 per gallon. For most of 2021, the rate was \$0.17 per gallon but increased by \$0.025 to \$0.195 in October 2021. The motor fuel tax has since increased by another \$0.025 every July. This will continue through July 2025 where it will reach a rate of \$0.295 per gallon. As outlined in the State of Missouri Constitution, motor fuel tax is collected statewide by the Department of Revenue who then distributes it to incorporated cities based on their respective population. For the period shown, motor fuel tax increased by 18.4% while per capita motor fuel tax increased by 13.4%.

### Motor Fuel Tax per Person [3] [4]

Fiscal Year	Total Motor Fuel Tax	Population*	Gasoline Tax per Person
2018	\$2,905,773	123,182	\$23.59
2019	\$2,934,503	123,204	\$23.82
2020	\$2,766,311	126,254	\$21.91
2021	\$2,899,920	126,850	\$22.86
2022	\$3,439,866	128,555	\$26.76

\*The population for 2022 is sourced from PEP, while all other years are sourced from the ACS.

### Hotel/Motel Tax

Hotel/Motel taxes are dedicated for promoting conventions, tourism, and economic development in the City. The City collects a hotel/motel tax at the rate of 5%. Currently, 20% of the tax collected is dedicated for planning and constructing airport terminal improvements. From 2018 to 2022, hotel/motel taxes increased by 10.6% while average tax per visitor increased by \$0.80.

### Lodging Data [14]

Fiscal Year	Occupancy Rate	Average Occupied Room per Night	Average Daily Rate	Average Tax per Visitor*	Total Hotel/Motel Tax
2018	55.8%	2286	\$88.40	\$4.42	\$2,623,204
2019	57.5%	2348	\$89.73	\$4.49	\$2,730,940
2020	40.5%	1592	\$76.24	\$3.81	\$1,755,875
2021	56.0%	2262	\$89.80	\$4.49	\$2,081,408
2022	61.2%	2377	\$104.45	\$5.22	\$2,902,535

\*Excludes visitors with Hotel/Motel tax exemption certificates.



# Fiscal Health

## Federal and State Support

### Federal and State Funding

Grant revenue shown here includes only federal and state grants. Federal grants consist of mass transit grants from the Department of Transportation, non-motorized grants, police grants, and stimulus grants. State grants can cover a diverse set of local needs, such as health, transportation, conservation, or policing needs. Federal and state grants are often received for a one to three-year period.

### Analysis

For the period shown, total federal and state grant revenue increased by \$24.0 million or 183.7%. From FY 2020 to FY 2022, federal and state grant revenues increased 158.9%. Much of this increase is due to federal stimulus packages intended to assist local governments during the Covid-19 pandemic. The City received \$7.9 million in FY 2021 and \$12.8 million in FY 2022 from CARES and ARPA.

### Federal/State Government Funding

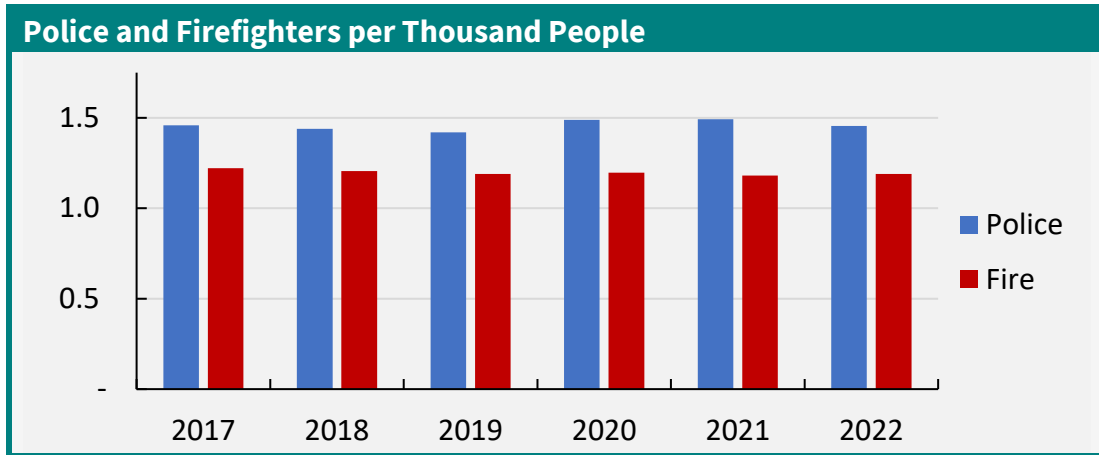
Fiscal Year	Policy Development and Administrative Grants	Public Safety Grants	Transportation Grants	Health and Environment Grants	Personal Development Grants	Total Grants
2018	\$97,745	\$526,224	\$9,635,118	\$2,470,004	\$343,462	\$13,072,553
2019	\$129,117	\$415,370	\$13,259,416	\$2,544,505	\$205,061	\$16,553,469
2020	\$376,836	\$485,184	\$9,789,115	\$3,401,950	\$272,146	\$14,325,231
2021	\$332,098	\$742,228	\$22,383,592	\$5,761,800	\$475,984	\$29,695,702
2022	\$13,025,047	\$613,564	\$19,382,085	\$3,481,037	\$588,566	\$37,090,299



**CARES (Coronavirus Aid, Relief, and Economic Security Act) and ARPA (American Rescue Plan Act) provided a combined \$500 billion dollars of funding for eligible state, local, territorial, and tribal governments.**

# Community Services

## Emergency Personnel



Fiscal Year	Total Number of Sworn Officers	Sworn Officers Per Thousand Population	Change in Number of Positions
2018	173	1.4	-
2019	173	1.4	-
2020	184	1.5	11
2021	187	1.5	3
2022	187	1.5	-

**Police Department**

For the five-year period shown, the total number of sworn officers increased by 14.0 FTE. Sworn officers per thousand population remains largely the same indicating that the City maintains a pool of officers to match the population growth.

**Fire Department**

For the period shown, the total number of positions increased by 8.0 FTE. Personnel for the Fire Department includes firefighters as well as support and administrative staff. The 5.0 FTE increase in personnel for FY 2022 added four firefighters and one equipment technician.

Fiscal Year	Total Number of Employees	Employees Per Thousand Population	Change in Number of Positions
2018	145	1.2	-
2019	145	1.2	-
2020	148	1.2	3
2021	148	1.2	-
2022	153	1.2	5



The City uses the standard FTE (full-time equivalent) for quantifying full-time, part-time, and other types of employees.

## Community Services

### CARE Program

#### CARE Program

The City of Columbia's Career Awareness Related Experience (CARE) program hires 14- to 20-year-olds who live in the City of Columbia, MO and/or attend a Columbia, MO school and places them at local businesses, where they gain much needed real-world hands-on work experience while getting paid. One hundred percent of the trainees' wages are paid by CARE, which is administered through the City of Columbia Parks and Recreation Department. CARE's goal is for Columbia's youth to be ready to enter the workforce and become productive, self-sufficient citizens.

#### CARE Program Operations

Fiscal Year	Total Expenses	# of Work Site Partners
2018	\$546,855	104
2019	\$496,233	86
2020	\$354,897	73
2021	\$396,774	84
2022	\$407,753	81

#### CARE Program Application and Participation Statistics

Fiscal Year	Number of Applicants	# Applicants Placed	Percent Placed	% Minority Applicant	# Completed Program	% Completed Program
2018	506	196	39%	62%	192	98%
2019	567	184	32%	58%	180	98%
2020	332	144	43%	56%	143	99%
2021	438	154	35%	56%	152	99%
2022	250	136	54%	51%	136	100%

#### Analysis

Of the applicants that apply, the CARE program has only had enough funding to place less than half of the applicants most summers. FY 2019 expenses decreased due to one-time general fund savings in FY 2018 not occurring in FY 2019. FY 2020 expenses decreased due to budget cuts, a reduction in CARE trainees, and the elimination of the CARE Art Gallery Summer program. In FY 2021, expenses increased due to an increase in CARE trainees. The CARE Program is impacted more by minimum wage increases than any other General Fund program because over 60% of its total budget is for part-time temporary staff members. Every time the minimum wage goes up, the pay for CARE's trainees, interns, and job coaches increases correspondingly. Missouri's minimum wage has increased from \$7.85 per hour in 2018 to \$12.00 per hour in 2023.

In FY 2018, CARE began giving presentations in Columbia Public Schools, resulting in the number of annual applicants peaking in FY 2019. FY 2020 saw a large drop in applicants due to the pandemic. However, the rise in applicants in FY 2021 may have been due to remote schooling as parents encouraged their children to participate. FY 2022 saw students return to the classroom while lingering pandemic restrictions prevented CARE from continuing their presentations, resulting in another drop in total applicants.

# Community Services

## Utility Assistance Program

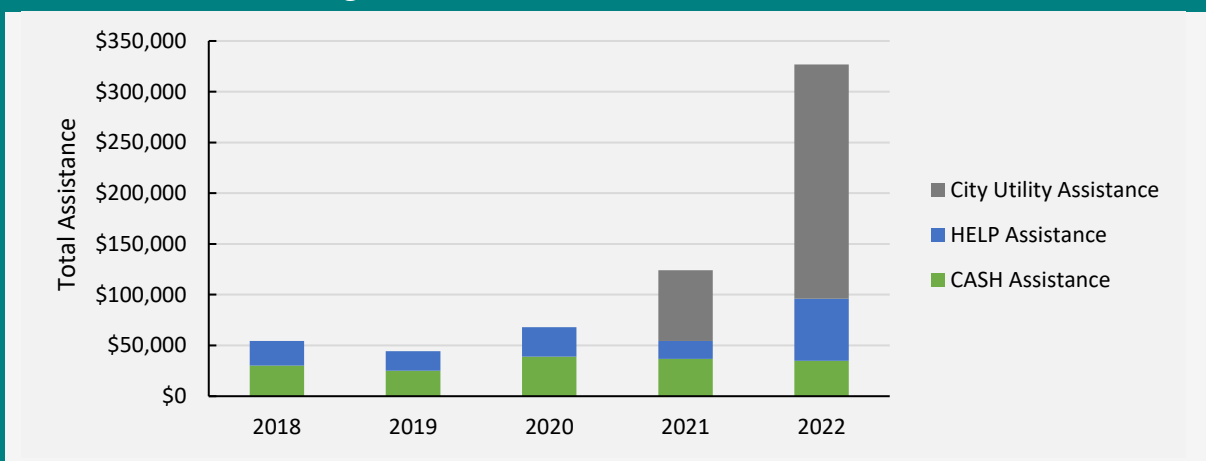
### Utility Assistance Program

The City of Columbia offers utility assistance for seniors, persons with disabilities, and families with children aged 18 and younger. Through this program, citizens whose household income is at or below 200% of the federal poverty level can receive annual assistance for water and electric utility services. Prior to 2021, these services were primarily funded by donations to the CASH (Citizens Assisting Seniors and Handicapped) and HELP (Heat Energy and Light Program) programs. In FY 2021, the City Utility Assistance Program was developed with a significant increase in contributions from the City general revenue fund. The Utility Assistance program provides the same services and has the same eligibility requirements as the CASH and HELP programs while affording more flexibility in implementation. As a result, the CASH and HELP programs are being phased out and new donations are now directed to the City Utility Assistance Program. Total funding increased by over 500% from 2018 to 2022, in large part due to a \$300,000 transfer from the general revenue fund approved by the City Council in 2021.

### Utility Assistance

Fiscal Year	Number of Applicants	Number of Recipients	CASH Assistance	HELP Assistance	City Utility Assistance	Total Assistance
2018	689	514	\$30,001	\$24,488	-	\$54,489
2019	676	555	\$25,154	\$19,240	-	\$44,394
2020	659	523	\$39,008	\$28,912	-	\$67,920
2021	629	539	\$36,924	\$17,503	\$69,712	\$124,140
2022	983	826	\$34,747	\$61,274	\$230,988	\$327,009

### Total Assistance by Program



# Environment and Sustainability

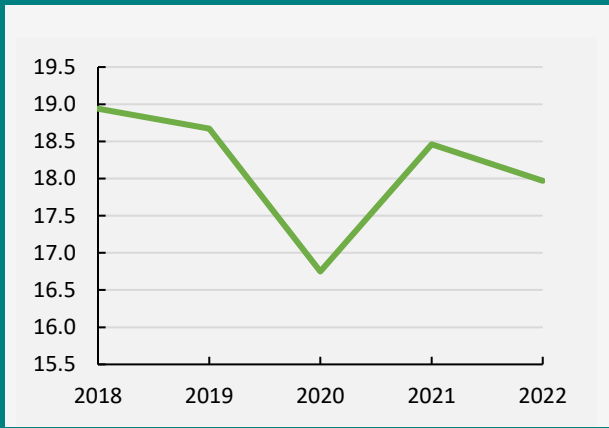
## Community Greenhouse Gas Emissions

### Total GHG Emissions [15]

The total community greenhouse gas (GHG) emissions metric includes emissions from residential, commercial, and industrial energy use as well as transportation, solid waste, wastewater, and process and fugitive emissions from natural gas within Columbia city limits. Emissions are measured in metric tons of CO<sub>2</sub> equivalent (MT CO<sub>2</sub>e). The City of Columbia's Climate Action and Adaptation Plan (CAAP) outlines goals to reduce community greenhouse gas emissions to 1.5 million MT CO<sub>2</sub>e by 2035 and under 477 thousand MT CO<sub>2</sub>e by 2050.

Per capita emissions are used to measure changes in emissions in relation to population. Factors such as improved energy efficiency in buildings, increased supply of renewable energy, and lower-emission transportation can decrease per capita emissions. As Columbia's population grows, per capita emissions will need to decrease to achieve the emission reduction goals outlined in the CAAP.

### Per Capita GHG Emissions (MTCO<sub>2</sub>e) [15]



### GHG Emissions (MTCO<sub>2</sub>e) [15]

Year	Total Community GHG Emissions	Per Capita Emissions
2018	2,333,514	18.94
2019	2,299,713	18.67
2020	2,114,303	16.75
2021	2,341,420	18.46
2022	2,308,872	17.97

### Analysis [15]

GHG emissions are influenced by changes in weather (e.g., colder winters or hotter summers), energy efficiency, and behavior. While total community emissions only fell by 1.1% from 2018 to 2022, per capita emissions fell by 5.1% indicating that, despite a growing population, resources are being used more efficiently. There was a large drop in emissions in 2020 due to pandemic-induced transportation changes.



# Environment and Sustainability

## Community Greenhouse Gas Emissions by Sector

### GHG Emissions by Sector [15]

The residential energy, transportation, and waste sectors are all directly influenced by population size. Per capita emissions in these sectors are used to understand how emissions per sector are changing in relation to population changes. For each sector, the CAAP outlines plans and goals to reduce emissions. Successful implementation of the CAAP will decrease overall and per capita emissions in each of these sectors over time.

### Per Capita GHG Emissions by Sector (MTCO<sub>2</sub>e) [15]

Year	Per Capita Residential Energy Emissions	Per Capita Transportation Emissions	Per Capita Waste Emissions
2018	4.71	5.18	0.28
2019	4.52	5.18	0.27
2020	4.44	3.69	0.34
2021	4.66	4.64	0.32
2022	4.47	4.75	0.25

### Analysis [15]

The residential energy sector represents emissions from natural gas and electricity use for homes in the community. Increased renewable energy generation and improved building energy efficiency are both necessary to reduce residential energy emissions per capita. Residential energy emissions per capita fell by 5.1% from 2018 to 2022.

The transportation sector includes emissions from vehicle travel within Columbia city limits. Over time, transportation emissions can be lowered by transitioning to lower-emission vehicles, increasing transit use and improving infrastructure for active transportation. Transportation emissions per capita fell by 8.3% from 2018 to 2022.

The waste sector includes emissions from solid waste decomposition in landfills and wastewater processing. The active cells at the City of Columbia Sanitary Landfill are bioreactors, meaning they are designed and managed to decompose and stabilize the waste quickly. This also produces methane gas at a faster rate, some of which is used to generate electricity at the landfill site. Per capita waste sector emissions fell by 10.7% from 2018 to 2022.

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