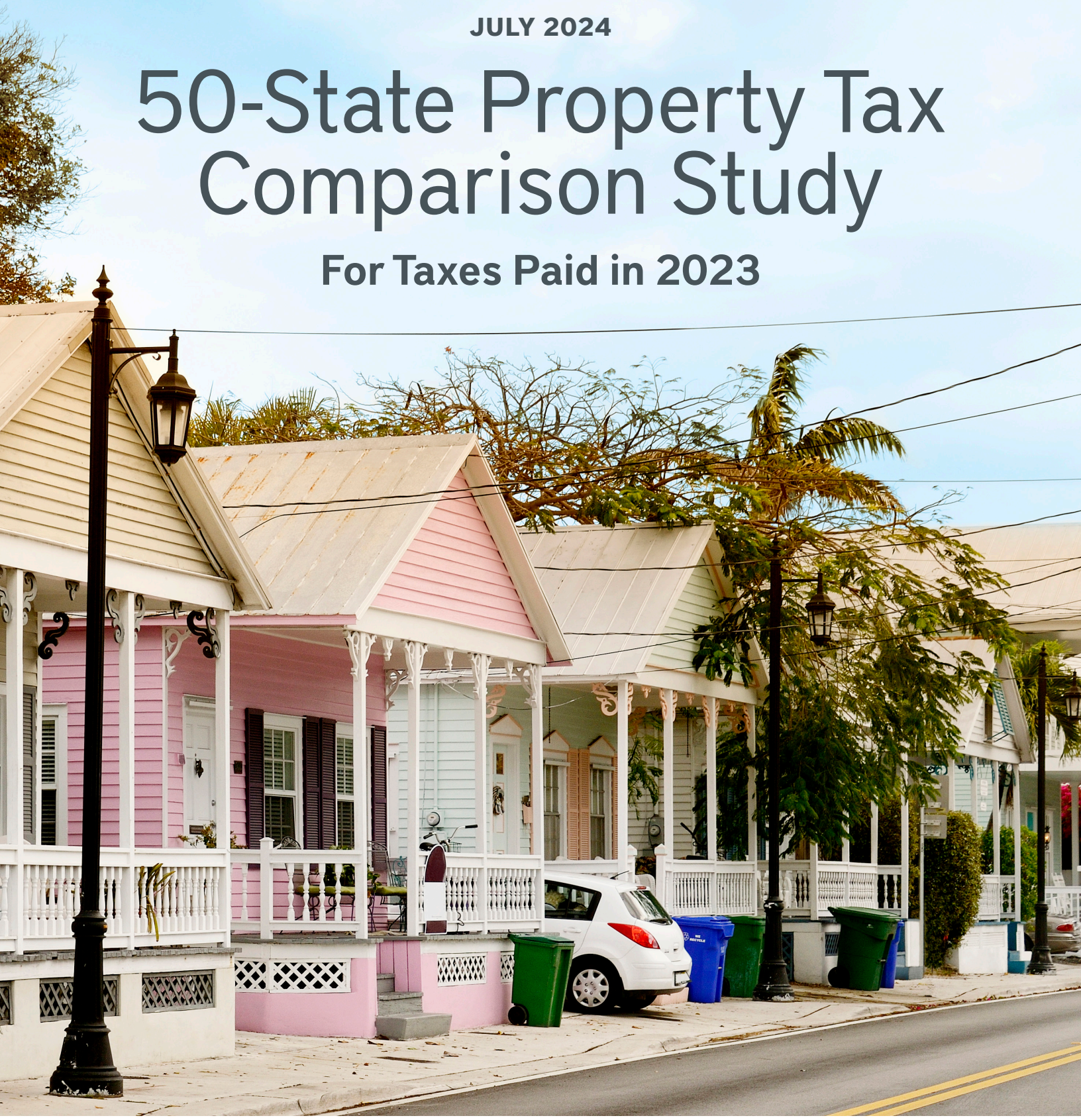
JULY 2024

50-State Property Tax Comparison Study

For Taxes Paid in 2023



LINCOLN INSTITUTE
OF LAND POLICY

MINNESOTA CENTER for
Fiscal Excellence
Sound tax policy. Efficient spending. Accountable government.

For information contact:
Lincoln Institute of Land Policy
Department of Valuation and Taxation
113 Brattle Street
Cambridge, MA 02138
(617) 661-3016

Minnesota Center for Fiscal Excellence
85 East 7th Place, Suite 250
Saint Paul, Minnesota 55101
(651) 224-7477

Cover image: © iStockphoto/zrfphoto

Acknowledgments

This report would not have been possible without the cooperation and assistance of many individuals. Research, calculations, and drafting were done by Bob DeBoer[2] and Adam H. Langley.[1] Copy editing was done Amy Finch[1] and the cover was designed by Leigh Mantoni-Stewart.[1] The report benefits greatly from the architecture and design provided by Aaron Twait,[2] and feedback from Anthony Flint,[1] Mark Haveman,[2] Will Jason,[1] Daphne A. Kenyon,[1] George W. McCarthy,[1] Emily McKeigue,[1] Semida Munteanu,[1] Andrew Reschovsky,[1] and Joan M. Youngman.[1]

[1] Lincoln Institute of Land Policy

[2] Minnesota Center for Fiscal Excellence

About the Lincoln Institute of Land Policy

The Lincoln Institute of Land Policy seeks to improve quality of life through the effective use, taxation, and stewardship of land. A nonprofit private operating foundation whose origins date to 1946, the Lincoln Institute researches and recommends creative approaches to land as a solution to economic, social, and environmental challenges. Through education, training, publications, and events, we integrate theory and practice to inform public policy decisions worldwide.

About the Minnesota Center for Fiscal Excellence

The Minnesota Center for Fiscal Excellence was founded in 1926 to promote sound tax policy, efficient spending, and accountable government.

We pursue this mission by

- educating and informing Minnesotans about sound fiscal policy
- providing state and local policy makers with objective, non-partisan research about the impacts of tax and spending policies
- advocating for the adoption of policies reflecting principles of fiscal excellence.

MCFE generally defers from taking positions on levels of government taxation and spending believing that citizens, through their elected officials, are responsible for determining the level of government they are willing to support with their tax dollars. Instead, MCFE seeks to ensure that revenues raised to support government adhere to good tax policy principles and that the spending supported by these revenues accomplishes its purpose in an efficient, transparent, and accountable manner.

The Center is a non-profit, non-partisan group supported by membership dues. For information about membership, call (651) 224-7477, or visit our web site at www.fiscalexcellence.org.

50-State Property Tax Comparison Study

For Taxes Paid in 2023

Table of Contents

Executive Summary....1
Introduction....6
Why Property Tax Rates Vary Across Cities....9
Homestead Property Taxes....15
Commercial Property Taxes....22
Industrial Property Taxes....27
Apartment Property Taxes....32
Classification and Preferential Treatment of Homestead Properties....35
Property Tax Assessment Limits....42
Methodology....45

Appendix Tables

1. Why Property Tax Rates Vary Across Cities
   1a. Factors Correlated with Homestead Property Tax Rates in Large US Cities....54
   1b. Factors Correlated with Commercial Property Tax Rates in Large US Cities....57
   1c. Correlates of Cities' Effective Tax Rates on Homestead Properties....60
   1d. Correlates of Cities' Effective Tax Rates on Commercial Properties....61
2. Homestead Property Taxes
   2a. Largest City in Each State: Median Valued Homes....62
   2b. Largest City in Each State: Median Valued Homes, with Assessment Limits....64
   2c. Largest City in Each State: Homes worth $150,000 and $300,000....66
   2d. Largest 50 US Cities: Median Valued Homes....68
   2e. Largest 50 US Cities: Median Valued Homes, with Assessment Limits....70
   2f. Largest 50 US Cities: Homes worth $150,000 and $300,000....72
   2g. Selected Rural Municipalities: Median Valued Homes....74
   2h. Selected Rural Municipalities: Homes worth $150,000 and $300,000....76
3. Commercial Property Taxes
   3a. Largest City in Each State....78
   3b. Largest 50 US Cities....80
   3c. Selected Rural Municipalities....82
4. Industrial Property Taxes
   4a. Largest City in Each State (Personal Property = 50% of Total Parcel Value)....84
   4b. Largest City in Each State (Personal Property = 60% of Total Parcel Value)....86
   4c. Largest 50 US Cities (Personal Property = 50% of Total Parcel Value)....88
   4d. Largest 50 US Cities (Personal Property = 60% of Total Parcel Value)....90
   4e. Selected Rural Municipalities (Personal Property = 50% of Total Parcel Value)....92
   4f. Selected Rural Municipalities (Personal Property = 60% of Total Parcel Value)....94
   4g. Preferential Treatment of Personal Property, Largest City in Each State....96
5. Apartment Property Taxes
   5a. Largest City in Each State....98
   5b. Largest 50 US Cities....100
   5c. Selected Rural Municipalities....102
6. Classification and Preferential Treatment of Homestead Properties
   6a. Commercial-Homestead Classification Ratio for Largest City in Each State....104
   6b. Apartment-Homestead Classification Ratio for Largest City in Each State....106
7. Impact of Assessment Limits....108

Executive Summary

As the largest source of revenue raised by local governments, a well-functioning property tax system is critical for promoting municipal fiscal health. This report documents the wide range of property tax rates in more than 100 US cities and helps explain why they vary so widely. This context is important because high property tax rates usually reflect some combination of 1) heavy property tax reliance with low sales and income taxes, 2) low home values that drive up the tax rate needed to raise enough revenue, or 3) higher local government spending and better public services. In addition, some cities operate in an environment where the state uses property tax classification, which can result in considerably higher tax rates on business and apartment properties than on homesteads.

This report provides the most meaningful data available to compare cities' property taxes by calculating the *effective tax rate*: the tax bill as a percent of a property's market value. Data are available for 74 large US cities and a rural municipality in each state, with information on four different property types (homestead, commercial, industrial, and apartment properties), and statistics on both net tax *bills* (i.e., $3,000) and effective tax *rates* (i.e., 1.5 percent). These data have important implications for cities because the property tax is a key part of the package of taxes and public services that affects cities' competitiveness and quality of life.

Why Property Tax Rates Vary Across Cities

To understand why property tax rates are high or low in a particular city, it is critical to know why property taxes vary so much across cities. This report uses statistical analysis to identify four key factors that explain most of the variation in property tax rates.

Property tax reliance is one of the main reasons why tax rates vary across cities. While some cities raise most of their revenue from property taxes, others rely more on alternative revenue sources. Cities with high local sales or income taxes do not need to raise as much revenue from the property tax, and thus have lower property tax rates on average. For example, this report shows that Bridgeport (CT) has one of the highest effective tax rates on a median valued home, while Birmingham (AL) has one of the lowest rates. However, in Bridgeport, city residents pay no local sales or income taxes, whereas Birmingham residents pay both sales and income taxes to local governments. Consequently, despite the fact that Bridgeport has much higher property taxes, total local taxes are nearly 50 percent higher in Birmingham ($3,372 vs. $2,375 per capita).

Property values are the other crucial factor explaining differences in property tax rates. Cities with high property values can impose a lower tax rate and still raise at least as much property tax revenue as a city with low property values. For example, consider San Francisco and Detroit, which have the highest and lowest median home values in this study. After accounting for assessment limits, the average property tax bill on a median valued home for the large cities in this report is

$3,795. To raise that amount from a median valued home, the effective tax rate would need to be more than 16 times higher in Detroit than in San Francisco—4.54 percent versus 0.28 percent.

Two additional factors that help explain variation in tax rates are the level of local government spending and whether cities tax homesteads at lower rates than they tax other types of property (referred to as "classification"). All else equal, cities with higher spending will need to have higher property tax rates. Classification imposes lower property taxes on homesteads, but higher property taxes on business and apartment properties.

Homestead Property Taxes

Property taxes on owner-occupied primary residences, otherwise known as homesteads, vary widely across the country. An analysis of the largest city in each state shows that the average effective tax rate on a median valued homestead was 1.29 percent in 2023 for this group of 53 cities.[1] At that rate, a home worth $200,000 would owe $2,580 in property taxes (1.29% x $200,000). On the high end, four cities have effective tax rates at least two times higher than the average—Detroit, Newark, Bridgeport (CT), and Aurora (IL). Conversely, eight cities have tax rates half the study average or less—Honolulu, Charleston (SC), Boston, Salt Lake City, Denver, Nashville, Boise, and Cheyenne (WY).

Highest and Lowest Effective Property Tax Rates on a Median Valued Home (2023)

Highest Property Tax Rates				**Lowest Property Tax Rates**			
1	Detroit (MI)	3.13%	*Why:* Low property values	49	Denver (CO)	0.54%	*Why:* High home values, Low property tax reliance, Classification
2	Newark (NJ)	3.05%	*Why:* High property tax reliance	50	Salt Lake City (UT)	0.52%	*Why:* High home values, Low property tax reliance
3	Bridgeport (CT)	3.04%	*Why:* High property tax reliance	51	Boston (MA)	0.50%	*Why:* High home values, Classification shifts tax to business
4	Aurora (IL)	2.97%	*Why:* High property tax reliance	52	Charleston (SC)	0.47%	*Why:* Classification shifts tax to business, High home values
5	Portland (OR)	2.57%	*Why:* Assessment limit shifts tax to newly built homes	53	Honolulu (HI)	0.26%	*Why:* High home values, low local gov't spending, classification

Note: Data for all cities: Figure 2 (page 21), Appendix Table 1a (page 54), and Appendix Table 2a (page 62).

The average effective tax rate for these 53 cities fell 2.5 percent between 2022 and 2023, from 1.32 percent to 1.29 percent. From 2022 to 2023, almost twice as many cities had decreases (33) than increases (17), while three cities had no change. Houston led the way with an effective tax rate decrease of nearly 20 percent from 2022 to 2023, mainly due to an 8.5 percent decrease in the local mill rate and an increase in the school homestead exemption from $40,000 to $100,000.

Note that differences in property values across cities mean that some cities with high tax *rates* can still have low tax *bills* on a median valued home if they have low home values, and vice versa. For

[1] The largest cities in each state include 53 cities, because they include Washington (DC) plus two cities in Illinois and New York since property taxes in Chicago and New York City are so different from those in the rest of the state.

example, Las Vegas and Wichita (KS) have similar effective tax rates of 1.13 and 1.12 percent on median valued homes, but because the median valued home is worth so much more in Las Vegas ($426,400 vs. $187,800), the tax bill is far higher in Las Vegas (13th highest) than in Wichita (48th highest).

Effective tax rates rise with home values in about half of the cities (24 of 53), and this pattern has a progressive impact on the property tax distribution. Usually, this relationship occurs because homestead exemptions are set to a fixed dollar amount. For example, a $20,000 exemption provides a 20 percent tax cut on a $100,000 home, a 10 percent cut on a $200,000 home, and a 5 percent cut on a $400,000 home. The increase in effective tax rates with home values is steepest in Boston, Atlanta, Washington (DC), Philadelphia, and New Orleans.

Commercial Property Taxes

There are also significant variations across cities in commercial property taxes, which include taxes on office buildings and similar properties. In 2023, the effective tax rate on a commercial property worth $1 million averaged 1.809 percent across the largest cities in each state. The highest rates were in Chicago and Detroit, where effective tax rates remain more than twice the average for these 53 cities. On the other hand, rates were less than half the average in Cheyenne (WY), Charlotte, Boise, Seattle, and Wilmington (DE).

Highest and Lowest Effective Property Tax Rates on $1 Million Commercial Property

Highest Property Tax Rates				Lowest Property Tax Rates			
1	Chicago (IL)	4.08%	*Why:* Classification shifts tax to business, High local gov't spending	49	Wilmington (DE)	0.83%	*Why:* Low property values
2	Detroit (MI)	4.05%	*Why:* Low property values	50	Boise (ID)	0.78%	*Why:* Low local gov't spending, High property values
3	Providence (RI)	3.45%	*Why:* Classification shifts tax to business, High property tax reliance	51	Seattle (WA)	0.75%	*Why:* High property values, Low property tax reliance
4	Indianapolis (IN)	2.85%	*Why:* Low property values, Classification shifts tax to business	52	Charlotte (NC)	0.71%	*Why:* Low property tax reliance, No classification
5	Jackson (MS)	2.73%	*Why:* Low property values, High property tax reliance	53	Cheyenne (WY)	0.65%	*Why:* Low property tax reliance

Note: Analysis includes an additional $200,000 in fixtures (office equipment, etc.).
Data for all cities: Figure 3 (page 26), Appendix Table 1b (page 57), and Appendix Table 3a (page 78).

The average commercial tax rate for the 53 cities fell 1.5 percent between 2022 and 2023, as 30 cities saw declines versus 22 cities with increases, along with one city that had no change.

Preferential Treatment for Homeowners

Many cities have preferences built into their property tax systems that result in lower effective tax rates for certain classes of property, with these features usually designed to benefit homeowners. The "classification ratio" describes these preferences by comparing the effective tax rate on land and buildings for two types of property. For example, if a city has a 3.0% effective tax rate on

commercial properties and a 1.5% effective tax rate on homestead properties, then the commercial-homestead classification ratio is 2.0 (3.0% divided by 1.5%).

An analysis of the largest cities in each state shows an average commercial-homestead classification ratio of 1.86, meaning that on average commercial properties face an effective tax rate 86 percent higher than that of homesteads. About 30 percent (16 of 53) have classification ratios above 2.0, meaning that commercial properties face an effective tax rate at least double that for homesteads, led by Charleston (SC) at 6.2.

Preferential Treatment of Homeowners: Ratio of Effective Tax Rate on Commercial and Apartment Properties to the Rate on Homestead Properties (2023)

Commercial vs. Homestead Ratio			Apartment vs. Homestead Ratio		
1	Charleston (SC)	6.21	1	Charleston (SC)	6.21
2	Honolulu (HI)	4.78	2	New York (NY)	3.80
3	Boston (MA)	4.34	3	Jacksonville (FL)	3.08
4	Denver (CO)	3.94	4	Indianapolis (IN)	2.57
5	New York (NY)	3.65	5	Charleston (WV)	2.26

Note: Commercial-homestead ratio compares rate on $1 million commercial building to median valued home.
Apartment-homestead ratio compares rate on $600,000 apartment building to median valued home.
Ratios compare taxes on real property and exclude personal property.
Data for all cities: Figures 6a and 6b (Pages 39-40), Appendix Table 6a (Pg. 104), and Appendix Table 6b (Pg. 106).

The average apartment-homestead classification ratio is significantly lower (1.44), with apartments facing an effective tax rate 44 percent higher than that of homesteads on average. In seven cities apartments face an effective tax rate more than double that for homesteads, with Charleston (SC) as the biggest outlier, with the rate for apartments 6.2 times higher than the rate for a median valued home. It is important to note that while renters do not pay property tax bills directly, they do pay property taxes indirectly since landlords are able to pass along some or all their property taxes in the form of higher rents.

Four types of statutory preferences built into property tax systems can lead to lower effective tax rates on homesteads than on other property types: the assessment ratio, the nominal tax rate, exemptions and credits, and differences in assessment limits. In total, 40 of the 53 cities have statutory preferences that favor homesteads over commercial properties, including 22 cities that use at least two of these statutory preferences. In 10 cities preferential treatment for homeowners is delivered through exemptions or credits alone, while in eight cities preferences are delivered exclusively through differences in assessment ratios or nominal tax rates. Similarly, 36 cities have statutory preferences favoring homesteads over apartments, but only 12 offer more than one preference. Eight cities have preferential assessment ratios and/or nominal tax rates only, while 16 cities offer homestead exemptions or credits alone.

Property Tax Assessment Limits

Since the late 1970s, an increasing number of states have adopted property tax limits, including constraints on tax rates, tax levies, and assessed values. This report accounts for the impact of

limits on tax rates and levies implicitly, because of how these laws impact cities' tax rates, but it is necessary to use an explicit modeling strategy to account for assessment limits.

Assessment limits typically restrict growth in the assessed value for individual parcels and then reset the taxable value of properties when they are sold. Therefore, the level of tax savings provided from assessment limits largely depends on two factors: how long a homeowner has owned their home and appreciation of the home's *market value* relative to the allowable growth of its *assessed value*. As a result, assessment limits can lead to major differences in property tax bills for owners of nearly identical homes based on how long they have owned their home.

This report estimates the impact of assessment limits for median valued homes by calculating the difference in taxes between newly purchased homes and homes that have been owned for the average duration in each city. For example, in Los Angeles, the average home has been owned for 14 years and the median home value is $903,700. Because of the state's assessment limit, the owner of a newly purchased home would pay 93 percent more than someone who has owned their home for 14 years, even though both homes are worth $903,700.

The largest discrepancy is in Miami (FL), where the owner of a newly purchased, median valued home would face an effective tax rate nearly three times higher than would the owner of an equally valued home purchased in 2012. Owners of newly purchased homes face effective tax rates at least twice as high as the rate for an equivalently valued home that has been owned for the average duration in six other cities: Jacksonville, Tampa, New York City, Fresno, Oakland, and Sacramento. In another 10 cities, the rate on newly purchased homes is at least 50 percent higher. In all 30 cities in this report affected by parcel-specific assessment limits, new homeowners face higher property tax bills than do existing homeowners, and their tax bills are at least 25 percent higher in 23 of those cities. In Texas, prior versions of this report typically found that the assessment limit law did not affect the median value home with average duration of ownership. However, in 2022 and 2023 all six cities had at least some disparity created by assessment limits, with effective tax rates on newly purchased homes about 10 to 20 percent higher in five of the six Texas cities in this report, with Houston seeing a marginal 1 percent disparity.

Conclusion

Property taxes range widely across cities in the United States. This report not only shows which cities have high or low effective property tax rates, but also explains why. Cities tend to have higher property tax rates if they have high property tax reliance, low property values, or high local government expenditures. In addition, some cities use property tax classification, which can result in considerably higher tax rates on business and apartment properties than on homesteads. By calculating the effective property tax rate, this report provides the most meaningful data available to compare cities' property tax burdens. These data have important implications for cities because the property tax is a key part of the package of taxes and public services that affects cities' competitiveness and quality of life.

Introduction

The property tax is one of the largest taxes paid by American households and businesses and funds many essential public services, including K–12 education, police and fire protection, and a wide range of critical infrastructure. Yet it is surprisingly difficult to get good data on property taxes that are comparable across cities. This report provides the necessary data by accounting for several key features of major cities' property tax systems and then calculating the *effective tax rate*: the tax bill as a percent of a property's market value.

High or low effective property tax rates do not in themselves indicate that tax systems are "good" or "bad." Evaluating a property tax system requires a broader understanding of the pros and cons of the property tax, the implications of high or low property tax rates, and the method by which property tax rates are set. These key issues are outlined below.

The property tax has key strengths as a revenue instrument for local governments: it is the most stable tax source, it is more progressive than alternative revenue options, and it promotes local autonomy. Property taxes are more stable over the business cycle than sales and especially income taxes, so greater property tax reliance helps local governments avoid major revenue shortfalls during recessions. It also helps localities maintain revenue stability in the face of fluctuating state and federal aid.[2] In addition, the property tax is relatively progressive compared to the sales tax, which is the other main source of tax revenue for local governments. Whereas the property tax is largely neutral, the sales tax is highly regressive.[3]

The property tax is particularly appropriate for local governments because it is imposed on an immobile tax base. While it is often easy to cross borders in search of a lower sales tax rate, those who wish to live or locate their business in a particular location cannot avoid paying the property tax. Thus, local governments have limited ability to charge sales tax rates that differ from their neighbors' rates but more control over setting their property tax rate.

A drawback of any local tax is that the tax base can vary widely across communities, but these disparities can be offset with state aid to local governments. For example, property values differ significantly across communities, just as retail sales and incomes across localities have wide disparities. State government grants to local governments can help offset these differences to ensure everyone has access to necessary services at affordable tax prices regardless of where they live. In addition, state-funded circuit breaker programs can help households whose property taxes are particularly high relative to their income.[4]

---

[2] Ronald C. Fisher. 2009. "What Policy Makers Should Know About Property Taxes." *Land Lines*. Cambridge, MA: Lincoln Institute of Land Policy.
[3] Institute on Taxation and Economic Policy. 2015. "Who Pays? A Distributional Analysis of the Tax Systems in All 50 States."
[4] Bowman, John H., Daphne A. Kenyon, Adam Langley, and Bethany P. Paquin. 2009. "Property Tax Circuit Breakers: Fair and Cost-Effective Relief for Taxpayers." Cambridge, MA: Lincoln Institute of Land Policy.

Property taxes are one part of the package of taxes and public services that affects competitiveness and quality of life. This report shows that many of the cities with high property tax rates have relatively low sales and income taxes for local governments, so the total local tax burden for residents and business could still be attractive. Furthermore, state aid may reduce local property taxes, but this reduction may be offset by higher state taxes.

Similarly, if higher property taxes are used to pay for better public services, then high property tax rates may not affect competitiveness or quality of life. Many homeowners are willing to pay higher property taxes for better public schools and safer neighborhoods. The bottom line is that the total state-local tax burden relative to the quality of public services is what determines competitiveness and quality of life.

Property tax rates are set differently than other tax rates and reflect decisions about local government spending. Income and sales tax rates usually do not vary much from year to year, which leads to significant revenue fluctuations over the business cycle. In contrast, property tax rates are usually established *after* the local government budget is determined by elected officials and/or voters and the rate is then set to raise the targeted revenue level. However, flexibility in setting property tax rates can be constrained by state tax limits or political concerns about property tax burdens. The process for determining property tax rates varies across jurisdictions.

This report allows meaningful comparisons of cities' property taxes by calculating the effective property tax rate—the tax bill as a percent of a property's market value. For most taxpayers, the effective tax rate will be significantly different from the nominal or official tax rate that appears on their tax bill. There are several reasons for this difference. First, many states only tax a certain percentage of a property's market value. For example, New Mexico assesses all property at 33.3 percent of market value for tax purposes, which means that a $300,000 home would be taxed as if it were worth $100,000. In addition, many states and cities use exemptions and/or credits to reduce property taxes. For example, a $50,000 homestead exemption would mean a $200,000 home would be taxed as if it were worth $150,000. Cities also vary in the accuracy of their assessments of property values for tax purposes. Finally, an analysis of property tax burdens requires consideration of property taxes paid to all local governments, including overlying counties and school districts, rather than simply comparing municipal tax rates. This report accounts for all these differences in cities' property tax systems, which is essential for meaningful comparisons of their tax rates.

This study calculates effective tax rates by analyzing several key features of each city's property tax system; it is not a parcel-level analysis of property tax liabilities. The Methodology section of this report provides details on how effective tax rates are calculated. First, data are collected for the key elements of property tax systems that determine effective tax rates:

- *Total local property tax rate*: The nominal tax rate most prevalent in the city for each class of property (also known as *statutory tax rate*), including taxes paid to the state, city or township, county, school district, and special taxing districts.
- *Assessment ratio* (also known as *classification rate*): The percentage of market value used to establish a property's assessed value. For example, a 60 percent assessment ratio means a $100,000 home would be taxed as if it were worth $60,000.
- *Sales ratio*: The sales ratio measures the accuracy of assessments by comparing assessed values to actual sales prices. For example, a 98 percent sales ratio means a $100,000 home would be "on the books" as if it were worth $98,000. This study uses a median or average sales ratio for all properties in each class in each city. The data come primarily from sales ratio studies and sometimes from state equalization studies. Those studies are performed either by state government agencies or by contractors on behalf of state agencies and are usually publicly available.
- *Exemptions*: This study accounts for exemptions that reduce the amount of property value subject to taxation for the majority of properties in a class for each city. For example, a $20,000 exemption means a $100,000 home would be taxed as if it were worth $80,000.
- *Credits*: This study accounts for credits that reduce the tax bill for the majority of properties in a class for each city. For example, Arkansas has a $350 credit that reduces the tax bill by $350 for all homesteads in the state. The report also accounts for early payment discounts that can reduce tax bills in some cities.

With this information, it is possible to calculate typical tax bills in each city for four classes of property (residential, commercial, industrial, apartments) and several different market values:

$$\text{Net Tax Bill} = \{[(\text{Market Value x Sales Ratio}) - \text{Exemptions}] \text{ x Assessment Ratio x Tax Rate}\} - \text{Credits}$$

First the taxable value is determined, with the market value of the property adjusted using the sales ratio, then exemptions are subtracted, and then the assessment ratio is applied.[5] Next that taxable value is multiplied by the total property tax rate, and any credits are subtracted. Finally, the effective tax rate is calculated by dividing the net tax bill by the market value of the property.

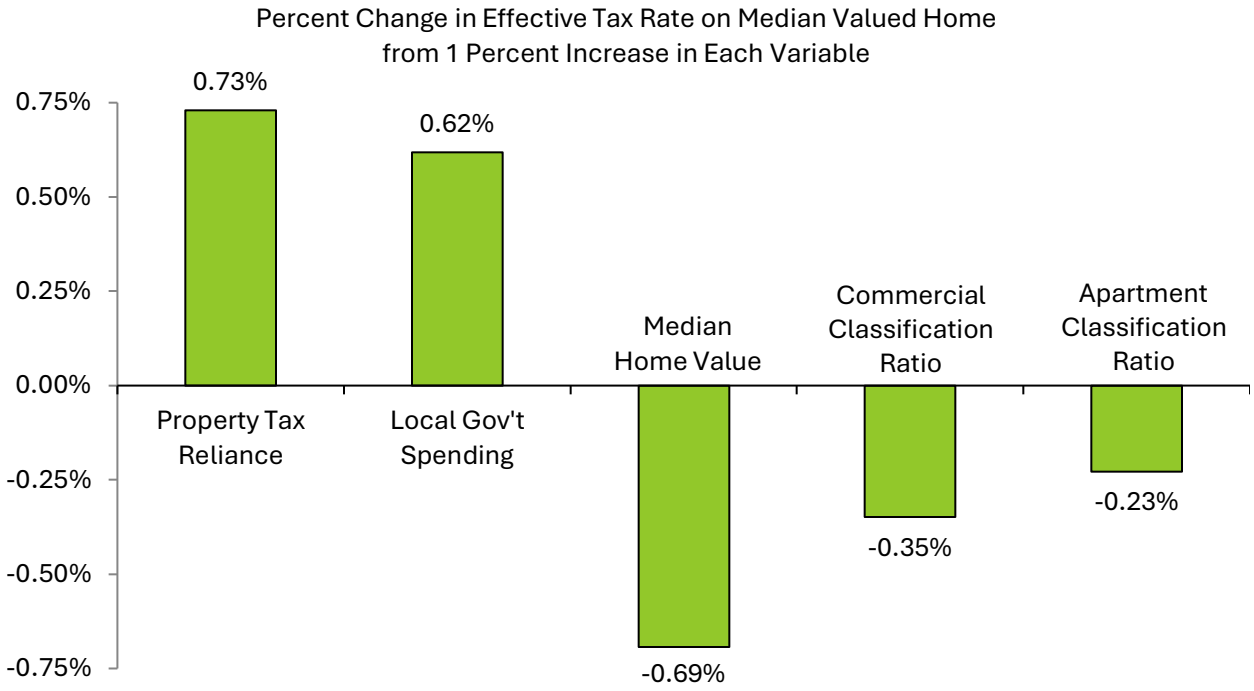
It is important to note that this study provides typical effective tax rates, assuming that the median or average sales ratio represents a typical value for all properties in each class. In practice, the accuracy of assessments varies across properties, so some parcels will have higher effective tax rates than reported in this study and some will have lower tax rates. In addition, this study does not account for exemptions or credits that are available for a minority of taxpayers in a city, such as exemptions available solely for seniors or veterans, or tax incentives available to just some businesses or homeowners.

[5] Note that exemptions based on assessed valued are subtracted after the assessment ratio is applied.

Why Property Tax Rates Vary Across Cities

This report demonstrates that effective property tax rates vary widely across US cities. This section explores why some cities have relatively high property tax rates while others have much lower rates. Statistical analysis shows that four key factors explain about two-thirds of the variation in property tax rates. The two most important reasons why tax rates vary across cities are the extent to which cities rely on the property tax as opposed to other revenue sources, and the level of property values in each jurisdiction. Two additional factors that help explain variation in tax rates are the level of local government spending and whether cities tax homesteads at lower rates than they do other types of property (referred to as "classification").

Figure 1: Key Factors Explaining Differences in Property Tax Rates



Appendix 1 shows how these variables affect tax rates on homestead and commercial properties for each large city included in this report and details the methodology used for this analysis. This section focuses on homestead property taxes, but our analysis shows that tax rates on business and apartment properties are driven by the same four key factors.

Property Tax Reliance

One of the main reasons why tax rates vary across cities is that some cities raise most of their revenue from the property tax, while others rely more on alternative revenue sources.[6] Cities with

[6] One way to measure the "importance" of each factor is to look at squared semi-partial correlations—analogous to estimating the R-square between the effective tax rate on a median valued home and each factor, controlling for the effect of the other factors. For the first regression of Appendix Table 1c, 19% of the variation in effective tax rates is

high local sales or income taxes do not need to raise as much revenue from the property tax, and thus have lower property tax rates on average. Figure 1 shows that a 1 percent increase in the share of revenue raised by local governments that comes from the property tax is associated with a 0.73 percent increase in the effective tax rate on a median valued home.

To see how property tax reliance impacts tax rates, compare Bridgeport (CT) and Birmingham (AL). Bridgeport has the third-highest effective tax rate on a median valued home in large part because it has the highest property tax reliance of any large city included in this report. So, while Bridgeport has high property taxes ($2,329 per capita), city residents pay no local sales or income taxes. In contrast, Birmingham has the ninth-lowest effective tax rate on a median valued home, but also has the fourth-lowest reliance on the property tax.[7] As a result, Birmingham residents have low property taxes ($1,076 per capita), but also pay a host of other taxes to local governments, including sales taxes ($1,248 per capita), income taxes ($494 per capita), and other local taxes ($554 per capita).[8] Consequently, total local taxes are almost 50 percent higher in Birmingham despite the fact that it has much lower property taxes than Bridgeport ($3,372 per capita vs. $2,375 per capita).

It is important to note that the ability of local governments to tap alternative revenue sources that would reduce property tax reliance is normally constrained by state law. State governments usually determine which taxes local governments are authorized to use and set the maximum tax rate localities are allowed to impose.[9]

The data on property tax reliance and local government spending used for this analysis is for *fiscally standardized cities* (FiSCs) rather than for city municipal governments alone. FiSCs provide estimates of revenues raised from city residents and businesses and spending on their behalf, whether done by the city government or by overlying county governments, independent school districts, or special purpose districts. This approach is similar to the methodology used in this report, which includes property taxes paid to the city government, county government, and the largest independent school district in each city. The FiSC database is available on the website of the Lincoln Institute of Land Policy.[10]

Property Values

Home values are the other crucial factor explaining differences in property tax rates. Cities with high property values can impose a lower tax rate and still raise at least as much property tax revenue as a city with low property values. For example, Figure 1 shows that a 1 percent increase in

---

explained by property tax reliance, 37% is explained by median home values, 8% by local government spending, 6% by the commercial-homestead classification ratio, and 2% by the apartment-homestead classification ratio.

[7] Appendix Table 1a.

[8] Data on per capita tax collections in 2021 is from the Lincoln Institute's *Fiscally Standardized Cities* database.

[9] Michael A. Pagano and Christopher W. Hoene. 2010. "States and the Fiscal Policy Space of Cities." In *The Property Tax and Local Autonomy*, ed. Michael E. Bell, David Brunori, and Joan Youngman, 243–277. Cambridge, MA: Lincoln Institute of Land Policy.

[10] https://www.lincolninst.edu/data/fiscally-standardized-cities/

the median home value is associated with a 0.73 percent decrease in the effective tax rate on a median valued home.

Consider San Francisco and Detroit, which have the highest and lowest median home values in this study—$1,343,700 and $83,600, respectively. After accounting for assessment limits, the average property tax bill on a median valued home in the 74 large cities in this report is $3,795. To raise that amount from a median valued home, the effective tax rate would need to be more than 16 times higher in Detroit than in San Francisco—4.54 percent versus 0.28 percent. The effective tax rate on a median valued home is actually just 1.8 times higher in Detroit than in San Francisco (1.68% vs. 0.92%), which means San Francisco collects 10 times more in property taxes from a median valued home ($12,384 vs. $1,403). This is typical—higher property values usually lead cities to have both lower tax rates and to raise more revenue for public services. While the difference between San Francisco and Detroit is extreme, it is common for property wealth to differ dramatically across communities within a state or region. State government grants to local governments can be used to offset these differences to help ensure everyone has access to necessary services at affordable property tax prices regardless of where they live.

This analysis uses the median home value in each city, but no single measure fully captures all differences in cities' property wealth. For example, even with identical tax rates on homes and businesses, cities with larger business tax bases will be able to have lower residential property tax rates since it usually costs more to provide public services to households than to businesses.[11] In addition, the median does not provide any information about the distribution of home values. Cities with larger concentrations of high value homes (relative to the median in that city) will be able to have lower tax rates on a median valued home for any given level of public expenditures.

Local Government Spending

The level of local government spending is another reason why property tax rates vary across cities, although its effect is considerably less than that of property tax reliance or home values. Holding all else equal, cities with higher spending will need to have higher property tax rates. For example, Figure 1 shows that a 1 percent increase in local government spending per capita is associated with a 0.62 percent increase in the effective tax rate on a median valued home.

Just as property tax rates are driven by a number of key variables, several factors influence local government spending. In particular, spending is driven by needs, revenue capacity, costs, and preferences. For example, expenditure needs are higher in cities with larger shares of school-age children or higher crime rates, because local governments in those cities will need to spend more on K–12 education and police protection to provide the same quality of education and public safety as do cities with fewer children or lower crime. Spending will often be higher in cities with greater revenue capacity since cities with larger tax bases can raise more revenue without needing higher

[11] Ernst & Young LLP and Council on State Taxation. 2017. "Total State and Local Business Taxes: State-by-State Estimates for Fiscal Year 2016." Pg. 15–18.

tax rates, as discussed above in the section on property values. Costs also play a role, because cities with higher costs of living and higher private sector wages will need to pay higher salaries to attract qualified teachers, police, and other local government employees. Finally, residents in some cities have a higher preference for public spending—which also means higher taxes—than those in other cities.[12]

Classification and Preferential Treatment of Homestead Properties

Classification is the fourth factor that helps to explain differences across cities in property tax rates on homesteads. Under classified property tax systems, states and cities build preferences into their tax systems that result in lower effective tax rates for certain classes of property, usually to benefit homeowners.

The "classification ratio" describes these preferences by comparing the effective tax rate for two types of property. For example, if a city has a 3.0% effective tax rate on commercial properties and a 1.5% effective tax rate on homestead properties, then the commercial-homestead classification ratio is 2.0 (3.0% divided by 1.5%). An increase in the classification ratio will be associated with a decrease in the tax rate on homestead properties, because it means homeowners are collectively bearing a smaller share of the property tax burden while businesses and/or renters pay more. For example, Figure 1 shows that a 1 percent increase in the commercial-homestead classification ratio is associated with a 0.35 percent decrease in the effective tax rate on a median valued home, and a 1 percent increase in the apartment-homestead classification ratio is associated with a 0.23 percent decrease.

Charleston (SC) has the highest classification ratio for apartment buildings relative to homesteads, and the highest commercial-homestead classification ratio. This means that commercial buildings and apartments are taxed at a dramatically higher percentage of market value than owner-occupied residences. In Charleston, a $1 million commercial property and a $600,000 apartment building both face effective tax rates on their land and buildings that are 6.2 times higher than the rate for a median valued home. As a result, among the largest cities in each state, Charleston has the 18th-highest tax rate on apartments and the 21st-highest rate on commercial properties, but the second-lowest tax rate on a median valued home after accounting for assessment limits.[13] Such findings demonstrate that in Charleston, homeowners are heavily subsidized at the expense of renters and businesses.

The Charleston example shows the other side of the classification equation: favoring homeowners by definition means higher property taxes on businesses and apartment buildings. Regression

[12] For an analysis that looks at the factors that drive differences in spending and revenue across states, see "Assessing Fiscal Capacities of States: A Representative Revenue System-Representative Expenditure System Approach, Fiscal Year 2012," by Tracy Gordon, Richard C. Auxier, and John Iselin, published by the Urban Institute (March 8, 2016). For an analysis that looks at cities, see "The Fiscal Health of U.S. Cities" by Howard Chernick and Andrew Reschovsky in *Is Your City Healthy? Measuring Urban Fiscal Health,* published by the Institute on Municipal Finance and Governance.
[13] Appendix Tables 2b, 5a, and 3a.

analysis shows that a 1 percent increase in the commercial-homestead classification ratio is associated with a 0.47 percent increase in the commercial property tax rate, and a 1 percent increase in the apartment-homestead classification ratio is associated with a 0.41 percent increase in the apartment tax rate.[14]

Note that while renters do not pay property tax bills directly, they do pay property taxes indirectly since landlords are able to pass along some of their property taxes by increasing rents.[15] Since renters have lower incomes than homeowners on average, preferences given to homesteads relative to apartment buildings will tend to make the property tax system more regressive.

Other Factors

The four key factors described above explain more than two-thirds of the variation in cities' effective tax rates on median valued homes and are thus the most important causes of differences in tax rates across cities. However, other factors also play a role. For example, two variables that could affect property tax rates are the level of state and federal aid and local governments' share of total state and local government spending in each state. However, the impact of these variables will depend on how exactly the state government structures aid or takes on service responsibilities otherwise provided by local governments.

It is reasonable to expect that higher state aid will allow local governments to reduce their reliance on property taxes and thus lead to lower property tax rates. But in fact, research shows that the impact of state aid on local property taxes is ambiguous and depends on how state aid is structured. Some state aid formulas can limit local spending, in which case state aid is likely to reduce property taxes. However, other aid formulas like matching grants can encourage higher local spending, and thus state aid may not reduce property taxes in those cases.[16]

Similarly, if the state government bears a larger share of state and local government expenditures, it makes sense that local government spending and the need for property taxes might decline. That would be the case if the state assumes responsibility for public services that would otherwise be provided by local governments, such as in Hawaii, where there is a single statewide school district and thus no local expenditures on K–12 education. But it is also possible that state expenditures are higher because the state government spends more on traditional state responsibilities, like higher education or public welfare, in which case higher state spending would not lead to lower local government expenditures.

---

[14] Results for commercial properties are shown in Appendix Table 1d. The analysis with effective tax rates on apartments as the dependent variable uses the same set of explanatory variables; the R-square is similar (0.557) and each variable has the same level of statistical significance as in Appendix Table 1d with the exception that the coefficient on the apartment-homestead classification ratio is also significant at the 1% level.

[15] Bowman, John H., Daphne A. Kenyon, Adam Langley, and Bethany P. Paquin. 2009. *Property Tax Circuit Breakers: Fair and Cost-Effective Relief for Taxpayers*. Cambridge, MA: Lincoln Institute of Land Policy. Pg. 32.

[16] Kenyon, Daphne A., Bethany Paquin, and Andrew Reschovsky. 2023. *Rethinking the Property Tax–School Funding Dilemma*. Cambridge, MA: Lincoln Institute of Land Policy.

The regression analysis used for this section considered these two other variables, but they were not found to relate to effective tax rates at a statistically significant level. This finding is not surprising since the expected impact of these variables depends on institutional details not captured by a single measure of state aid or state expenditures.

Homestead Property Taxes

Figure 2 shows property taxes on a median valued home for the largest city in each state. The analysis looks at homesteads, which are owner-occupied primary residences. The average effective tax rate on median valued homesteads for the 53 cities in Figure 2 is 1.288 percent. At that rate, a home worth $200,000 would generate $2,576 in property taxes (1.288% x $200,000).

Tax rates vary widely across the 53 cities. The four cities at the top of the chart—Detroit, Newark, Bridgeport (CT), and Aurora (IL)—have effective tax rates on a median valued home that are more than two times higher than the 53-city average. In five other cities, the effective property tax rate is between 1.5 and 2 times the average. Conversely, the bottom eight cities—Honolulu, Charleston (SC), Boston, Salt Lake City, Denver, Nashville, Boise, and Cheyenne (WY)—all have effective tax rates less than half the study average.

Overall, the average effective tax rate for all cities fell 2.5 percent between 2022 and 2023, from 1.321 percent of value to 1.288 percent. The effective tax rate on the median valued homestead climbed in 19 cities and fell in 33 cities, with one city (Las Vegas) exhibiting no change.

Houston led the way in tax reductions with an effective tax rate decrease of over 19 percent from 2022 to 2023, due to an 8.5 percent decrease in the local mill rate and increases in the school homestead exemption from $40,000 to $100,000 of value and in the community college exemption from 15 to 17 percent of value. Philadelphia followed with a 17 percent decrease due to an increase in the homestead exemption from $45,000 to $80,000 against all taxes.

Note that some cities continue to see unusually large increases or decreases in effective tax rates since 2020 due to fluctuations in sales ratios. Given the COVID-19 pandemic and rapid rise in home values in many areas, assessment year 2022 for taxes payable in 2023 continued to pose significant challenges in accurately assessing property values for tax purposes. Our focus in the text will continue to be on large changes in effective tax rates driven by deliberate policy changes (mill rates, exemptions and credits, and assessment ratios). Large changes in effective tax rates driven by fluctuations in sales ratios will not be highlighted, since many of these changes will be transitory, but interested readers can find changes in every city's ranking in the appendix tables.

Two other cities had effective tax rate decreases of just over 12.5 percent. In Honolulu, this decrease was due to a one-time $350 credit. In Columbus (OH), it was because of a 15.8 percent decrease in the local mill rate. Finally, Billings (MT) and Salt Lake City saw decreases in effective tax rates of nearly 10 percent due to mill rate reductions of 7.7 percent and 6.2 percent, respectively.

Effective tax rates rose over 10 percent in Jacksonville (FL) and Providence in part due to mill rate increases of 5.4 percent and 3.1 percent. In Portland (ME), the rate increased nearly 10 percent due

to a 9.6 percent mill rate increase. An increase of 7.5 percent in Charleston (SC) was due to a 3 percent mill rate increase and a reduction in the local option sales tax credit.

Note that in addition to effective tax rates, Figure 2 also reports the tax bill on a median valued home for each city. Because of significant variations in home values across these cities, some cities with modest tax *rates* can still have high tax *bills* on a median valued home relative to other cities, and vice versa. For example, Las Vegas and Wichita have similar tax rates on a median valued home, but because the median valued home is worth so much more in Las Vegas ($426,400 vs. $187,800), the tax bill is far higher in Las Vegas (13th highest) than in Wichita (48th highest). In general, cities with high home values can raise considerable property tax revenue from a median valued home despite modest tax rates, whereas cities with low home values may have fairly low tax bills even with high tax rates. The table below shows cities with the largest differences in their ranking in terms of effective tax rates versus tax bills on a median valued home.

Cities with Largest Differences in Ranking on Effective Tax Rate vs. Tax Bill for a Median Valued Home (2023)

High Home Values Cities with high tax bills despite low tax rates			**Low Home Values** Cities with low tax bills despite high tax rates		
City	**Tax Rate**	**Tax Bill**	**City**	**Tax Rate**	**Tax Bill**
Seattle (WA)	42	8	Detroit (MI)	1	40
Washington (DC)	43	11	Buffalo (NY)	16	47
Boston (MA)	51	25	Jackson (MS)	22	52
Los Angeles (CA)	27	2	Des Moines (IA)	10	30
New York (NY)	25	4	Milwaukee (WI)	7	24

Similarly, cities with flat or declining effective tax *rates* can still see rising tax *bills* on a median valued home if home values have risen significantly. While the average effective tax *rate* for the largest city in each state fell 2.5 percent from 2022 to 2023, the average tax *bill* for a newly purchased home in these cities rose 9.0 percent (from $3,841 to $4,185) due to an 11.7 percent rise in the average home value (from $325,828 to $364,089).

Appendix Table 2b is similar to Table 2a except that it accounts for the effect of assessment limits, which restrict growth in the assessed value of individual parcels for property tax purposes. These limits reduce estimates of homestead property taxes for 12 of the 53 cities, with the largest impacts in Jacksonville (FL), New York City, Los Angeles, Detroit, and Phoenix. Overall, accounting for assessment limits reduces the average property tax bill for the 53 cities by 10.9 percent. For more detail on the impact of assessment limits, see that section on page 42 of this report.

Appendix Table 2c shows how effective tax rates on homestead properties vary based on their value, showing tax rates for properties worth $150,000 and $300,000 for the largest city in each state. As the table notes, effective tax rates vary with property value nearly half the time (24 of 53 cities). Usually, effective tax rates rise with homestead value because of homestead exemptions

and property tax credits that are set to a fixed dollar amount. Under these programs, the percentage reduction in property taxes falls as home values rise. For example, a $20,000 exemption provides a 20 percent tax cut on a $100,000 home, a 10 percent cut on a $200,000 home, and a 5 percent cut on a $400,000 home.[17] However, other design elements can create the same effect. For example, Minnesota uses a tiered assessment system, where 1% of a home's market value is taxable up through $500,000 of value, while 1.5% of value above that is taxable.

Value-driven differences in effective tax rates make the biggest difference in Boston, which in 2023 offered a homestead exemption equal to the lesser of $321,834 or 90 percent of a property's market value. This results in ultra-low effective tax rates of 0.099 percent on both a $150,000 home and a $300,000 home, and 0.495 percent for a median valued home ($701,400). Other cities with the largest differentials in the effective rates between a home valued at $150,000 and one valued at $300,000 also offer substantial homestead exemptions: Honolulu ($100,000 exemption), Washington, DC ($84,000 exemption), Philadelphia ($80,000 exemption), and New Orleans (effectively $75,000 of market value). Readers should use some caution when interpreting the results in Appendix Tables 2c, 2f, and 2h; see the box on comparing property taxes calculated with fixed property values (page 25).

Appendix Tables 2d through 2f show effective tax rates on homestead properties for a different set of cities. Whereas Tables 2a through 2c focus on the largest city for each state, Tables 2d through 2f show the 50 largest cities in the country regardless of their state. In 2023, Tampa (FL) joins the top 50 by population, and Arlington (TX) falls out of the group. The two groups of cities overlap considerably but have significant differences as well. In this set of tables, California has nine cities; Texas has six; Arizona and Florida have three; and four states have two cities each (CO, NC, OK, and TN). There are 22 states without any cities in the top 50. As with the tables for the largest city in each state, there are two sets of tables for median valued homes: one before and one after accounting for the effects of assessment limitations (Tables 2d and 2e, respectively).

Before accounting for assessment limits, the average effective tax rate for median valued homes in the 50 largest cities (1.285%) is slightly lower than the rate for the largest cities in each state (1.288%). When comparing median value homes after accounting for assessment limitations, however, the 50 largest cities drop to 13 percent below the group of largest cities in each state, with an average effective tax rate of 0.995 percent (Table 2e) compared to 1.148 percent (Table 2b). This is because 28 of the 50 largest cities in the country saw reductions from assessment limits in 2023, and only 12 cities of the 53 that make up the largest cities in each state did so.

In some states, effective tax rates vary little across large cities. But in other cases, considerable differences can exist in effective tax rates among cities within the same state. The extent to which effective tax rates vary across cities within a state depends on many factors, including property tax

[17] For information on homestead exemptions in each state, see "How Do States Spell Relief: A National Study of Homestead Exemptions and Property Tax Credits," by Adam H. Langley in *Land Lines* (April 2015).

reliance, variations in property values, and the degree of authority granted to local governments over fiscal decisions. The table below draws upon Table 2d to shed light on these differences across states:

- California has nine cities in Table 2d and limits tax rates through Proposition 13. As a result, the difference between the cities with the lowest and highest effective tax rates (Sacramento and Oakland) is less than a quarter of a percentage point (1.13% vs. 1.36%), and seven of the nine cities are within just one-eighth of a percentage point (1.16% to 1.28%). Considering the huge range in median home values in these nine cities—from $365,900 to $1.34 million—the tight clustering in effective tax rate is remarkable. Oklahoma and Florida also exhibit low variances in taxes among their largest cities.
- Colorado and Arizona also have effective tax rate differentials of less than one-third of a percentage point between the highest and lowest cities. However, this variance is somewhat due to lower rates of taxation, as those modest differences in effective tax rates still represent a percentage difference of more than 40 percent compared to 20 percent or less for Oklahoma, California, and Florida.
- Tennessee has the largest range in effective tax rates, with the rate in Memphis nearly double Nashville's rate (1.16% vs. 0.58%).
- Texas also has a large discrepancy between cities with the lowest and highest effective tax rates, with the rate in El Paso 83 percent higher than in Houston (2.31% vs. 1.26%). This is despite the fact that median home values do not vary nearly as much in Texas as in California. Differences in local exemptions for school taxes are part of the reason for these variations. Besides those two cities, effective tax rates are less disparate in the other four Texas cities in Table 2d, but Dallas (1.85%) is still 25 percent higher than Austin (1.49%).

Variance in Effective Tax Rates of Large Cities by State (2023)

	Tax Rate Difference		Lowest Rate		Highest Rate	
State	% Point	Percent	Rate (%)	City	Rate (%)	City
OK	0.035	2.7%	1.297	Oklahoma City	1.332	Tulsa
FL	0.261	17.9%	1.458	Jacksonville	1.719	Miami
CA	0.230	20.3%	1.132	Sacramento	1.362	Oakland
CO	0.154	40.0%	0.385	Colorado Springs	0.539	Denver
AZ	0.325	42.8%	0.759	Mesa	1.084	Phoenix
TX	1.046	83.0%	1.260	Houston	2.305	El Paso
TN	1.162	98.8%	0.581	Nashville	1.155	Memphis

Note: The table excludes North Carolina because of a wide variance in sales ratio between Charlotte and Raleigh in 2022 assessments for tax year 2023.

Appendix Tables 2g and 2h provide additional information about how effective property tax rates vary across states by looking at a rural community in each state. The rural analysis includes county seats with populations between 2,500 and 10,000 in nonmetropolitan counties.

The average effective tax rate on median valued homes in the 50 rural communities in this report is 1.192 percent for taxes paid in 2023, down significantly from 1.257 in 2022. As with large cities, the

rates for rural municipalities vary considerably around that average. In two municipalities—Warsaw (NY) and Maurice River Township (NJ)—the effective tax rate on a median valued home is double the average. In contrast, 10 municipalities feature effective tax rates of less than half the average, with the lowest rates in Kauai (HI), Saint Anthony (ID), Georgetown (DE), Pocahontas (AR), and Monroeville (AL).

The largest decrease was in Lancaster (NH), which saw a 37 percent drop mainly due to a 29 percent mill rate reduction. Among the rural communities, Lancaster's ranking fell from 11th in 2022 to 23rd in 2023. In addition, Hopkinton (RI), Okanogan (WA), and Glencoe (MN) all had reductions between 15 and 25 percent due to local rate reductions.

The largest increase took place in Santa Rosa (NM), which had a 40 percent rise driven by an 18 percent mill rate increase, moving Santa Rosa up from 38th to 31st in the rankings for rural communities on a median value home.

Comparing Tables 2a and 2g shows that effective tax rates on median valued homesteads are 2.3 percent lower in large cities than in rural municipalities on average. This is despite the fact that homestead exemptions that deduct a fixed amount of value across a state generally provide larger relative tax savings in rural areas, where home values are usually much lower than in large cities.

In 25 states, the effective tax rate on the median valued home is higher in the largest city than in the rural municipality.[18] Delaware had the biggest difference in 2023; the 1.17 percent rate in Wilmington was 2.8 times the 0.42 percent rate in Georgetown. Other states where rates are at least 50 percent higher in the largest city than in the rural municipality include Arkansas (2.7 times higher), Louisiana (1.8), West Virginia (1.7), Idaho (1.7), Connecticut (1.6), Alabama (1.5), and Missouri (1.5).

An equal number of states (25) had an effective tax rate on median valued homes higher in the rural municipality than in the largest city in the state in 2023. The biggest difference is in Massachusetts, where the effective tax rate in Adams is 3.6 times higher than the rate in Boston (1.799% vs. 0.495%), largely because of Boston's unique (even within Massachusetts) homestead exemption. Other states where the tax rate in the rural community is at least two times higher than the rate in the largest city are South Carolina (3.1), New York (2.1), Florida (2.0), and Pennsylvania (2.0). An additional five states—Kansas, Georgia, Maine, California, and Rhode Island—have tax rates where the rate in the rural community is between 1.5 and 2 times higher than in the largest city.

Some readers may want to use findings on effective tax rates from one specific city to reach conclusions on property taxes throughout an entire state. The relatively small differences in tax rates across large cities in California, Florida, and Oklahoma (Appendix Tables 2d–2f) show that the

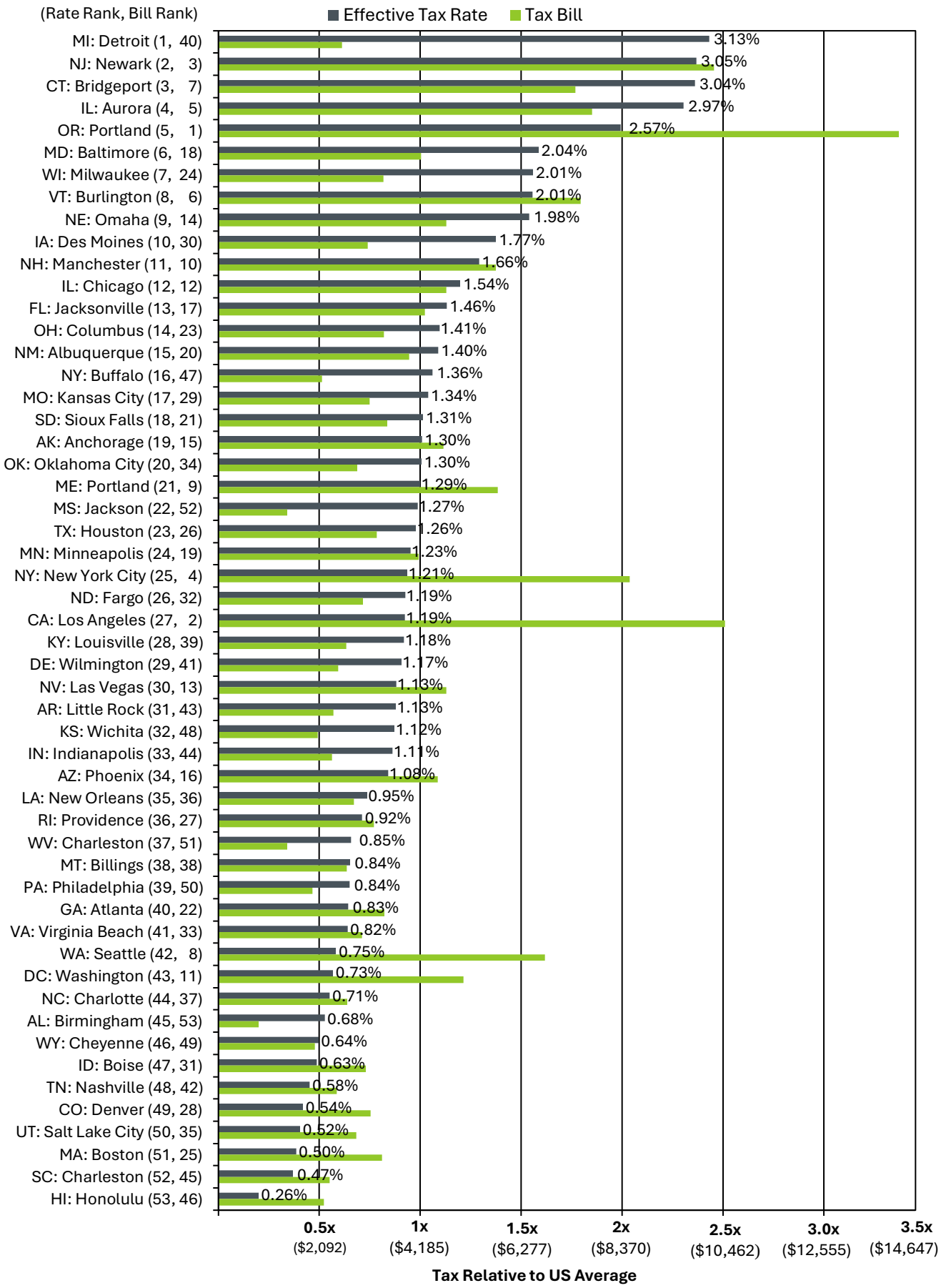
[18] Excluding Washington (DC), which has no rural analogue, and Chicago (IL) and New York (NY), which have property tax systems that differ substantially from those in the remainder of the states. In Illinois and New York, the differentials are calculated between the rural municipality and the state's second-largest city.

largest city in each state may sometimes serve as a decent proxy for property tax rates throughout an entire state. However, the large differences in states like Tennessee and Texas show that caution is needed when extrapolating findings from a single city to an entire state, especially drawing conclusions for small communities based on data for large cities.

Readers wishing to determine whether taxes in a state are high, low, or somewhere in between are best served by comparing the rankings for urban and rural municipalities.[19] For example, in five states (Illinois, Iowa, Nebraska, New Jersey, and Wisconsin) the effective tax rate on the median valued home is among the 10 highest in both a rural and an urban setting—suggesting that these states are most likely to have the highest homestead property taxes. States where effective tax rates are among the 10 lowest in both rural and urban settings are Arizona, Colorado, Hawaii, Idaho, and Utah—suggesting that these states are most likely to have the lowest homestead property taxes.

[19] Rankings for large cities are adjusted to 1–50 to compare state systems and exclude Chicago, New York City, and Washington, DC.

Figure 2: Property Taxes on Median Valued Home for Largest City in Each State (2023)



Commercial Property Taxes

Figure 3 shows effective property tax rates for commercial properties worth $1 million for the largest city in each state. This analysis looks specifically at taxes on office buildings and other commercial properties without inventory on site. Tax rates for other types of commercial property will often be similar but will vary in cities where personal property is taxed differently than real property. The analysis assumes each property has an additional $200,000 in fixtures, which includes items such as office furniture, equipment, display racks, and tools. Different types of commercial property will have different proportions of real and personal property. Therefore, effective tax rates will change among different types of commercial property in cities where personal property is taxed differently from real property.[20]

The average effective tax rate on commercial properties for the 53 cities in Figure 3 is 1.809 percent. A property worth $1 million with $200,000 in fixtures would thus owe $21,708 in property taxes (1.809% x $1.2 million).

Tax rates vary widely across the 53 cities. Chicago and Detroit both had effective tax rates more than twice the average, while Providence, Indianapolis, Jackson (MS), and Kansas City (MO) had rates more than 50 percent higher than the average. On the other hand, Cheyenne (WY), Charlotte, Seattle, Boise, and Wilmington (DE) had tax rates less than half the average.

There were 22 cities that had increases in effective tax rates on $1 million commercial properties in 2023. One city had a flat tax rate and 30 cities had decreases. The largest increase was in Boise, where a 10 percent mill rate increase led to an 18 percent increase in the city's effective tax rate. Portland (ME) had a 9.6 percent increase entirely due to mill rate increase, and Jacksonville also exceeded an 8 percent increase. The largest decrease was in Billings (MT), at 13 percent, driven by a 7.7 percent mill rate decrease. Three cities—Houston, Des Moines (IA), and Milwaukee—had decreases over 8 percent: Houston had an 8.5 percent mill rate decrease, Milwaukee had an 8.1 percent mill rate decrease and an increase in the school levy credit, and Des Moines had a decrease in the assessment ratio on the first $100,000 of commercial property value.

Appendix Table 3a shows how effective tax rates on commercial properties vary based on their value, showing tax rates for properties worth $100,000, $1 million, and $25 million (all have fixtures worth 20% of the real property value). Effective tax rates for commercial properties generally do not vary based on property values, unlike homestead properties, where exemptions or other tax relief programs often create significantly lower rates on lower valued properties.

[20] For an analysis that looks at how effective tax rates vary between different types of commercial property, see "The Effects of State Personal Property Taxation on Effective Tax Rates for Commercial Property," by Aaron Twait, published by the Lincoln Institute of Land Policy (April 2018). The paper finds that average effective tax rates for payable 2016 exceeded 1.9% for hospitals, restaurants, and office space while wholesale trade facilities encountered rates roughly half as large. The paper also finds the current study assumptions realistically model the property taxes payable on the most common type of commercial property—office property.

Only 14 of the 53 cities have effective tax rates that vary based on their value. Value-driven differences in effective tax rates make the biggest difference in rankings in Philadelphia. Philadelphia has among the lowest tax rates for commercial properties worth $100,000 (1.08%, 42nd highest), but is above average for commercial properties worth $25 million (2.01%, 20th highest). The city offers property owners a credit against the first $2,000 of Business Use and Occupancy Tax (effectively, a property tax imposed only on business properties) assessed against individual properties, and this credit creates this large differential. The credit reduces the tax on a property valued at $100,000 by 46%, but by only 0.3% for a property worth $25 million.

Other cities where the rankings vary significantly because of beneficial tax treatment provided to lower valued properties through credits, exemptions, or preferential assessment practices include:

- Washington, DC (40th highest for $100,000, 25th highest for $25 million)
- Des Moines, IA (25th highest for $100,000, 5th highest for $25 million)
- Minneapolis (28th highest for $100,000, 12th highest for $25 million)

Appendix Table 3b shows effective tax rates on commercial properties for a different set of cities. Whereas Table 3a has the largest city for each state, Table 3b shows the 50 largest cities in the country regardless of their state. The two groups of cities overlap considerably but have significant differences as well. In Table 3b, California has nine cities, Texas has six cities, Arizona and Florida have three cities, and four states (CO, NC, OK, and TN) have two cities each. There are 22 states without any cities in the top 50 shown in Table 3b. Appendix Table 3b also shows effective tax rates on commercial properties worth $100,000, $1 million, and $25 million (with fixtures worth 20% of the real property value).

The average effective tax rate for $1 million commercial properties is 5.8 percent higher for the largest city in each state (Table 3a) than for the 50 largest cities (Table 3b). Only 18 cities showed effective tax rate increases, while Las Vegas remained flat, and 30 cities showed tax rate decreases. Tampa is new to the study this year.

In some states, tax rates do not vary much among the largest cities. In three of the states in the study with more than one large city, effective tax rates vary by less than a quarter of a percentage point. For example, in Oklahoma the difference between Tulsa (1.38%) and Oklahoma City (1.41%) is only 0.03 percentage points. The gap between the city with the highest and lowest effective tax rate is also low in Florida (0.19 percentage points) and California (0.23). But in the study's other four states with more than one large city, the effective tax rate variance can be up to nearly two percentage points: Arizona (0.52), Colorado (0.52), Texas (1.03), and Tennessee (1.88).

Appendix Table 3c provides additional information about how effective property tax rates vary across states by showing a rural community in each state. The rural analysis includes county seats with populations between 2,500 and 10,000 that are in nonmetropolitan counties.

On average, commercial tax rates are more than 9 percent lower for the 50 rural communities than for the largest cities in each state. For a property worth $1 million, the average effective tax rate is 1.62 percent for the rural cities versus 1.78 percent for the urban cities shown in Appendix Table 3a.[21] For 26 states, the effective tax rate on a commercial property valued at $1 million is lower in the selected rural municipality than in the state's largest city.[22]

The state with the biggest difference in the effective tax rate between the largest city and the rural municipality (where sales ratio disparity is not a determining factor) is Rhode Island, where the rate on a commercial property worth $1 million in Hopkinton is more than 60 percent lower than the rate in Providence (1.37% vs. 3.45%). Providence ranks third nationally, while Hopkinton is 27th. Other states where the effective tax rate in the rural community is significantly lower than the rate in the largest city include Delaware (58% lower), Arkansas (40% lower), West Virginia (39% lower), and Michigan (38% lower).

On the other hand, in 24 states the tax rate is higher in the rural municipality than in the largest city in the state. The biggest difference is in Kansas, where the tax rate on a commercial property worth $1 million in Iola is nearly twice the rate in Wichita (4.62% vs. 2.44%). Iola ranked first among rural cities in 2023 and Wichita ranked 12th among urban cities. Other states where the tax rate in the rural municipality is significantly higher than the rate in the largest city include Maine (78% higher), South Carolina (57% higher), Wyoming (27% higher), and Montana (27% higher).

Some readers may want to use findings on effective tax rates from one specific table to reach conclusions on property taxes throughout an entire state. The small differences in tax rates across cities in California (Appendix Table 3b) show that the largest city in each state can serve as a proxy for property tax rates throughout an entire state. However, the larger differences between the largest cities in Tennessee and Texas show that caution is needed when extrapolating findings from a single city to an entire state.

Readers wishing to determine whether local property taxes in a state are high, low, or somewhere in between are best served by comparing the rankings for urban and rural municipalities. For example, four states (Indiana, Iowa, Michigan, and Missouri) have at least one top 10 ranking in both an urban and rural setting, suggesting these states are most likely to have the highest commercial property taxes. Conversely, seven states (Delaware, Hawaii, Idaho, North Carolina, Virginia, Washington, and Wyoming) have bottom 10 rankings in both urban and rural settings.

[21] Excluding Washington (DC), Chicago, and New York City from the Table 3a average.
[22] Excluding Washington (DC), which has no rural analogue, and Chicago (IL) and New York (NY), which have property tax systems that differ substantially from those in the remainder of the state. In Illinois and New York, the differentials are calculated between the rural municipality and the state's second-largest city.

Comparing Property Taxes Calculated with Fixed Property Values

This report uses fixed property values (i.e., $1 million in all cities) to control for the impact local real estate conditions have on relative tax burdens. However, differences in property values—driven largely by differences in land values—mean identically valued properties often look very different across the country. For example, a $1 million property in Detroit is very different from a $1 million parcel in New York City. For two properties with different values but identical characteristics (i.e., similar square footage, amenities, etc.) in two cities with the same effective tax rates, the property tax bill will be higher in dollar terms in the city with high property values than in the city with low values.

For taxes on commercial, industrial, and apartment properties, the report solely uses fixed property values. As a result, if the goal is to compare taxes due on properties with similar characteristics (i.e., 5,000 square feet in the central business district), the net tax bills (i.e., $3,000) will be underestimated in cities with high property values and overestimated in cities with low property values. In contrast, data on effective tax rates (i.e., 1.5 percent) will be largely unaffected by the property value chosen for the analysis, because effective tax rates usually do not increase with property values for business properties. For this reason, it is better to use data on effective tax rates when making cross-city comparisons for taxes on commercial, industrial, and apartment properties.

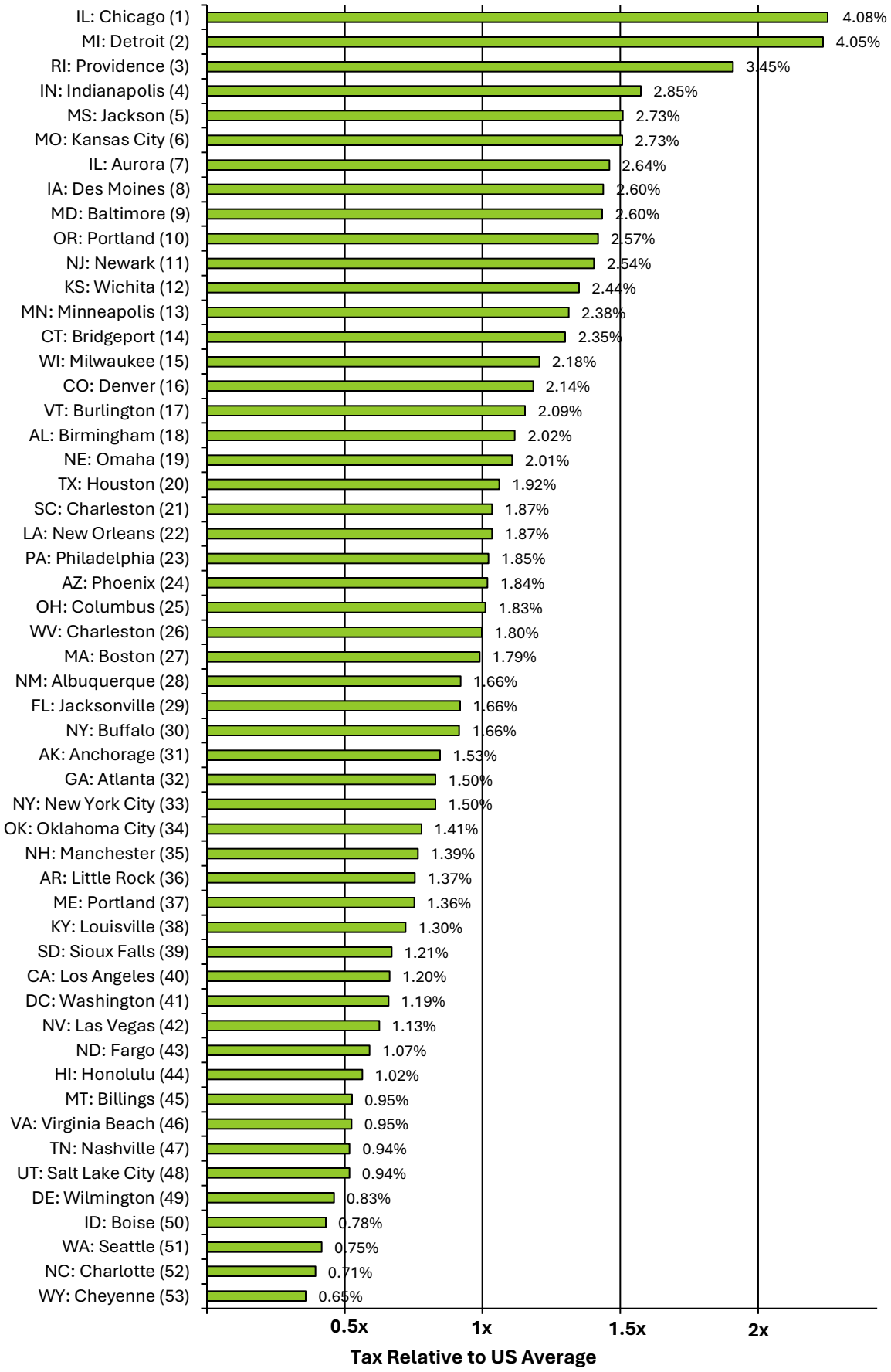
In addition, fixed property values are not problematic from the perspective of a real estate investor looking to invest a certain amount of money—whether in a $1 million condo in New York or a $1 million apartment complex in Detroit.

Note that the use of fixed property values also makes year-to-year comparisons of effective tax rates or tax bills challenging because property values change over time. A $1 million property in 1995 looks very different from a $1 million property in 2023 in most cities.

For homestead property taxes, the report analyzes property taxes on median valued homes, adjusting for differences in property values and thus allowing comparisons of property taxes on a "typical" home across cities and over time.

Figure 3: Commercial Property Taxes for Largest City in Each State (2023)

Effective Tax Rate for $1 Million-Valued Property (plus $200,000 in Fixtures)



Industrial Property Taxes

Figure 4 shows effective property tax rates for industrial properties with $1 million worth of real property for the largest city in each state. This analysis looks specifically at taxes on manufacturing properties. We assume that each property has an additional $1 million of personal property, consisting of $500,000 of machinery and equipment, $400,000 of inventories, and $100,000 of fixtures. Differences in personal property taxation have significant impacts on effective tax rates for industrial properties, as described in the box on the next page. Readers should use some caution when interpreting these results; see the box on comparing property taxes calculated with fixed property values for guidance (page 25).

The average effective tax rate on industrial properties at this value for the 53 cities in Figure 4 is 1.29 percent. A parcel with a real property value of $1 million that has an additional $1 million in personal property would thus owe $25,800 in property taxes (1.29% x $2 million total parcel value). For shorthand, this section refers to parcels based on their real property values.

Tax rates vary widely across the 53 cities. Jackson (MS) has a tax rate more than twice the average, while Chicago, Charleston (SC), and Detroit all have effective tax rates at least 75% higher than the average for these cities. The bottom eight cities, Virginia Beach, Wilmington (DE), New York City, Charlotte, Seattle, Honolulu, Boise, and Fargo (ND), all have tax rates less than half the average.

Some cities' effective tax rates changed significantly from 2022 to 2023. As with commercial property taxes, the largest increase among urban cities was Boise at 16 percent due to a 10 percent mill rate increase, followed by Portland (ME) at 12.4 percent and Jacksonville (FL) at 9.6 percent. Tax rate decreases were led by Charlotte at 11.4 percent and Billings (MT) at 9.6 percent.

Appendix Table 4a shows how effective tax rates on industrial properties vary based on their value, showing tax rates for properties worth $100,000, $1 million, and $25 million (all have personal property worth 100% of the real property value). As the table notes, effective tax rates for industrial properties generally do not vary based on property values, unlike homestead properties, where exemptions or other tax relief programs often create significantly lower rates on lower valued properties.

Taxes on Personal Property

Property taxes are often imposed differently on real property (the value of land and buildings) versus personal property (the value of machinery and equipment, inventories, and fixtures). For example, Appendix Table 4g shows how three categories of personal property are taxed in the largest cities in each state:

- **Machinery and equipment**, which includes things like assembly robots and milling machines, is fully exempt from taxation in 22 cities. In an additional nine cities, the property tax system provides preferential treatment to machinery and equipment over real property. In contrast, real property is treated preferentially relative to personal property in at least one instance in five cities.
- **Manufacturers' inventories**, which include raw materials, supplies, unfinished products, and similar items, are fully exempt from taxation in 43 cities. In an additional four cities, inventories receive preferential treatment relative to real property, while the reverse is true in two cities.
- **Fixtures**, which include office furniture, equipment, display racks, and tools, are fully exempt from taxation in 15 cities. In an additional eight cities, the property tax system provides preferential treatment to fixtures relative to real property, while fixtures are taxed more heavily than real property in at least one instance in 10 cities.

Because personal property is often taxed at a lower rate than real property, the effective tax rate on business properties usually depends on the share of a parcel's total value (i.e., real property + personal property) that comes from personal property. That means estimates of effective tax rates depend on assumptions about the split of total parcel value between real and personal property.

However, the split between real and personal property varies by industry and location. Our modeling indicates that personal property's share of total parcel value ranges from a low of 29.8% for apparel manufacturers to a high of 69.1% for motor vehicle manufacturers. After applying state-specific weights for each manufacturing type, the median state has 54% of total industrial parcel value in personal property with a minimum of 50% (Massachusetts) and a maximum of 59% (Michigan).[23]

Because estimates of effective tax rates are sensitive to assumptions about personal property's share of total parcel value, we present two sets of estimates for industrial properties: personal property accounts for 50% of total parcel value in one set of estimates and 60% in the other set. The first set will better reflect effective tax rates for industries and states where personal property accounts for a smaller share of total parcel value (like apparel manufacturers and Massachusetts), while the second set will better reflect when personal property accounts for a larger share of total parcel value (like motor vehicle manufacturers and Michigan).

[23] To determine personal property's share of total parcel value, we replicate the methodology used by the Minnesota Department of Revenue's Research Division in its biennial *Tax Incidence Study*. These studies are available on the website: https://www.revenue.state.mn.us/tax-incidence-studies.

Only 11 of the 53 cities have effective tax rates that vary based on their value. Value-driven differences in effective tax rates make the biggest difference in rankings in Washington, DC. The District of Columbia has one of the lowest tax rates for industrial properties worth $100,000 (0.715%, 40th highest), but is substantially above average for industrial properties worth $25 million (1.788%, 13th highest). The city exempts the first $225,000 of business personal property, which is effectively a complete personal property exemption for the $100,000-valued parcel but only exempts 0.9% of the personal property associated with the $25 million-valued parcel. The exemption reduces the total tax on a $100,000-valued property by nearly 60% but by less than 1% for a property worth $25 million.

Other cities where rankings vary notably because of beneficial tax treatment provided to lower valued properties through credits, exemptions, or preferential assessment practices include:

- Phoenix (28th highest for $100,000, 11th highest for $25 million)
- Billings, MT (49th highest for $100,000, 33rd highest for $25 million)
- Philadelphia (42nd highest for $100,000, 29th highest for $25 million)
- Boise (53rd highest for $100,000, 42nd highest for $25 million)
- Des Moines (45th highest for $100,000, 35th highest for $25 million)
- Minneapolis (43rd highest for $100,000, 34th highest for $25 million)

Appendix Table 4c shows effective tax rates on industrial properties for a different set of cities. Whereas Table 4a has the largest city for each state, Table 4c shows the 50 largest cities in the country regardless of their state. The two groups of cities overlap considerably but have significant differences as well. In Table 4c, California has nine cities, Texas has six cities, Arizona and Florida have three cities, and four states (CO, NC, OK, and TN) have two cities each. There are 22 states without any cities in the top 50 shown in Table 4c. Appendix Table 4c also shows effective tax rates on industrial properties worth $100,000, $1 million, and $25 million (again with personal property equal to 100% of the real property value).

The average effective tax rate for industrial properties is 4 percent higher for the 50 largest cities (see Table 4c) than for the largest city in each state (see Table 4a) for a $100,000 property, and 6.2 percent higher for real property worth $1 million or $25 million.

In some states, tax rates do not vary too much across the largest cities. In three of the states in the study with more than one large city, effective tax rates vary by less than a fifth of a percentage point: Florida (0.16 percentage points), California (0.18), and Oklahoma (0.19). But in other states, the gap between the city with the highest and lowest effective tax rate can be far higher: Colorado (0.41 percentage points), Arizona (0.44), Texas (1.01), and Tennessee (1.91).

Appendix Table 4e provides additional information about how effective property tax rates vary across states by showing a rural community in each state. The rural analysis includes county seats with populations between 2,500 and 10,000 that are in nonmetropolitan counties.

On average, industrial tax rates are 8.15 percent lower for the 50 rural communities than for the largest cities in each state. For a property worth $1 million, the average effective tax rate is 1.18 percent for the rural cities shown in Appendix Table 4e versus 1.29 percent for the urban cities shown in Appendix Table 4a. For 26 states, the effective tax rate on a $1 million-valued industrial property is lower in the selected rural municipality than in the state's largest city.[24]

The states with the biggest difference in the tax rate between the largest city and the rural municipality are Rhode Island and Delaware, where the tax rate on an industrial property worth $1 million is 58 percent lower in Hopkinton (RI) and Georgetown (DE) than the rates in Providence and Wilmington. Other states where the tax rate in the rural municipality is significantly lower than in the largest city include Oregon (55% lower), Alaska (44%), Alabama (44%), Michigan (43%), West Virginia (43%), and Arkansas (41%).

On the other hand, in 24 states the tax rate is higher in the rural municipality than in the largest city. The biggest difference is in Kansas, where the rate in Iola is nearly twice that of Wichita (2.515% vs. 1.321%). Other states where the tax rate in the rural municipality is significantly higher than the rate in the largest city include Maine (78% higher), South Carolina (61% higher), Virginia (59% higher), and New York (44% higher).

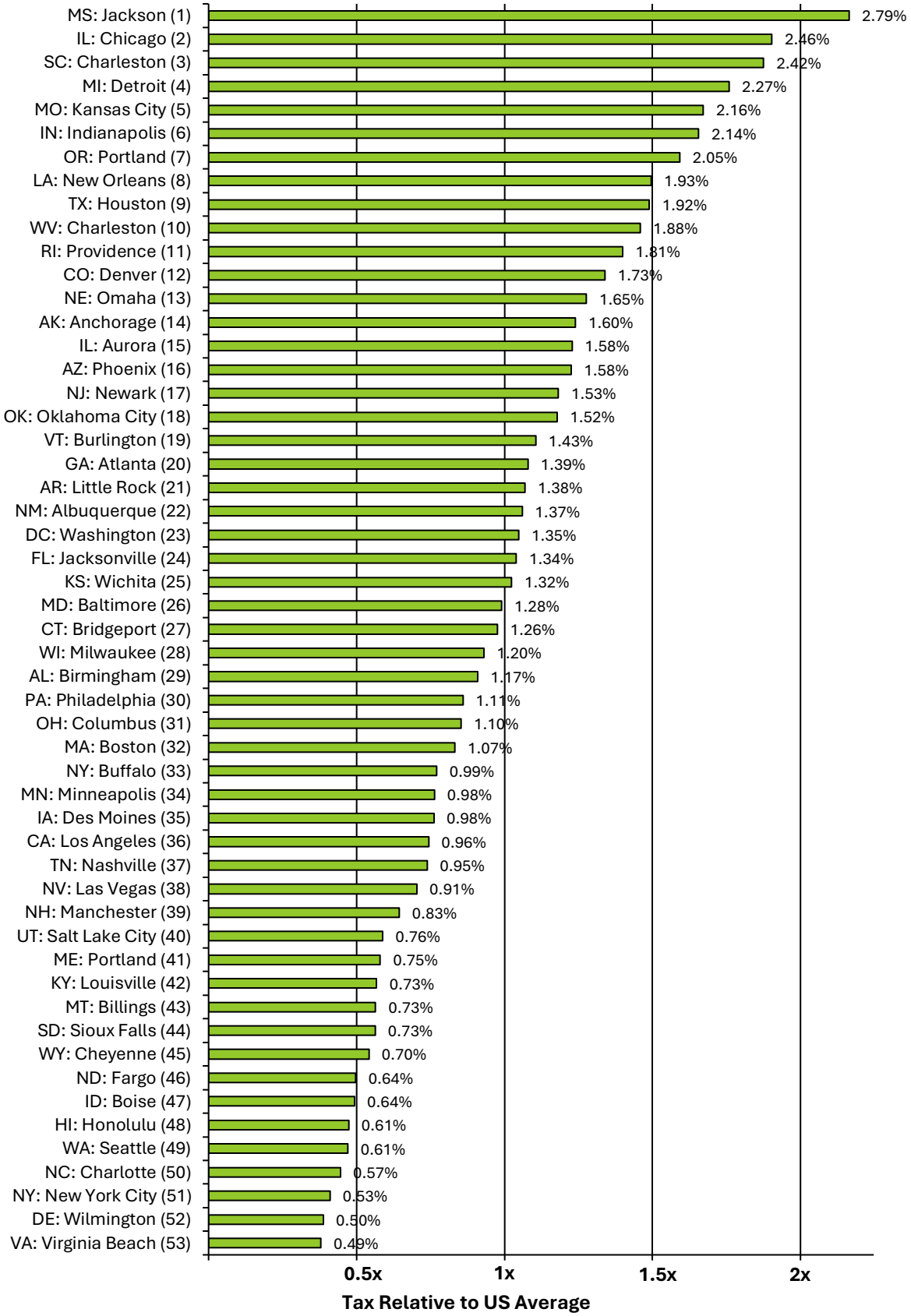
Some readers may want to use findings on effective tax rates from one specific table to reach conclusions on property taxes throughout an entire state. The small differences in tax rates across cities in Florida, California, and Oklahoma (Appendix Table 4c) show that the largest city in each state may serve as a proxy for property tax rates throughout an entire state. However, the large differences between large cities in Tennessee and Texas show that caution is needed when extrapolating findings from a single city to an entire state.

Readers wishing to determine whether taxes in a state are high, low, or somewhere in between are best served by comparing the rankings for urban and rural municipalities. For example, five states (Indiana, Mississippi, Missouri, South Carolina, and Texas) have top 10 rankings in both an urban and rural setting for a $1 million industrial property—suggesting that these states are most likely to have the highest industrial property taxes. Delaware, Hawaii, Idaho, North Dakota, Virginia, Washington, and Wyoming are the seven states that had bottom 10 rankings in both urban and rural settings.

[24] Excluding Washington (DC), which has no rural analogue, and Chicago (IL) and New York (NY), which have property tax systems that differ substantially from those in the remainder of the state. In Illinois and New York, the differentials are calculated between the rural municipality and the state's second-largest city.

Figure 4: Industrial Property Taxes for Largest City in Each State (2023)

Effective Tax Rate for $1 Million-Valued Property (plus $1 Million in Personal Property)



Apartment Property Taxes

Figure 5 shows effective property tax rates for apartment buildings worth $600,000 for the largest city in each state. The analysis assumes each property has an additional $30,000 worth of fixtures, which includes items such as stoves, refrigerators, garbage disposals, air conditioners, drapes, and lawn care equipment. Readers should use some caution when interpreting these results; see the box comparing property taxes calculated with fixed property values for guidance (page 25).

The average effective tax rate on apartment properties for the 53 cities in Figure 5 is 1.511 percent. A property worth $600,000 with $30,000 in personal property would thus owe $9,519 in property taxes (1.511% x $630,000 total parcel value).

Tax rates vary widely across the 53 cities. The top city, Detroit, has an effective tax rate more than 2 times higher than the average for these cities, while Aurora (IL), Newark, Jackson (MS), and Portland (OR) have effective tax rates at least 70 percent higher than the average. Conversely, nine cities' tax rates on apartments are less than half the average, with the lowest rates in Honolulu, Salt Lake City, Cheyenne (WY), Denver, Washington (DC), Charlotte, Virginia Beach, and Seattle.

Some cities' effective tax rates changed significantly from 2022 to 2023. Des Moines' decreased 31 percent due to a lowering of the assessment ratio to equal that of homesteads. Chicago's decreased more than 10 percent, also due to a lowering of the assessment ratio, and Billings' (MT) decreased nearly 10 percent due to a mill rate decrease. The largest increases from 2022 to 2023 were in Boise and Indianapolis at over 17 percent, due mainly to a mill rate increase in Boise and an increase in the portion of the Indianapolis levy not subject to property tax caps. Portland (ME) and Jacksonville (FL) also had increases exceeding 9.5 percent due to mill rate increases.

Appendix Table 5b shows effective tax rates on apartment properties for a different set of cities. Whereas Table 5a has the largest city for each state, Table 5b shows the 50 largest cities in the country regardless of their state. The two groups of cities overlap considerably but have significant differences as well. In Table 5b, California has nine cities, Texas has six cities, Arizona and Florida have three cities, and four states (CO, NC, OK, and TN) have two cities each. There are 22 states without any cities in the top 50 shown in Table 5b. The average effective tax rate for apartment properties is 1.9 percent lower for the 50 largest cities shown in Table 5b than for the cities shown in Table 5a.

In some states, tax rates do not vary much among the largest cities. For example, in four of the study's states with more than one large city, effective tax rates vary by less than a quarter of a percentage point: Oklahoma (0.02 percentage points), Colorado (0.15), Florida (0.17), and California (0.23). However, in some states effective tax rates between different cities differ considerably. For example, Memphis has the 13th-highest tax rate (1.848%), nearly double the Nashville rate of 0.932 percent, which is the 46th highest. In Texas, El Paso's rate is nearly 50 percent more than Austin's, with El Paso ranking second and Austin 14th.

Appendix Table 5c provides additional information about how effective property tax rates vary across states based on a rural community in each state. The rural analysis includes county seats with populations between 2,500 and 10,000 that are in nonmetropolitan counties.

On average, apartment tax rates are 6.2 percent lower for the 50 rural communities than for the largest cities in each state. For the $600,000-valued apartment property, the average effective tax rate is 1.429 percent for the rural cities versus 1.523 percent for the large cities shown in Appendix Table 5a. While the average is lower for rural cities, the effective tax rate on a $600,000-valued apartment property is lower in the state's largest city than in the selected rural municipality in 26 states.[25]

The biggest difference is in Kansas, where the tax rate on an apartment property worth $600,000 in Iola is taxed at more than twice the rate in Wichita (2.321% vs. 1.240%). Other states where the tax rate in the rural municipality is significantly higher than in the largest city include Massachusetts (82%), Maine (78% higher), Hawaii (62% higher), South Carolina (56% higher), and New York (44% higher).[26]

In the 24 states where the tax rate for the rural municipality is lower than the rate for the largest city, Delaware has the largest discrepancy—the tax rate on a $600,000-valued apartment property in Georgetown is 64 percent lower than the rate in Wilmington (0.403% vs. 1.112%). Other states where the tax rate in the rural municipality is significantly lower than the rate in the largest city include Oregon (55% lower), Arkansas (40%), West Virginia (38%), Alabama (37% lower), New Mexico (32% lower), and Michigan (32% lower).

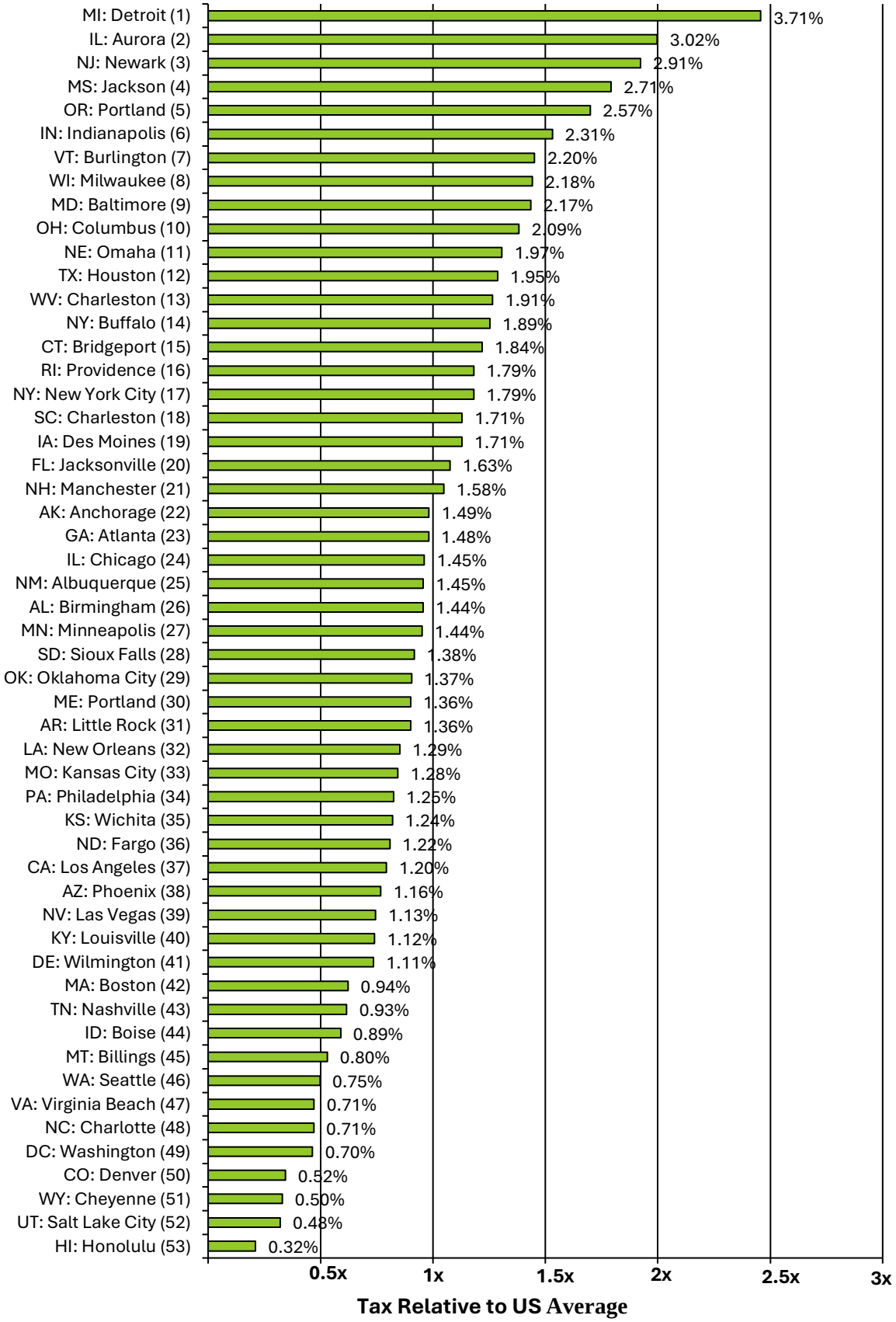
Some readers may want to use findings on effective tax rates from one specific table to reach conclusions on property taxes throughout an entire state. The small differences in tax rates across cities in Oklahoma, Colorado, Florida, and California (Appendix Table 5b) show that the largest city in each state may serve as a proxy for property tax rates throughout an entire state. However, the larger differences between the largest cities in Tennessee and Texas show that caution is needed when extrapolating findings from a single city to an entire state.

Readers wishing to determine whether taxes in a state are high, low, or somewhere in between are best served by comparing the rankings for urban and rural municipalities. For example, four states (Illinois, Michigan, New Jersey, and Vermont) have top 10 rankings in both an urban and rural setting, suggesting that these states are most likely to have the highest apartment property taxes. Colorado, Hawaii, Utah, Virginia, Washington, and Wyoming have bottom 10 rankings in both urban and rural settings.

[25] Excluding Washington (DC), which has no rural analogue. In Illinois and New York, the differentials are calculated between the rural municipality and the state's second-largest city.
[26] The comparison for New York uses the effective tax rate in Buffalo.

Figure 5: Apartment Property Taxes for Largest City in Each State (2023)

Effective Tax Rate for $600,000-Valued Property (plus $30,000 of Fixtures)



Classification and Preferential Treatment of Homestead Properties

Many cities' property tax systems have built-in preferences that lower the effective tax rates for certain classes of property, with these features usually designed to benefit homeowners. The "classification ratio" describes these preferences by comparing the effective tax rate for two types of property. For example, if a city has a 3.0% effective tax rate on commercial properties and a 1.5% effective tax rate on homestead properties, then the commercial-homestead classification ratio is 2.0 (3.0% divided by 1.5%).

In a property tax system that treats all properties similarly, the classification ratio would be 1.0, because the effective rates on all properties would be the same. Therefore, the classification ratio provides a summary measure of the degree to which one type of property subsidizes lower property taxes on another class of properties. Four main features of property tax systems lead to different effective tax rates for different classes of property: the assessment ratio, the nominal tax rate, exemptions and credits, and the sales ratio.[27]

First, states may have different assessment ratios for different classes of property, which is the percentage of market value used to determine taxable values. For example, a state may have a 100% assessment ratio for commercial property and a 70% assessment ratio for residential property, which means a $100,000 commercial property would be taxed on its full market value, but a $100,000 residential property would be taxed as if it were worth $70,000.

Second, cities may have different nominal tax rates for different classes of property, which is the tax rate applied to the taxable value to determine the tax bill. The nominal tax rate is also known as the statutory tax rate or millage rate.

Third, states or cities may have exemptions or credits that are only available to certain types of properties. The most common are homestead exemptions, which reduce the amount of property value subject to taxation but are usually restricted to owner-occupied homes and unavailable to businesses or renters. For example, a $50,000 homestead exemption would mean a $200,000 home would be taxed as if it were worth $150,000, assuming there is a 100% assessment ratio.[28]

Fourth, the sales ratio may vary across property classes. The sales ratio measures the accuracy of assessments by comparing assessments to actual sales. For example, if the sales ratio for homesteads is 95%, then a home worth $100,000 would be "on the books" as if it were worth $95,000. Unlike the three other causes of classification, differences in sales ratios across classes

[27] For details on classification in each state, see the Property Tax Classification table on the Lincoln Institute of Land Policy's *Significant Features of the Property Tax* website (https://www.lincolninst.edu/subcenters/significant-features-property-tax/Report_Property_Tax_Classification.aspx).

[28] For information on homestead exemptions in each state, see "How Do States Spell Relief: A National Study of Homestead Exemptions and Property Tax Credits," by Adam H. Langley in *Land Lines* (April 2015).

are not written into law and are normally unintentional. Nonetheless, differences in the quality of assessments across property classes can produce a de facto classification system.

Commercial-Homestead Classification Ratio

Figure 6a shows the commercial-homestead classification ratio for the largest city in each state, by comparing the effective tax rate on a $1 million commercial property to the effective tax rate on a median value homestead property.[29] Note that because homeowners' household goods are not taxable, we exclude commercial fixtures and instead compare only the effective rates on real property (land and buildings).

The average classification ratio for the 53 cities shown in Figure 6a is 1.861, which means that on average commercial properties experience an effective tax rate 86.1 percent higher than that of homesteads.[30]

The commercial-homestead classification ratio varies widely across the 53 cities. Charleston (SC) is at the top with a classification ratio of 6.2. Honolulu and Boston have classification ratios greater than 4.0, and six more cities have classification ratios greater than 3.0 (Denver, New York City, Chicago, Providence, Birmingham, and Jacksonville). Thirty percent of the cities (16 of 53) have classification ratios above 2.0, meaning that commercial properties face an effective tax rate at least double that for homesteads.

Seven cities have a classification ratio slightly below one, meaning the classification system favors commercial properties over homesteads: Baltimore, Bridgeport (CT), Louisville (KY), Las Vegas, Omaha (NE), Virginia Beach, and Wilmington (DE). These property tax systems are not structured to favor commercial properties, but the sales ratio results in a de facto classification system since commercial properties are under-assessed relative to homestead properties.

Appendix Table 6a provides additional information about the commercial-homestead classification ratio in each city. Of the 53 cities, 17 have a higher assessment ratio for commercial properties, 14 have a higher nominal tax rate on commercial properties, 28 have exemptions or credits that favor homesteads over commercial properties, and seven offer homesteads parcel-specific assessment limits not available to commercial properties. Property tax systems often combine these features—in 22 of these cities homeowners benefit from at least two of these four features, and in Albuquerque, Charleston (SC), Chicago, and Minneapolis, homeowners benefit from three of the four. In 10 cities, preferential treatment for homeowners is delivered through exemptions or credits alone, while in 11 cities preferences are delivered exclusively through differences in assessment ratios or nominal tax rates.

[29] See the Methodology section for more details on how these calculations are performed.

[30] The average industrial-homestead classification rate is slightly higher at 1.896, which means that on average industrial properties face an effective tax rate 89.6% higher than that of homesteads. This comparison uses a $1 million industrial property and excludes taxes on personal property.

On average, tax disparities between commercial and homestead properties increased by 3.2 percent in 2023, increasing from 1.803 in 2022 to 1.861 in 2023. The number of cities with more than a 3.0 ratio increased from eight to nine, while those with a ratio of more than 2.0 remained the same, at 16 cities.

The classification ratio decreased in 26 cities and increased in 20 cities. Increases were generally of greater magnitude, and in several cases were driven by unusually high volatility in sales ratios. The classification ratio was unchanged in seven cities.

Figure 6c shows the longer-term picture, with trends in the commercial-homestead classification ratio going back to 1998. The ratio increased from 1.803 in 2022 to 1.861 in 2023. Locations where residential and commercial properties have "statutory classification"[31] and are treated differently in state law maintained a higher ratio and increased at a rate similar to the overall average, from 2.065 to 2.152. Both ratios are record highs for the 26 years we have collected data.

Apartment-Homestead Classification Ratio

Figure 6b shows the apartment-homestead classification ratio for the largest city in each state, by comparing the effective tax rate on a $600,000 apartment building to the effective tax rate on a median value homestead.[32] This classification ratio shows the degree of subsidy provided to homeowners at the expense of renters. The apartment-homestead classification ratio shows that apartments subsidize homestead property taxes at about half the rate commercial properties do, with apartments facing an effective tax rate 44 percent higher than that of homesteads on average. In most locations studied, the apartment-homestead classification ratio is smaller than or equal to the commercial-homestead classification ratio, with the exceptions of (in alphabetical order): Charleston (WV), Houston, New York City, and Wilmington (DE).

Charleston (SC) is an outlier in the apartment-homestead classification ratio, with an effective tax rate on apartments 6.2 times higher than the rate on a median valued home. New York City and Jacksonville (FL) are the only other cities where the rate for apartments is more than three times higher than that for a median valued home. Another four cities are above 2.0: Indianapolis, Charleston (WV), Birmingham (AL), and Jackson (MS). On the other hand, eight cities have a classification ratio below 1.0, with the lowest ratios in Bridgeport (CT), Virginia Beach, and Cheyenne (WY). The preference given to apartments in these cities is not the result of statutory provisions but is simply due to lower average sales ratios for apartments relative to homesteads.

Appendix Table 6b provides more details about the apartment-homestead classification ratio in each city. As with commercial properties, a large majority of cities have higher effective tax rates on apartments than on homesteads. However, the preferences given to homesteads relative to apartments are caused more by homestead exemptions and credits than by differences in

[31] To identify cities with statutory classification, we ignore the sales ratio. This group only includes cities where classification is written into law with the assessment ratio, nominal tax rate, or exemptions/credits.
[32] See the Methodology section for more details on how these calculations are performed.

assessment ratios or nominal tax rates. In total, 36 of the 53 cities have statutory preferences for homesteads relative to apartments, but only 12 offer more than one preference (Charleston, SC, is the only city to offer three preferences). Eight cities have preferential assessment ratios and/or nominal tax rates only, while 16 cities offer homestead exemptions or credits alone.

On average, tax disparities between apartments and homesteads were basically unchanged between 2022 and 2023. The apartment-homestead classification ratio declined in 23 cities, with the largest drops in New York City (-0.432), Bridgeport, CT (-0.415), Jacksonville, FL (-0.365), and Des Moines (-0.345). The classification ratio increased in 19 cities, led by Charleston, SC (0.516); Philadelphia (0.279); and Boise (0.218). As with the commercial-homestead ratios, relative changes in sales ratio often have the biggest impact in year-to-year changes in the apartment-homestead ratios.

Figure 6d provides information on how the apartment-homestead classification ratio has changed since 1998, with a historic high of 1.49 in 1998 and a historic low of 1.31 in 2018. The only other years to exceed the 1.44 level of 2022 and 2023 are 1.45 in 2012 and 1.46 in 2008.

Figure 6a: Commercial-Homestead Classification Ratio for Largest City in Each State (2023)

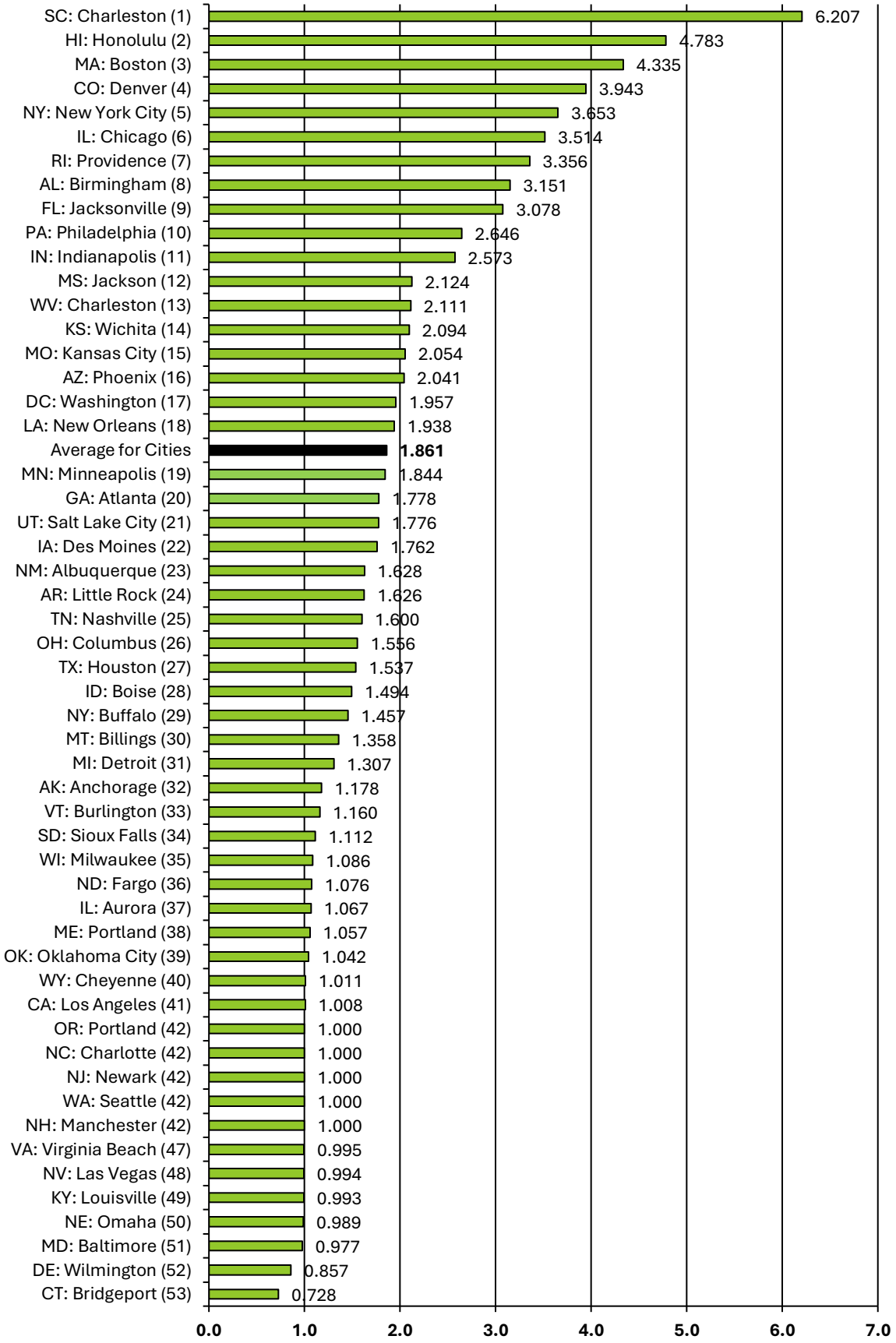


Figure 6b: Apartment-Homestead Classification Ratio for Largest City in Each State (2023)

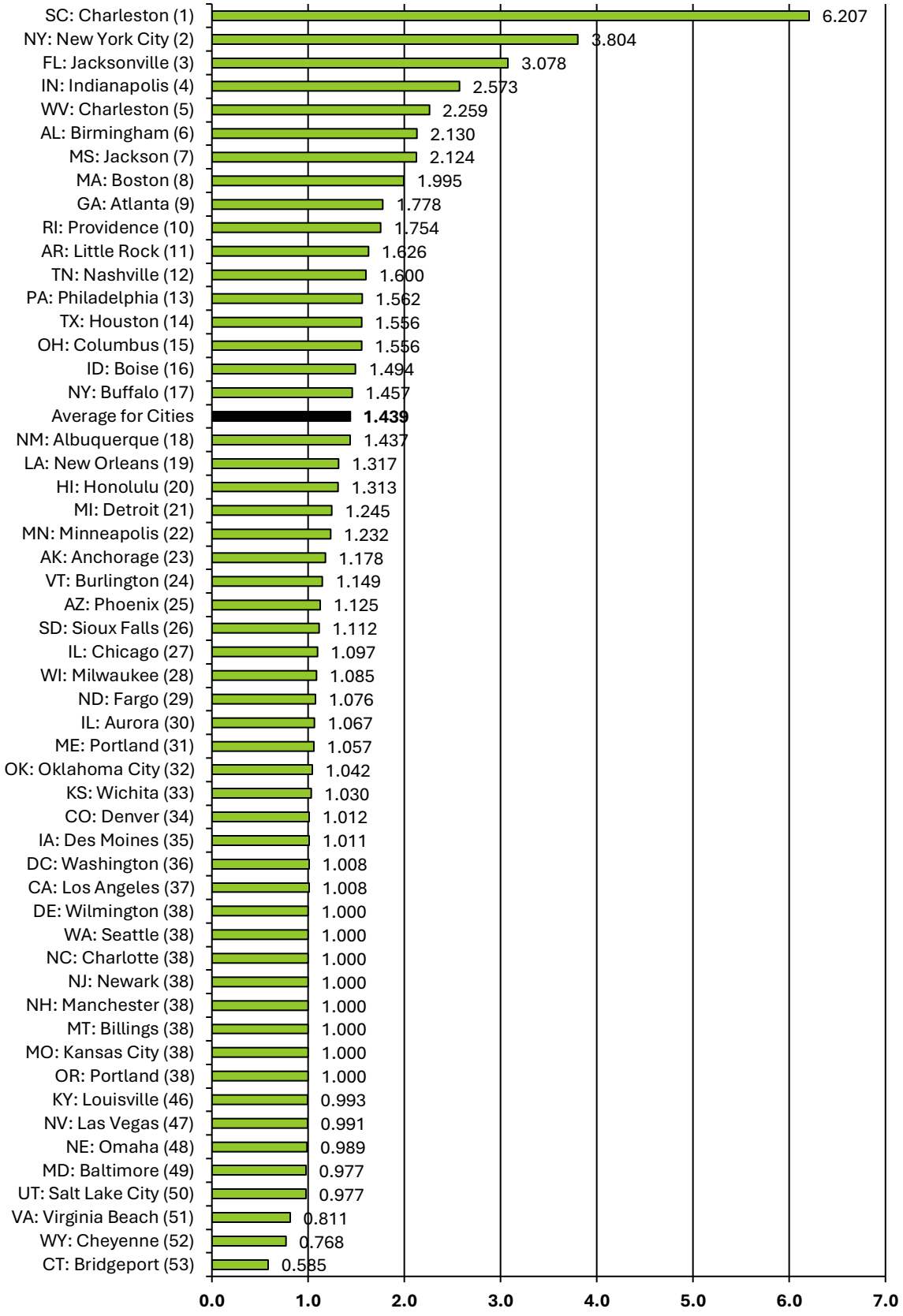
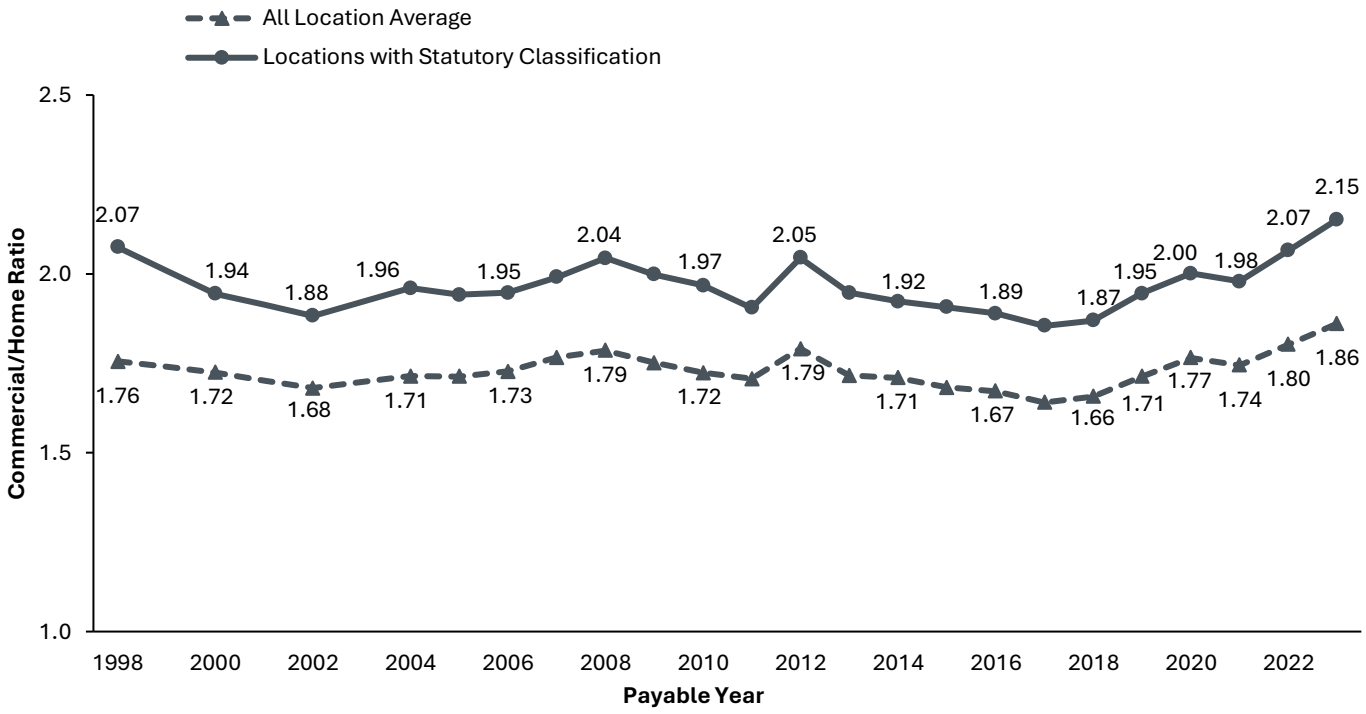


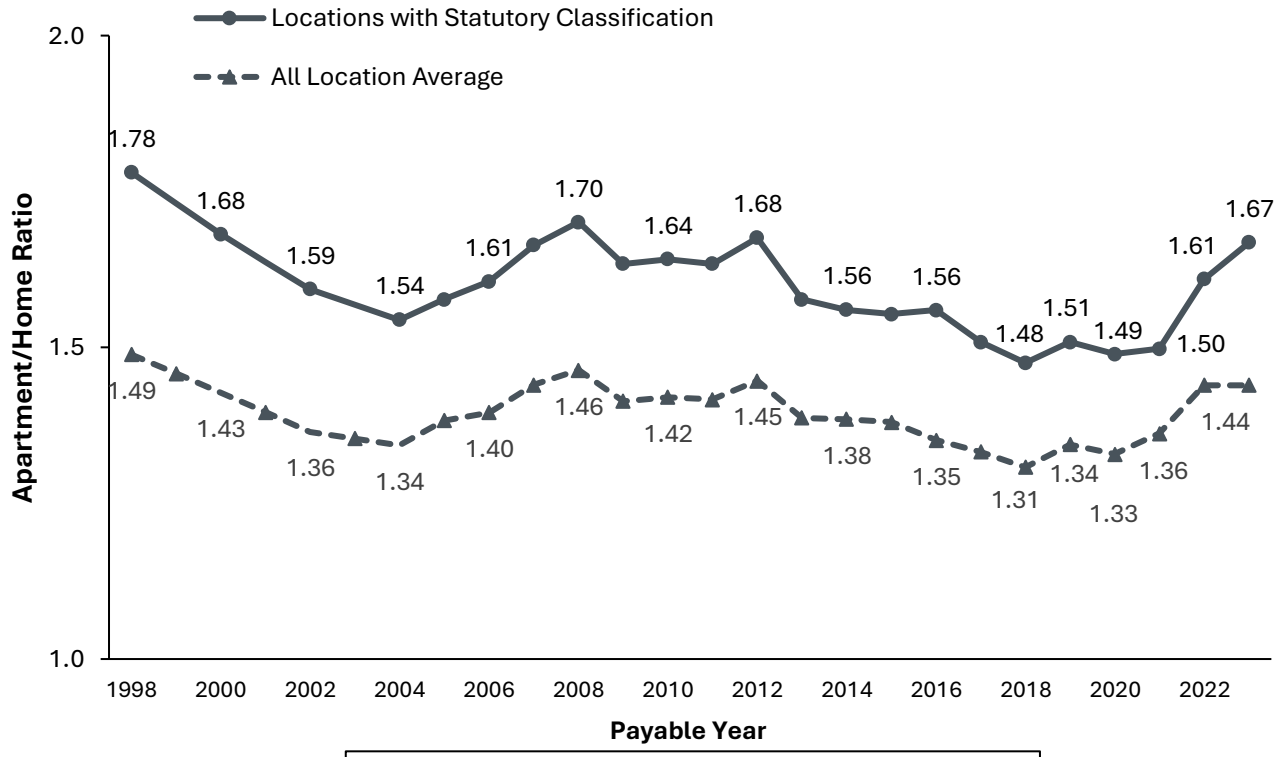
Figure 6c: Commercial-Homestead Classification Ratio for Largest City in Each State (1998–2023)



Note: 1.0 denotes unclassified property tax system.

Note: "Statutory classification" is the group of cities where classification is written into law with the assessment ratio, nominal tax rate, or exemptions/credits. Identification of this group ignores the sales ratio.

Figure 6d: Apartment-Homestead Classification Ratio for Largest City in Each State (1998–2023)



Note: 1.0 denotes unclassified property tax system.

Property Tax Assessment Limits

Property tax limitations have become an increasingly important feature of the local government finance landscape since the late 1970s, when rapid property value growth provoked Californians to adopt the now-iconic Proposition 13. Since that time, limitations on property taxes have become increasingly popular, especially during the late 1990s and early 2000s, when property values again appreciated significantly.[33]

Property tax limits have many different types, including constraints on tax rates, tax levies, and assessed values.[34] This report accounts for the impact of these limits implicitly, because of how these laws impact cities' effective tax rates. However, accounting for the impact of assessment limits requires an explicit modeling strategy.

Assessment limits typically restrict growth in the assessed value for individual parcels and then reset the taxable value of properties when they are sold. Therefore, the level of tax savings provided from assessment limits largely depends on two factors: how long a homeowner has owned their home and appreciation of the home's *market value* relative to the allowable growth of its *assessed value*.[35]

This report estimates the tax disparities created by assessment limits in a particular city by estimating the amount of value growth these limits exclude from taxation over an average tenure of ownership (See Methodology section for details).[36] One key difference between assessment limits and other types of property tax limits, however, is that tax savings from assessment limits vary widely across individual taxpayers within the same city. Tax savings will be greater than average for homeowners whose home values have grown faster than average for the city and have owned their homes longer than average. States with parcel-specific assessment limits include Arizona, Arkansas, California, Florida, Illinois (Cook County only), Michigan, New Mexico, New York (New York City and Nassau County only), Oklahoma, Oregon, South Carolina, and Texas.

Figure 7 shows the impact of assessment limits for a median valued home in the 30 cities modeled. The impact of assessment limits varies widely across cities. The largest effect is in Florida, where a new homeowner in Miami would pay nearly three times more in property taxes than would

[33] Paquin, Bethany P. 2015. "Chronicle of the 161-Year History of State-Imposed Property Tax Limitations." Cambridge, MA: Lincoln Institute of Land Policy.
[34] The Lincoln Institute of Land Policy maintains a comprehensive database of property tax limits on its website: https://www.lincolninst.edu/data/significant-features-property-tax/access-property-tax-database/tax-limits-truth-taxation/.
[35] Haveman, Mark, and Terri A. Sexton. 2008. *Property Tax Assessment Limits: Lessons from Thirty Years of Experience*. Cambridge, MA: Lincoln Institute of Land Policy.
[36] Unlike in most locales, assessment limits effective in New York City and Portland (OR) do not reset upon sale of a property. Therefore, for those two cities the duration of the assessment limitation is set to the lesser of the average age of an owner-occupied home (i.e., number of years since average home was constructed, which is 70 years in New York City and 67 years in Portland) or the period during which assessment limits have been in place (since 1981 in New York City and 1996 in Portland).

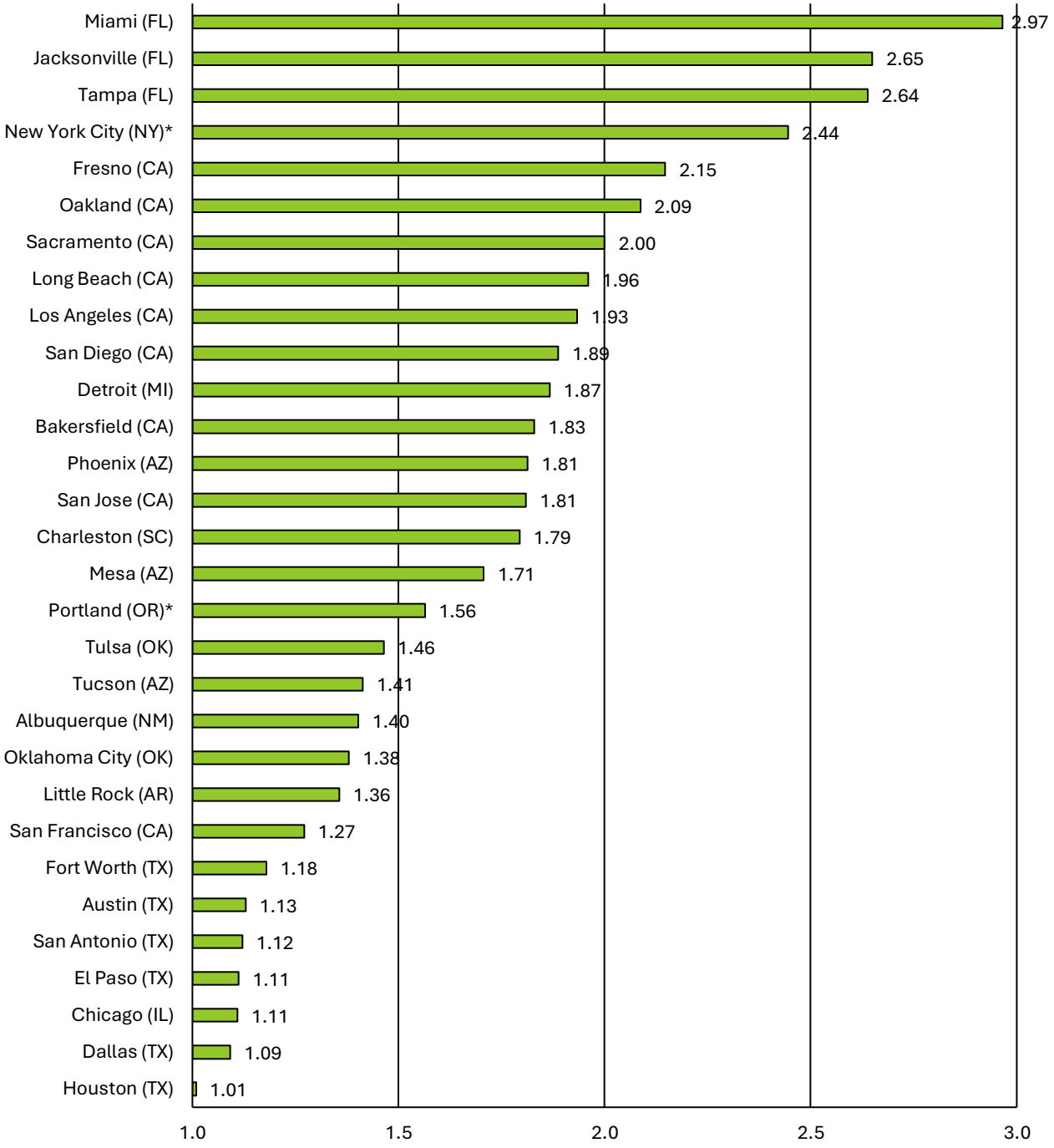
someone who has owned their home for 12 years (the average duration of ownership in that city). In six other cities a newly purchased median valued home would face an effective tax rate at least twice as high as the rate for an equivalently valued home that has been owned for the average duration in the city: Jacksonville, Tampa, New York City, Fresno, Oakland, and Sacramento. Assessment limits also have large impacts in Long Beach, Los Angeles, San Diego, Detroit, Bakersfield, Phoenix, San Jose, Charleston (SC), Mesa, and Portland (OR), where new homeowners face effective tax rates at least 50 percent higher than those for homes owned for the average duration in each city. In contrast, assessment limits had a relatively smaller impact in Texas, where effective tax rates on newly purchased homes were about 10 to 20 percent higher in five of the six Texas cities in this report, with Houston seeing a marginal 1 percent disparity.

Appendix Table 7 also shows the impact of assessment limits in terms of the dollar difference in taxes between newly purchased homes and homes subject to the average assessment limitation in each city for median valued homes. In 20 cities, the difference in tax bills is at least $1,000—with differences reaching as high as $6,933 in San Jose. From 2019 to 2021, the average tax on a newly purchased home was 1.4 times higher than the average for a home owned for the average duration in each city. In 2022, the average ratio rose to 1.6 times higher, and remained at 1.6 times in 2023, largely because of the sharp rise in home values.

Accounting for assessment limits can lead to major differences in city tax rate rankings. For example, consider effective tax rates for median valued homes in the largest city in each state (See Appendix Tables 2a and 2b). Jacksonville (FL) has the 13th highest effective tax rate for new homeowners but drops to 47th highest after adjusting for assessment limits. Other cities with large changes include New York City (25th to 51st); Los Angeles (27th to 44th); Albuquerque (15th to 28th); Phoenix (34th to 45th); and Oklahoma City (20th to 30th).

Figure 7: Impact of Assessment Limits

Ratio of Property Taxes Due on a Newly Purchased Home Compared to on a Home that Has Been Owned for the Average Duration for the City (For Median Valued Homes)



Notes: See Methodology section for details on calculation.
Prior versions of this report showed how much *less* property taxes were on a home owned for the average duration in each city, whereas this year's report shows how much *more* property taxes are on a newly purchased home. In other words, the denominator used for this ratio was changed from the tax on a newly purchased home (prior reports) to the tax on a home owned for the average duration for the city (this year's report).
* New York City and Portland (OR) have unique assessment limits, because they do not reset when a property is sold like in other cities. For these cities, Figure 7 shows the difference in property taxes on a newly built home and a home built prior to the implementation of assessment limits (1981 in New York City; 1996 in Portland).
(See footnote 40 on page 50 for details on the methodology for these two cities.)

Methodology

This study updates the *50-State Property Tax Comparison Study: For Taxes Paid in 2022*. It examines four distinct classes of property using a standard set of assumptions about their "true" market values and the split between real and personal property. The report calculates property taxes for parcels with a range of property values in three sets of cities:

- the largest city in each state and the District of Columbia, along with Aurora, Illinois, and Buffalo, New York;
- the largest 50 cities in the United States; and
- a rural municipality in each state.

This section first describes how property taxes are calculated, then describes data collection and the selection of cities, next defines the four property classes included in this study, and finally describes the methodology used to estimate the impact of assessment limits.

A. Components of the Property Tax Calculation

As an aid in reviewing the remaining assumptions of this study, it is helpful to think of the property tax calculation as having six distinct components:

(1) a "true" market value (TMV),
(2) a local sales ratio (SR),
(3) applicable exemptions that reduce taxable value (E),
(4) a statutory classification system (classification rate) or other provisions that effectively determine the proportion of the assessor's estimated market value that is taxable (CR),
(5) the total local property tax rate (TR), and
(6) applicable property tax credits (C).

Accordingly, the net local property tax for a given parcel of property is written:

$$\textbf{Net Property Tax} = \{[(TMV \times SR) - E] \times CR \times TR\} - C$$

<u>Component 1: True Market Value (TMV)</u>

The calculations for this study start with an assumption about the true market value of the four classes of property. This is the market value of a parcel of property as determined in a local real estate market consisting of arm's-length transactions between willing buyers and sellers. This is in contrast to "assessed value" or "estimated market value," which is generally the starting point for tax calculations.

This study assumes the true market values are consistent across all locations in the study. For example, the ranking of property taxes on a residential homestead parcel with a true market value of $150,000 assumes that the parcel is actually worth $150,000 in the local real estate market in each location in each state, regardless of what the local assessor may think the property is worth.

For some locations, the assumed true market value may be very atypical (a $150,000 home in Boston, for example). Nevertheless, this study assumes the property exists there. Essentially, this study is meant to compare the effects of property tax structures. Using fixed values allows the isolated effects of tax structures to be observed. That is, the report compares property taxes, not local real estate markets. However, as previously discussed, the report does include tables that show the residential tax burdens where the home value is set equal to local median values.

Component 2: Sales Ratios (SR)

A unique aspect of this study is that it includes the effects of assessment practices on relative tax burdens. It would be much simpler to start the calculations by fixing the assessor's "estimated market value" for each property. However, in every state, the quality of property tax assessments is a significant aspect of the local property tax scene. Omitting this aspect of the property tax calculation would make this study much less useful.

Sales ratios are simply a measure of the accuracy of assessments. The sales ratio is determined by comparing assessments to actual sales. A sales ratio of 100% indicates assessments are equal to market value. Sales ratios of less than 100% indicate assessments are less than market value; sales ratios of over 100% indicate assessments are higher than market value. In some states, state aid formulas use sales ratios to adjust assessors' values when local property wealth is used as a measure of local fiscal capacity. While sales ratios are generally not used in calculating an individual's actual property tax bill, some states do use sales data to equalize values as part of the property tax process.

By applying sales ratios, this study recognizes that our $150,000 residential homestead may be "on the books" at $155,000 in one location and $140,000 in another, and that the actual tax on the property will be based on these "estimates" of market value. For example, if the relevant sales ratio in a given location is 93%, we convert the $150,000 true market value to $139,500 ($150,000 x .93) before applying the provisions of the local property tax. In this way, the study presents tax liabilities that represent the actual experience of property owners.

Sales ratio data is provided either at the city or county level, depending on the state. We use city-level data where appropriate, otherwise we default to county data. Our preference is to use sales ratio data that differentiates between different types of property. However, in many locations only one ratio is reported, covering all types of property. In those cases, we apply the same ratio to all that location's examples in the study.

In the case of personal property, sales ratios are generally not used. Many states do not have sales ratios for personal property or assume they are 100%. Where states report personal property sales ratios, we include them in this study.

Component 3: Exemptions (E)

Many states provide exemptions that reduce the amount of property value subject to taxation. In some cases, these exemptions are provided on a blanket basis across a state; in other cases, the exemptions are a local option. Because exemptions are subtracted from assessed value, we apply them after first applying the sales ratio to true market value, since the exemption will not incorporate any of the assessment variance to which properties may be subject.

Note: in some cases, the exemption is subtracted from taxable value instead of assessed value. In those cases, we apply the exemption after applying the classification rate.

Component 4: Classification Rates (CR)

The fourth component of the property tax calculation involves subjecting the parcel's taxable value to classification (or assessment) rates, which convert assessed value to taxable value. In many cases, these classification rates are 100%, meaning taxable value is equal to assessed value. However, governments often use differential rates to affect the distribution of property tax levies—to provide tax relief for selected classes of properties at the expense of others.

In most states, state legislatures set the classification schemes. In a few states, local governments have some autonomy over classification rates.

Because of the wide variation in the quality of assessments across the states, particularly across classes of property, many states have no classification scheme in statute and may, in fact, have significant classification via uneven assessments across classes of property. (In some cases, this may violate state constitutional provisions on uniform assessments.) Some states, like Minnesota, enforce strict standards of assessment quality (sales ratio studies, state orders adjusting values, state certification of assessors, etc.) and put their classification policy in statute.

Component 5: Total Local Tax Rate (TR)

The study defines "payable 2023 tax rate" as the rate used to calculate the property taxes with a lien date in 2023, regardless of the date(s) on which payments are due. In some cities, there are multiple combinations of taxing jurisdictions (namely, the state, cities, counties, school districts, and special taxing districts). For instance, a city may be located in multiple school districts and therefore rates will differ based on which school district a parcel is in. This study uses the rate most prevalent in a city.

This study excludes special assessments since they are more in the nature of user charges, do not affect a majority of parcels, and are usually not sources of general revenue.

Component 6: Credits (C)

The final step in the tax calculation is to recognize any general deductions from the gross property tax calculations (credits). The study includes any credits that apply to a majority of parcels of the specified type. Certain states provide credits based on early payment; the study assumes that taxpayers take advantage of the credit by making the early payment.

Effective Tax Rates (ETRs)

Effective tax rates express the relationship between net property taxes and the true market value of a property. This contrasts with the millage rates or other rates that are applied to taxable value to determine a parcel's tax burden. By including the effects of all statutory tax provisions as well as the effects of local assessment practices, effective tax rates allow more meaningful comparisons across states and property types.

B. Data Collection

Data for the property tax calculations was collected in one of two ways. Where possible, we collect property tax data directly from various state and local websites. Otherwise, we collect data using a contact-verification approach in which we ask state and local tax experts to provide information. In both cases, this information served as the basis for calculations by the Minnesota Center for Fiscal Excellence.

Selection of Additional Urban Cities

In Cook County (Chicago) and in New York City, the property tax system (notably, the assessment ratios) is substantially different from the system used in the remainder of Illinois and New York, respectively. We include the second-largest cities in those states (Buffalo and Aurora) to represent the property tax structures in the remainder of those states. In essence, the urban analysis is a comparison of 53 different property tax structures.

Selection of Rural Cities

Rural cities generally must meet three criteria to be included in the study:

- the city has a population between 2,500 and 10,000 (controlling for size);
- the city is a county seat (controlling, as best as possible, for economic conditions and type of services delivered); and

- the city is located in a county coded as a "6" or "7"[37] on the US Department of Agriculture's rural-urban measurement continuum (controlling for geographical relationships to urban areas).

In five states (Connecticut, Delaware, Hawaii, New Jersey, and Rhode Island), no counties were coded 6 or 7 on the USDA's continuum. In Massachusetts, the only code 6 or 7 county included Nantucket Island, which does not seem comparable to rural counties in other states. In these six cases, we selected the county seat in the most rural county available.

Data on Median Valued Homes

This study compares homeowner property taxes using a "median value analysis," which sets the home value in each city equal to the median value of owner-occupied housing units in the city, or for smaller cities, in the relevant county. This data comes from the one-year or five-year data in the Census Bureau's *American Community Survey (ACS)* for 2022. We intend this comparison to show how differences in local real estate markets affect residential property taxes.

Note that the payable 2014 edition of this study was the first to use ACS data on median home values. Prior to that, median home value data came from metropolitan-area data provided by the National Association of Realtors. Readers should make time-trend comparisons of tax burdens on median valued homes before and after this methodological change with care.

Special Property Tax Provisions

"Special property tax provisions" are provisions that, in practice, apply to less than half of all taxpayers for a given class of property. Special provisions are normally triggered by special circumstances or attributes of the taxpayer or property. Examples include senior tax deferrals and special valuation exclusions based on age, health, or special use.

Because the goal of this study is to compare the actual tax experience of the largest number of taxpayers in the selected jurisdictions, this study excludes special property tax provisions.

C. Property Classes and Assumptions About Value

This report studies hypothetical properties in four property classes: (1) residential homesteads, (2) commercial property, (3) industrial property, and (4) apartments. Except for apartments, the study calculates taxes for all properties based on multiple values that are fixed across states. All classes

[37] Counties coded "6" are nonmetro counties with urban populations of 2,500 to 19,999 that are adjacent to a metro area; counties coded "7" are nonmetro counties within the same population range that are not adjacent to a metro area.

of business property (commercial, industrial, and apartments) have a corresponding set of assumptions regarding the amount of personal property each parcel has.

These four classes were selected for a variety of reasons. First, they represent the vast majority of property value across the country. In Minnesota, these four classes represent nearly 70% of market value. This figure is likely similar in other states and may be even higher in states that do not have substantial agricultural operations. Second, these are the classes of property that policymakers tend to focus time and attention on. Third, most omitted classes of property are either not relevant to all 50 states (cabin properties, for example) or require more complex work to determine assumptions about value (public utilities and farms, for example).

Selection of Fixed Values

This report compares the tax burdens various property tax systems across the nation impose on a fixed amount of value. Holding property values constant across all jurisdictions controls for the effects differences in property values have on effective tax rates. The specific fixed values the study uses for homes, commercial, and industrial properties were largely chosen between 1995 and 2000 to represent a low valued,[38] medium valued, and high valued parcel.

Over time we have added or eliminated property values when appropriate. However, to preserve the usefulness of time-trend comparisons we have not changed any fixed values after their first appearance in the report.

Importantly, in most locations the effective tax rates for commercial and industrial properties do not vary much with value. Therefore, with few exceptions the specific fixed values selected for inclusion in the report are not of major consequence.

Real and Personal Property

The treatment of personal property is a significant part of each state's property tax regime. Because personal property exemptions (or lack thereof) vary from state to state, creating accurate property tax comparisons will depend in large part on making accurate assumptions about personal property. This is especially true of industrial parcels, which have much higher proportions of personal property than do commercial properties in general.

Making these assumptions is challenging because the specific mix of real and personal property obviously varies by industry and location. With its permission, we have borrowed the methodology used by the Minnesota Department of Revenue's Research Division to determine shares of real and personal business property in its biennial *Tax Incidence Study*.[39] Using that methodology, we have

[38] Note that the study no longer includes the $70,000 "low valued" home.
[39] *Tax Incidence Studies* are available on the website of the Minnesota Department of Revenue: https://www.revenue.state.mn.us/tax-incidence-studies.

calculated state-specific real property, machinery and equipment, fixtures, and inventory shares for industrial parcels. The findings this model generates indicate that the median split for industrial parcels nationwide is 45.6% land and buildings (real property) and 54.4% personal property. Overall, the split ranges from 41.3% real/58.7% personal (Michigan) to 49.6% real/50.4% personal (Massachusetts).

PROPERTY CLASSES AND TRUE MARKET VALUES

Class	Values of Property				
	Real	**Mach. & Equip.**	**Inventories**	**Fixtures**	**Total**
Homestead	$150,000	$0	$0	$0	**$150,000**
	$300,000	$0	$0	$0	**$300,000**
Apartments	$600,000	$0	$0	$30,000	**$630,000**
Commercial	$100,000	$0	$0	$20,000	**$120,000**
	$1,000,000	$0	$0	$200,000	**$1,200,000**
	$25,000,000	$0	$0	$5,000,000	**$30,000,000**
Industrial (50% Personal)	$100,000	$50,000	$40,000	$10,000	**$200,000**
	$1,000,000	$500,000	$400,000	$100,000	**$2,000,000**
	$25,000,000	$12,500,000	$10,000,000	$2,500,00	**$50,000,000**
Industrial (60% Personal)	$100,000	$75,000	$60,000	$15,000	**$250,000**
	$1,000,000	$750,000	$600,000	$150,000	**$2,500,000**
	$25,000,000	$18,750,000	$15,000,000	$3,750,000	**$62,500,000**

These results suggest a two-assumption approach, with one set of rankings assuming 40% real property/60% personal property and a second set of rankings assuming 50% real property/50% personal property. The table above summarizes the assumed true market values and assessed value of personal property used for each property class.

This study does not include intangibles such as bank balances or financial securities in the property tax calculations.

Definitions of Real and Personal Property

The types of property found in this study are defined as follows:

- **Real Property:** consists of land and buildings not classified as personal property for tax purposes.
- **Machinery and Equipment:** includes large and ponderous equipment, generally not portable and often mounted on special foundations. Examples include large printing presses and assembly robots.
- **Inventories:** includes raw materials, unfinished products, supplies, and similar items used by manufacturers. Does not include any inventory retailers hold for sale.

- **Fixtures:** includes items such as office furnishings, display racks, tools, and similar items, but not motor vehicles. In the case of apartments, it includes such things as stoves, refrigerators, garbage disposals, air conditioners, drapes, and lawn care equipment.

D. Estimates of Assessment Limitation Effects

This study estimates the effect of provisions that deliver property tax relief for homeowners by limiting increases in home value or property taxes at the parcel level. Generally, the value of parcel-specific assessment limitations results from a combination of the length of homeowner tenure and changes in the market value of the parcel relative to the provisions of the applicable limitation. This study uses data from the Census Bureau's *American Community Survey* to estimate that average length of homeowner tenure for locations where assessment limitation provisions are in effect. ZIP5 data from the Federal Housing Finance Agency's *House Price Index for All Transactions* is used to estimate the average change in residential property value for each individual city with assessment limitation provisions. We then model the average change in residential property value over the average length of homeowner tenure in each of these locations and compare that change to the allowable growth in homestead value and/or taxes during that period to determine the amount of excluded value or property tax relief these provisions afford.

One final key assumption: in most instances the model represents the experience of a homeowner with an "average" length of tenure.[40] Therefore, if the model returns no excluded value, then we assume the provision does not apply to half or more of homeowners and thus does not apply.

MCFE prepared a working paper for the Lincoln Institute of Land Policy on this subject, which contains considerably more detailed information on the methodology underlying this analysis.[41]

E. Classification Ratios

This report measures two "classification ratios"—the ratio of the effective tax rates between a median valued home and the real portion of a $1 million commercial property ("commercial-homestead classification ratio") and between a median valued home and the real portion of a $600,000 apartment property ("apartment-homestead classification ratio"). Both measures are

[40] Except for New York City and Portland (OR), which have unique assessment limits that do not reset assessed values when a property is sold. To measure the impact of assessment limits in these cities, we compare the difference in effective tax rates on a newly built home and a home built prior to the implementation of assessment limits (1981 in New York City; 1996 in Portland). The median home was built 70 years ago in New York City and 67 years ago in Portland. As a result, these cities have had growth in their assessed value constrained since the limits were implemented. The analysis compares a newly built and older home with identical market values (the median valued home is $724,400 in New York City and $562,500 in Portland).

[41] Twait, Aaron. 2012. "Property Assessment Limits: Effects on Homestead Property Tax Burdens and National Property Tax Rankings." Cambridge, MA: Lincoln Institute of Land Policy. April.

designed to offer perspective on homeowner tax preferences that are built into a property tax system. For example, a city with a 3% effective tax rate on commercial property and a 1.5% effective tax rate on homesteads will have a classification ratio of 2.0—meaning commercial property is taxed at twice the rate of homes. A property tax system with no homeowner preferences will have a classification ratio of 1.0; in other words, the effective tax rates for homes will be the same as the rates for other types of properties.

In most of the property tax jurisdictions this report studies and reports on, parcel-specific assessment limitations either do not exist or do not apply equally to all classes of property; one example is California's Proposition 13, which restricts growth for any parcel in the state to 2% per year. For these properties, we calculate the classification ratio using homestead property tax burdens based on full market value taxation (Appendix Table 2a) to ensure similar assessment limitation treatment for properties in the same property tax systems.

However, in seven property tax systems—in Arkansas; Florida; Cook County, Illinois; New Mexico; New York, New York; South Carolina, and Texas—assessment limitations either affect homesteads only, or apply differently to different types of property. For cities located in these jurisdictions in the payable 2023 report we are calculating the classification ratio using the assessment limited homestead tax burdens (Appendix Table 2b) to reflect the reality that homesteads are subject to different value capping requirements than are other types of property.

Appendix Table 1a: Factors Correlated with Homestead Property Tax Rates in Large US Cities

(Effective Tax Rate for Median Valued Home, with Assessment Limits)

		Tax Rate		Property Tax Reliance		Median Home Value		Local Gov't Spending		Classification Ratio		
State	City	Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Rank (1-74)
Alabama	Birmingham	51	0.68	70	-0.36	72	0.64	36	-0.02	10	8	-0.27
Alaska	Anchorage	22	1.30	43	-0.11	32	-0.06	44	-0.05	43	32	0.10
Arizona	Mesa	71	0.44	54	-0.19	27	-0.14	64	-0.17	18	31	-0.05
Arizona	Phoenix	60	0.60	49	-0.14	24	-0.16	60	-0.14	21	35	-0.04
Arizona	Tucson	55	0.63	32	0.02	48	0.15	68	-0.20	22	34	-0.02
Arkansas	Little Rock	43	0.84	68	-0.33	62	0.29	62	-0.16	29	13	0.00
California	Bakersfield	56	0.63	50	-0.14	33	-0.05	33	0.00	52	45	0.14
California	Fresno	64	0.58	38	-0.07	34	-0.05	16	0.10	53	46	0.14
California	Long Beach	57	0.63	61	-0.23	8	-0.54	9	0.23	56	51	0.14
California	Los Angeles	59	0.62	39	-0.07	6	-0.64	5	0.29	57	53	0.14
California	Oakland	52	0.65	57	-0.20	4	-0.65	4	0.51	59	55	0.14
California	Sacramento	65	0.57	66	-0.29	17	-0.28	10	0.20	54	48	0.14
California	San Diego	53	0.64	27	0.08	5	-0.64	19	0.07	57	53	0.14
California	San Francisco	37	0.92	56	-0.20	1	-0.90	2	0.91	61	57	0.14
California	San Jose	49	0.71	40	-0.08	2	-0.83	12	0.17	60	56	0.14
Colorado	Colorado Springs	72	0.38	51	-0.17	21	-0.19	51	-0.10	4	47	-0.38
Colorado	Denver	67	0.54	62	-0.27	12	-0.37	6	0.29	5	49	-0.34
Connecticut	Bridgeport	3	2.11	1	0.86	52	0.20	55	-0.11	74	74	0.21
DC	Washington	47	0.73	64	-0.28	10	-0.48	1	1.41	23	52	-0.01
Delaware	Wilmington	29	1.17	35	0.00	60	0.28	27	0.02	73	58	0.16

How to Interpret Each Factor's Impact on a City's Tax Rate

The columns labeled "Impact on Tax Rate" shows how each factor is expected to affect the tax rate in that city relative to a scenario where the city had the average value for that variable—a positive value means that factor increases the city's tax rate, while a negative value means that factor decreases the city's tax rate.

For example, consider Birmingham, Alabama. The city has the 70th-highest property tax reliance (fifth lowest), which is predicted to decrease the city's tax rate on a median valued home by 0.36 percentage points relative to that in a city with average property tax reliance. An alternative way to interpret this data is that if Birmingham had the average property tax reliance and all other characteristics of the city were unchanged (home values, government spending, etc.), then the city's tax rate would be 0.36 percentage points higher, which at 1.03% would be 34th highest. Birmingham also has the 72nd-highest median home value (third lowest), which is expected to increase its tax rate by 0.64 percentage points relative to a scenario where the city had the average home value for all cities in this analysis. Local government spending per capita is slightly below average in Birmingham (36th highest), which is expected to decrease the city's tax rate by 0.02 percentage points relative to a city with average spending. Finally, Birmingham has significantly higher tax rates for commercial properties and apartments than for homestead properties; the classification ratio is 10th highest for commercial properties and eighth highest for apartments. The city's classification ratios are predicted to decrease the property tax rate on a median valued home by 0.27 percentage points compared to those of a city with the average classification ratio.

		Tax Rate		Property Tax Reliance		Median Home Value		Local Gov't Spending		Classification Ratio		
State	City	Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Commercial Rank (1-74)	Apartments Rank (1-74)	Impact
Florida	Jacksonville	66	0.55	28	0.07	44	0.07	57	-0.11	11	4	-0.32
Florida	Miami	63	0.58	26	0.09	16	-0.30	32	0.00	9	3	-0.35
Florida	Tampa	61	0.58	37	-0.02	28	-0.14	21	0.06	12	5	-0.29
Georgia	Atlanta	44	0.83	19	0.19	26	-0.15	18	0.07	25	11	-0.03
Hawaii	Honolulu*	74	0.26	13	0.27	7	-0.62	74	-0.25	2	26	-0.49
Idaho	Boise	58	0.63	9	0.32	18	-0.25	73	-0.24	36	21	0.03
Illinois	Aurora	2	2.97	4	0.65	49	0.15	58	-0.14	48	40	0.13
Illinois	Chicago	16	1.39	33	0.01	42	0.05	15	0.11	7	37	-0.27
Indiana	Indianapolis	33	1.11	67	-0.30	61	0.29	41	-0.04	14	6	-0.21
Iowa	Des Moines	9	1.77	14	0.26	66	0.41	37	-0.02	27	50	0.02
Kansas	Wichita	32	1.12	16	0.21	65	0.38	72	-0.23	19	44	-0.04
Kentucky	Louisville	28	1.18	47	-0.12	58	0.25	54	-0.11	70	67	0.14
Louisiana	New Orleans	35	0.95	63	-0.28	43	0.07	49	-0.09	24	25	-0.03
Maine	Portland	23	1.29	8	0.39	20	-0.20	40	-0.03	49	41	0.13
Maryland	Baltimore	5	2.04	34	0.01	63	0.31	26	0.04	72	71	0.15
Massachusetts	Boston	69	0.50	3	0.72	11	-0.47	34	-0.01	3	10	-0.46
Michigan	Detroit	11	1.68	69	-0.33	74	0.90	46	-0.07	39	29	0.08
Minnesota	Minneapolis	26	1.23	30	0.04	37	-0.02	22	0.05	15	30	-0.09
Mississippi	Jackson	24	1.27	6	0.48	73	0.70	69	-0.21	16	9	-0.11
Missouri	Kansas City	19	1.34	65	-0.29	55	0.22	30	0.01	20	58	-0.03
Montana	Billings	41	0.84	24	0.12	39	0.03	70	-0.22	38	58	0.08
Nebraska	Omaha	8	1.98	31	0.03	54	0.21	38	-0.02	71	69	0.14
Nevada	Las Vegas	31	1.13	59	-0.22	25	-0.15	45	-0.07	69	68	0.14
New Hampshire	Manchester	12	1.66	7	0.39	36	-0.03	63	-0.17	62	58	0.14
New Jersey	Newark*	1	3.05	2	0.85	38	-0.01	59	-0.14	62	58	0.14
New Mexico	Albuquerque	34	1.00	48	-0.14	46	0.10	66	-0.19	28	23	0.01
New York	Buffalo	18	1.36	72	-0.41	71	0.48	20	0.06	37	22	0.04
New York	New York City	70	0.49	42	-0.09	9	-0.50	3	0.53	6	2	-0.45
North Carolina	Charlotte	48	0.71	71	-0.39	29	-0.09	11	0.17	62	58	0.14
North Carolina	Raleigh	50	0.71	18	0.19	23	-0.16	61	-0.15	62	58	0.14

*Honolulu and Newark do not have data on property tax reliance or local government spending in the Fiscally Standardized Cities database, so statewide data on all local governments is used instead (Source: US Census Bureau, 2021 Census of Government Finances).

		Tax Rate		Property Tax Reliance		Median Home Value		Local Gov't Spending		Classification Ratio		
State	City	Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Commercial Rank (1-74)	Apartments Rank (1-74)	Impact
North Dakota	Fargo	27	1.19	45	-0.11	51	0.17	47	-0.07	47	39	0.12
Ohio	Columbus	15	1.41	44	-0.11	53	0.20	42	-0.05	32	19	0.02
Oklahoma	Oklahoma City	36	0.94	46	-0.12	59	0.26	71	-0.23	51	43	0.13
Oklahoma	Tulsa	39	0.91	55	-0.20	64	0.34	65	-0.18	50	42	0.13
Oregon	Portland	13	1.64	21	0.16	15	-0.33	24	0.05	62	58	0.14
Pennsylvania	Philadelphia	42	0.84	73	-0.45	56	0.23	14	0.13	13	17	-0.16
Rhode Island	Providence	38	0.92	5	0.53	35	-0.04	53	-0.10	8	12	-0.29
South Carolina	Charleston	73	0.26	29	0.04	19	-0.25	35	-0.01	1	1	-1.01
South Dakota	Sioux Falls	21	1.31	20	0.17	47	0.13	67	-0.20	45	36	0.12
Tennessee	Memphis	30	1.16	52	-0.18	69	0.43	29	0.02	30	14	0.01
Tennessee	Nashville	62	0.58	36	0.00	22	-0.16	17	0.07	31	15	0.01
Texas	Austin	20	1.32	11	0.31	13	-0.37	25	0.05	42	24	0.08
Texas	Dallas	10	1.70	23	0.15	41	0.03	31	0.01	41	28	0.08
Texas	El Paso	4	2.07	25	0.11	67	0.42	48	-0.08	40	27	0.07
Texas	Fort Worth	17	1.37	12	0.30	45	0.09	56	-0.11	35	20	0.02
Texas	Houston	25	1.25	10	0.32	50	0.15	43	-0.05	34	18	0.02
Texas	San Antonio	14	1.53	22	0.15	57	0.25	28	0.02	33	16	0.02
Utah	Salt Lake City	68	0.52	53	-0.18	14	-0.33	7	0.24	26	70	0.02
Vermont	Burlington	7	2.01	41	-0.09	30	-0.08	23	0.05	44	33	0.11
Virginia	Virginia Beach	45	0.82	17	0.20	31	-0.06	52	-0.10	68	72	0.15
Washington	Seattle	46	0.75	60	-0.23	3	-0.65	8	0.23	62	58	0.14
West Virginia	Charleston	40	0.85	58	-0.22	70	0.43	39	-0.03	17	7	-0.11
Wisconsin	Milwaukee	6	2.01	15	0.24	68	0.43	50	-0.09	46	38	0.12
Wyoming	Cheyenne	54	0.64	74	-0.56	40	0.03	13	0.14	55	73	0.15

Appendix Table 1b: Factors Correlated with Commercial Property Tax Rates in Large US Cities

(Effective Tax Rate for $1 Million-Valued Commercial Property, with $200,000 in Fixtures)

		Tax Rate		Property Tax Reliance		Median Home Value		Local Gov't Spending		Classification Ratio*	
State	City	Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate
Alabama	Birmingham	22	2.02	70	-0.35	72	0.87	36	-0.03	10	0.55
Alaska	Anchorage	40	1.53	43	-0.11	32	-0.08	44	-0.08	43	-0.21
Arizona	Mesa	50	1.33	54	-0.19	27	-0.20	64	-0.26	18	0.14
Arizona	Phoenix	30	1.84	49	-0.14	24	-0.21	60	-0.21	21	0.12
Arizona	Tucson	43	1.47	32	0.02	48	0.20	68	-0.29	22	0.09
Arkansas	Little Rock	48	1.37	68	-0.32	62	0.40	62	-0.23	29	-0.04
California	Bakersfield	59	1.18	50	-0.14	33	-0.07	33	0.00	52	-0.27
California	Fresno	53	1.27	38	-0.07	34	-0.07	16	0.15	53	-0.27
California	Long Beach	54	1.24	61	-0.23	8	-0.73	9	0.34	56	-0.28
California	Los Angeles	57	1.20	39	-0.07	6	-0.87	5	0.43	57	-0.28
California	Oakland	47	1.37	57	-0.20	4	-0.88	4	0.76	59	-0.28
California	Sacramento	61	1.15	66	-0.29	17	-0.38	10	0.30	54	-0.27
California	San Diego	55	1.23	27	0.08	5	-0.87	19	0.10	57	-0.28
California	San Francisco	60	1.18	56	-0.20	1	-1.22	2	1.36	61	-0.28
California	San Jose	52	1.29	40	-0.08	2	-1.13	12	0.25	60	-0.28
Colorado	Colorado Springs	39	1.62	51	-0.17	21	-0.27	51	-0.14	4	0.95
Colorado	Denver	19	2.14	62	-0.27	12	-0.51	6	0.43	5	0.85
Connecticut	Bridgeport	16	2.35	1	0.86	52	0.27	55	-0.16	74	-0.38
DC	Washington	58	1.19	64	-0.28	10	-0.66	1	2.11	23	0.09
Delaware	Wilmington	69	0.83	35	0.00	60	0.39	27	0.04	73	-0.33

*Table shows impact of the commercial-homestead classification ratio.

How to Interpret Each Factor's Impact on a City's Tax Rate

The columns labeled "Impact on Tax Rate" show how each factor is expected to affect the tax rate in that city relative to a scenario where the city had the average value for that variable—a positive value means that factor increases the city's tax rate, while a negative value means that factor decreases the city's tax rate.

For example, consider Birmingham, Alabama. The city has the 70th-highest property tax reliance (fourth lowest), which is predicted to decrease the city's commercial property tax rate by 0.35 percentage points relative to the rate in a city with average property tax reliance. An alternative way to interpret this data is that if Birmingham had the average property tax reliance and all other characteristics of the city were unchanged (home values, government spending, etc.), then the city's commercial tax rate would be 0.35 percentage points higher. Birmingham also has the 72nd-highest median home value (third lowest), which is expected to increase its tax rate by 0.87 percentage points relative to a scenario where the city had the average home value for all cities in this analysis. Local government spending per capita is slightly below average in Birmingham (36th highest), and thus is expected to decrease the city's tax rate by 0.03 percentage points relative to in a city with average spending. Finally, Birmingham had the 10th highest commercial-homestead classification ratio, which is predicted to decrease the commercial property tax rate by 0.55 percentage points compared to the rate in a city with the average classification ratio.

State	City	Tax Rate		Property Tax Reliance		Median Home Value		Local Gov't Spending		Classification Ratio*	
		Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate
Florida	Jacksonville	37	1.66	28	0.07	44	0.10	57	-0.17	11	0.52
Florida	Miami	27	1.85	26	0.09	16	-0.41	32	0.00	9	0.58
Florida	Tampa	34	1.71	37	-0.02	28	-0.19	21	0.09	12	0.48
Georgia	Atlanta	41	1.50	19	0.19	26	-0.20	18	0.10	25	0.02
Hawaii	Honolulu**	64	1.02	13	0.27	7	-0.84	74	-0.37	2	1.18
Idaho	Boise	70	0.78	9	0.32	18	-0.35	73	-0.36	36	-0.09
Illinois	Aurora	8	2.64	4	0.65	49	0.21	58	-0.20	48	-0.25
Illinois	Chicago	1	4.08	33	0.01	42	0.06	15	0.17	7	0.69
Indiana	Indianapolis	4	2.85	67	-0.30	61	0.39	41	-0.06	14	0.33
Iowa	Des Moines	9	2.60	14	0.26	66	0.56	37	-0.03	27	0.01
Kansas	Wichita	13	2.44	16	0.21	65	0.52	72	-0.35	19	0.14
Kentucky	Louisville	51	1.30	47	-0.12	58	0.34	54	-0.16	70	-0.28
Louisiana	New Orleans	26	1.87	63	-0.27	43	0.10	49	-0.13	24	0.08
Maine	Portland	49	1.36	8	0.39	20	-0.28	40	-0.05	49	-0.26
Maryland	Baltimore	10	2.60	34	0.01	63	0.42	26	0.07	72	-0.29
Massachusetts	Boston	33	1.79	3	0.72	11	-0.65	34	-0.02	3	1.00
Michigan	Detroit	2	4.05	69	-0.33	74	1.23	46	-0.11	39	-0.16
Minnesota	Minneapolis	15	2.38	30	0.04	37	-0.03	22	0.08	15	0.23
Mississippi	Jackson	5	2.73	6	0.47	73	0.95	69	-0.31	16	0.15
Missouri	Kansas City	6	2.73	65	-0.29	55	0.30	30	0.02	20	0.13
Montana	Billings	65	0.95	24	0.12	39	0.04	70	-0.33	38	-0.14
Nebraska	Omaha	23	2.01	31	0.03	54	0.29	38	-0.04	71	-0.28
Nevada	Las Vegas	62	1.13	59	-0.22	25	-0.21	45	-0.11	69	-0.28
New Hampshire	Manchester	45	1.39	7	0.39	36	-0.04	63	-0.25	62	-0.28
New Jersey	Newark**	12	2.54	2	0.84	38	-0.02	59	-0.21	62	-0.28
New Mexico	Albuquerque	36	1.67	48	-0.14	46	0.14	66	-0.28	28	-0.04
New York	Buffalo	38	1.66	72	-0.41	71	0.66	20	0.09	37	-0.10
New York	New York City	42	1.50	42	-0.09	9	-0.68	3	0.80	6	0.74
North Carolina	Charlotte	73	0.71	71	-0.38	29	-0.12	11	0.26	62	-0.28
North Carolina	Raleigh	71	0.77	18	0.19	23	-0.22	61	-0.23	62	-0.28

*Table shows impact of the commercial-homestead classification ratio.

**Honolulu and Newark do not have data on property tax reliance or local government spending in the Fiscally Standardized Cities database, so statewide data on all local governments is used instead (Source: US Census Bureau, 2021 Census of Government Finances).

State	City	Tax Rate		Property Tax Reliance		Median Home Value		Local Gov't Spending		Classification Ratio*	
		Rank (1-74)	Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate	Rank (1-74)	Impact on Tax Rate
North Dakota	Fargo	63	1.07	45	-0.11	51	0.24	47	-0.11	47	-0.25
Ohio	Columbus	31	1.83	44	-0.11	53	0.27	42	-0.07	32	-0.07
Oklahoma	Oklahoma City	44	1.41	46	-0.12	59	0.35	71	-0.34	51	-0.26
Oklahoma	Tulsa	46	1.37	55	-0.20	64	0.46	65	-0.26	50	-0.26
Oregon	Portland	11	2.57	21	0.16	15	-0.45	24	0.08	62	-0.28
Pennsylvania	Philadelphia	28	1.85	73	-0.45	56	0.31	14	0.19	13	0.35
Rhode Island	Providence	3	3.45	5	0.52	35	-0.06	53	-0.15	8	0.63
South Carolina	Charleston	25	1.87	29	0.04	19	-0.34	35	-0.02	1	1.72
South Dakota	Sioux Falls	56	1.21	20	0.17	47	0.18	67	-0.29	45	-0.24
Tennessee	Memphis	29	1.85	52	-0.18	69	0.59	29	0.03	30	-0.05
Tennessee	Nashville	67	0.94	36	0.00	22	-0.22	17	0.10	31	-0.05
Texas	Austin	7	2.71	11	0.30	13	-0.50	25	0.08	42	-0.18
Texas	Dallas	14	2.40	23	0.15	41	0.04	31	0.01	41	-0.17
Texas	El Paso	17	2.21	25	0.11	67	0.57	48	-0.12	40	-0.16
Texas	Fort Worth	20	2.13	12	0.29	45	0.12	56	-0.17	35	-0.08
Texas	Houston	24	1.92	10	0.32	50	0.21	43	-0.07	34	-0.07
Texas	San Antonio	35	1.68	22	0.15	57	0.34	28	0.03	33	-0.07
Utah	Salt Lake City	68	0.94	53	-0.18	14	-0.45	7	0.36	26	0.02
Vermont	Burlington	21	2.09	41	-0.09	30	-0.11	23	0.08	44	-0.22
Virginia	Virginia Beach	66	0.95	17	0.20	31	-0.08	52	-0.14	68	-0.28
Washington	Seattle	72	0.75	60	-0.23	3	-0.89	8	0.35	62	-0.28
West Virginia	Charleston	32	1.80	58	-0.22	70	0.59	39	-0.05	17	0.15
Wisconsin	Milwaukee	18	2.18	15	0.24	68	0.58	50	-0.14	46	-0.25

*Table shows impact of the commercial-homestead classification ratio.

Appendix Table 1c: Correlates of Cities' Effective Tax Rates on Homestead Properties

	(1)	(2)	Mean	St. Dev.	Data
Tax Rate on Median Valued Home	N/A	N/A	1.072	0.524	Effective tax rate on median valued home, with assessment limits Source: *50-State Property Tax Comparison Study* (Appendix Tables 2b, 2e)
Median Home Value	-0.693***	-0.648***	393,650	246,293	Median home value in city
	(0.068)	(0.097)			Source: 2022 American Community Survey (US Census Bureau)
Business Classification Ratio	-0.349***	-0.162***	1.726	1.016	Commercial-homestead classification ratio, with taxes on personal property excluded for commercial properties Source: *50-State Property Tax Comparison Study*
	(0.093)	(0.050)			
Apartments Classification Ratio	-0.228*	-0.0589	1.393	0.785	Apartment-homestead classification ratio, with taxes on personal property excluded for apartments Source: *50-State Property Tax Comparison Study*
	(0.124)	(0.072)			
Property Tax Reliance	0.730***	0.0205***	42.1	13.8	Property taxes as a percent of own source revenue for the fiscally standardized city (FiSC) Source: Lincoln Institute of Land Policy. FiSC database (2021)
	(0.112)	(0.0041)			
Local Gov't Spending Per Capita (1000s)	0.619***	0.0704***	7.222	2.583	Direct expenditures per capita for the fiscally standardized city (FiSC) Source: Lincoln Institute of Land Policy. FiSC database (2021)
	(0.150)	(0.017)			
State and Federal Aid as % Local Gov't Budget	-0.107	-0.00142	37.2	11.1	Intergovernmental revenue as a percent of general revenue for the fiscally standardized city (FiSC) Source: Lincoln Institute of Land Policy. FiSC database (2021)
	(0.156)	(0.0051)			
Local as % State-Local Spending	-0.182	0.000509	46.8	7.4	Local government direct expenditures as a percent of state and local direct expenditures (State-level variable) Source: 2021 Survey of State and Local Gov't Finances (US Census Bureau)
	(0.304)	(0.0083)			
Constant	-0.67	8.339***			
	(1.270)	(1.110)			
N	70	70			
R-sq	0.673	0.593			
adj. R-sq	0.636	0.547			
F	24.11	11.76			

* p < 0.10, ** p < 0.05, *** p < 0.01; robust standard errors in parenthesis.

Regression #1 shows elasticities with all variables measured in natural logs; these coefficients are reported in Figure 1.

Regression #2 measures all variables in levels except for median home value, which is measured as the natural log; these coefficients are used in Appendix Table 1a.

Notes: Washington, DC, and New York City were excluded from the regression because they have very atypical revenue structures, and as major outliers they significantly altered the coefficient estimates and weakened the overall fit for the model. Honolulu and Newark were excluded because they do not have data in the FiSC database on property tax reliance or state and federal aid as a percent of the local government budget. The means and standard deviations shown in the table also exclude these four cities.

Appendix Table 1d: Correlates of Cities' Effective Tax Rates on Commercial Properties

	(1)	(2)	Mean	St. Dev.	Data
Tax Rate on Commercial Property	N/A	N/A	1.752	0.730	Effective tax rate on $1 Million Commercial Property Source: *50-State Property Tax Comparison Study* (Appendix Tables 3a, 3b)
Median Home Value	-0.479*** (0.088)	-0.885*** (0.192)	393,650	246,293	Median home value in city Source: 2022 American Community Survey (US Census Bureau)
Business Classification Ratio	0.466*** (0.094)	0.384*** (0.127)	1.726	1.016	Commercial-homestead classification ratio, with taxes on personal property excluded for commercial properties Source: *50-State Property Tax Comparison Study*
Apartments Classification Ratio	-0.167 (0.108)	-0.224* (0.126)	1.393	0.785	Apartment-homestead classification ratio, with taxes on personal property excluded for apartments Source: *50-State Property Tax Comparison Study*
Property Tax Reliance	0.588*** (0.120)	0.0203*** (0.0052)	42.1	13.8	Property taxes as a percent of own source revenue for the fiscally standardized city (FiSC) Source: Lincoln Institute of Land Policy. FiSC database (2021)
Local Gov't Spending Per Capita (1000s)	0.580*** (0.166)	0.105*** (0.032)	7.222	2.583	Direct expenditures per capita for the fiscally standardized city (FiSC) Source: Lincoln Institute of Land Policy. FiSC database (2021)
State and Federal Aid as % Local Gov't Budget	0.159 (0.144)	0.00455 (0.0067)	37.2	11.1	Intergovernmental revenue as a percent of general revenue for the fiscally standardized city (FiSC) Source: Lincoln Institute of Land Policy. FiSC database (2021)
Local as % State-Local Spending	0.0916 (0.291)	0.00696 (0.0105)	46.8	7.4	Local government direct expenditures as a percent of state and local direct expenditures (State-level variable) Source: 2021 Survey of State and Local Gov't Finances (US Census Bureau)
Constant	-2.539** (1.214)	10.55*** (2.332)			
N	70	70			
R-sq	0.534	0.472			
adj. R-sq	0.481	0.412			
F	13.97	8.708			

* p < 0.10, ** p < 0.05, *** p < 0.01; robust standard errors in parenthesis.

Regression #1 shows elasticities with all variables measured in natural logs.

Regression #2 measures all variables in levels except for median home value, which is measured as the natural log; these coefficients are used in Appendix Table 1b.

Notes: Washington, DC, and New York City were excluded from the regression because they have very atypical revenue structures, and as major outliers they significantly altered the coefficient estimates and weakened the overall fit for the model. Honolulu and Newark were excluded because they do not have data in the FiSC database on property tax reliance or state and federal aid as a percent of the local government budget. The means and standard deviations shown in the table also exclude these four cities.

Appendix Table 2a: Homestead Property Taxes for Largest City in Each State: Median Valued Homes

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
Alabama	Birmingham	0.678%	45	1 ↑	851	53	-	125,500
Alaska	Anchorage	1.300%	19	3 ↑	4,781	15	2 ↓	367,900
Arizona	Phoenix	1.084%	34	-	4,651	16	2 ↑	429,200
Arkansas	Little Rock	1.133%	31	1 ↓	2,436	43	3 ↑	215,000
California	Los Angeles	1.190%	27	2 ↑	10,755	2	1 ↑	903,700
Colorado	Denver	0.539%	49	1 ↑	3,232	28	5 ↑	599,500
Connecticut	Bridgeport	3.042%	3	1 ↑	7,579	7	-	249,200
DC	Washington	0.731%	43	1 ↑	5,197	11	-	711,100
Delaware	Wilmington	1.168%	29	8 ↓	2,537	41	4 ↓	217,300
Florida	Jacksonville	1.458%	13	7 ↑	4,388	17	10 ↑	301,000
Georgia	Atlanta	0.829%	40	2 ↓	3,521	22	-	424,600
Hawaii	Honolulu	0.256%	53	-	2,235	46	4 ↓	874,500
Idaho	Boise	0.626%	47	1 ↑	3,124	31	1 ↓	499,000
Illinois	Aurora*	2.970%	4	1 ↓	7,934	5	-	267,100
Illinois	Chicago	1.544%	12	2 ↑	4,838	12	-	313,300
Indiana	Indianapolis	1.112%	33	-	2,409	44	3 ↑	216,700
Iowa	Des Moines	1.772%	10	-	3,165	30	4 ↓	178,600
Kansas	Wichita	1.125%	32	4 ↓	2,112	48	-	187,800
Kentucky	Louisville	1.184%	28	4 ↑	2,717	39	2 ↑	229,400
Louisiana	New Orleans	0.950%	35	1 ↑	2,877	36	-	302,700
Maine	Portland	1.287%	21	6 ↑	5,930	9	1 ↑	460,700
Maryland	Baltimore	2.043%	6	1 ↑	4,297	18	3 ↓	210,300
Massachusetts	Boston	0.495%	51	-	3,474	25	-	701,400
Michigan	Detroit	3.132%	1	-	2,619	40	5 ↑	83,600
Minnesota	Minneapolis	1.225%	24	5 ↓	4,255	19	2 ↓	347,300
Mississippi	Jackson	1.271%	22	1 ↑	1,458	52	-	114,700
Missouri	Kansas City	1.340%	17	1 ↑	3,207	29	2 ↑	239,400
Montana	Billings	0.841%	38	1 ↓	2,723	38	4 ↓	323,900
Nebraska	Omaha	1.983%	9	-	4,835	14	-	243,800
Nevada	Las Vegas	1.134%	30	1 ↑	4,836	13	3 ↑	426,400
New Hampshire	Manchester	1.663%	11	-	5,892	10	1 ↓	354,200
New Jersey	Newark	3.051%	2	-	10,519	3	1 ↓	344,800
New Mexico	Albuquerque	1.404%	15	1 ↑	4,053	20	3 ↑	288,700
New York	Buffalo*	1.365%	16	1 ↓	2,193	47	4 ↓	160,700
New York	New York City	1.205%	25	-	8,730	4	-	724,400
AVERAGE		**1.288%**			**4,185**			**364,089**

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
North Carolina	Charlotte	0.709%	44	1 ↑	2,732	37	3 ↑	385,600
North Dakota	Fargo	1.192%	26	-	3,069	32	3 ↓	257,500
Ohio	Columbus	1.411%	14	2 ↓	3,512	23	3 ↓	248,900
Oklahoma	Oklahoma City	1.297%	20	4 ↑	2,948	34	5 ↑	227,300
Oregon	Portland	2.568%	5	-	14,445	1	-	562,500
Pennsylvania	Philadelphia	0.838%	39	4 ↓	1,994	50	6 ↓	237,900
Rhode Island	Providence	0.917%	36	6 ↑	3,297	27	11 ↑	359,600
South Carolina	Charleston	0.475%	52	-	2,357	45	4 ↑	496,700
South Dakota	Sioux Falls	1.307%	18	1 ↓	3,589	21	3 ↑	274,600
Tennessee	Nashville	0.581%	48	7 ↓	2,513	42	10 ↓	432,400
Texas	Houston	1.260%	23	10 ↓	3,363	26	7 ↓	267,000
Utah	Salt Lake City	0.520%	50	1 ↓	2,931	35	-	563,300
Vermont	Burlington	2.005%	8	-	7,687	6	-	383,300
Virginia	Virginia Beach	0.824%	41	2 ↓	3,050	33	5 ↓	370,300
Washington	Seattle	0.750%	42	1 ↑	6,933	8	-	924,200
West Virginia	Charleston	0.847%	37	3 ↑	1,464	51	-	172,800
Wisconsin	Milwaukee	2.008%	7	1 ↓	3,507	24	3 ↓	174,600
Wyoming	Cheyenne	0.638%	46	1 ↑	2,047	49	1 ↑	320,800
AVERAGE		**1.288%**			**4,185**			**364,089**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.
Source for median home values: *2022 American Community Survey*, 1-year data, except for Burlington (VT) and Charleston (WV), which are 5-year data.

Appendix Table 2b: Homestead Property Taxes for Largest City in Each State: Median Valued Homes, with Assessment Limits

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
Alabama	Birmingham	0.678%	41	1 ↑	851	53	-	125,500
Alaska	Anchorage	1.300%	17	3 ↑	4,781	13	1 ↓	367,900
Arizona	Phoenix	0.598%	45	1 ↑	2,565	37	7 ↑	429,200
Arkansas	Little Rock	0.836%	35	1 ↓	1,796	47	-	215,000
California	Los Angeles	0.616%	44	3 ↑	5,563	8	3 ↑	903,700
Colorado	Denver	0.539%	48	-	3,232	25	5 ↑	599,500
Connecticut	Bridgeport	2.109%	3	-	5,255	9	4 ↓	249,200
DC	Washington	0.731%	39	1 ↑	5,197	10	1 ↓	711,100
Delaware	Wilmington	1.168%	24	5 ↓	2,537	38	3 ↓	217,300
Florida	Jacksonville	0.550%	47	4 ↑	1,656	48	4 ↑	301,000
Georgia	Atlanta	0.829%	36	3 ↓	3,521	19	-	424,600
Hawaii	Honolulu	0.256%	53	1 ↓	2,235	41	2 ↓	874,500
Idaho	Boise	0.626%	43	1 ↑	3,124	28	1 ↓	499,000
Illinois	Aurora*	2.970%	2	-	7,934	3	-	267,100
Illinois	Chicago	1.392%	13	-	4,360	14	4 ↓	313,300
Indiana	Indianapolis	1.112%	27	-	2,409	40	2 ↑	216,700
Iowa	Des Moines	1.772%	8	-	3,165	27	3 ↓	178,600
Kansas	Wichita	1.125%	26	2 ↓	2,112	44	1 ↓	187,800
Kentucky	Louisville	1.184%	23	3 ↑	2,717	36	2 ↑	229,400
Louisiana	New Orleans	0.950%	29	1 ↑	2,877	33	-	302,700
Maine	Portland	1.287%	18	5 ↑	5,930	6	2 ↑	460,700
Maryland	Baltimore	2.043%	4	1 ↑	4,297	15	1 ↓	210,300
Massachusetts	Boston	0.495%	50	-	3,474	22	1 ↑	701,400
Michigan	Detroit	1.679%	9	1 ↑	1,403	51	1 ↓	83,600
Minnesota	Minneapolis	1.225%	21	3 ↓	4,255	16	-	347,300
Mississippi	Jackson	1.271%	19	2 ↑	1,458	50	1 ↓	114,700
Missouri	Kansas City	1.340%	15	2 ↑	3,207	26	2 ↑	239,400
Montana	Billings	0.841%	33	2 ↓	2,723	35	4 ↓	323,900
Nebraska	Omaha	1.983%	7	-	4,835	12	1 ↑	243,800
Nevada	Las Vegas	1.134%	25	-	4,836	11	4 ↑	426,400
New Hampshire	Manchester	1.663%	10	1 ↓	5,892	7	-	354,200
New Jersey	Newark	3.051%	1	-	10,519	1	-	344,800
New Mexico	Albuquerque	1.001%	28	-	2,889	32	2 ↑	288,700
New York	Buffalo*	1.365%	14	1 ↑	2,193	42	2 ↓	160,700
New York	New York City	0.493%	51	2 ↓	3,571	18	3 ↑	724,400
AVERAGE		**1.148%**			**3,655**			**364,089**

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
North Carolina	Charlotte	0.709%	40	1 ↑	2,732	34	3 ↑	385,600
North Dakota	Fargo	1.192%	22	-	3,069	29	3 ↓	257,500
Ohio	Columbus	1.411%	12	1 ↓	3,512	20	3 ↓	248,900
Oklahoma	Oklahoma City	0.940%	30	2 ↑	2,137	43	3 ↑	227,300
Oregon	Portland	1.642%	11	1 ↑	9,235	2	-	562,500
Pennsylvania	Philadelphia	0.838%	34	5 ↓	1,994	46	5 ↓	237,900
Rhode Island	Providence	0.917%	31	7 ↑	3,297	24	12 ↑	359,600
South Carolina	Charleston	0.265%	52	1 ↑	1,314	52	1 ↓	496,700
South Dakota	Sioux Falls	1.307%	16	-	3,589	17	5 ↑	274,600
Tennessee	Nashville	0.581%	46	9 ↓	2,513	39	10 ↓	432,400
Texas	Houston	1.249%	20	6 ↓	3,334	23	3 ↓	267,000
Utah	Salt Lake City	0.520%	49	4 ↓	2,931	31	1 ↑	563,300
Vermont	Burlington	2.005%	6	-	7,687	4	-	383,300
Virginia	Virginia Beach	0.824%	37	2 ↓	3,050	30	5 ↓	370,300
Washington	Seattle	0.750%	38	1 ↑	6,933	5	1 ↑	924,200
West Virginia	Charleston	0.847%	32	4 ↑	1,464	49	1 ↓	172,800
Wisconsin	Milwaukee	2.008%	5	1 ↓	3,507	21	3 ↓	174,600
Wyoming	Cheyenne	0.638%	42	1 ↑	2,047	45	-	320,800
AVERAGE		**1.148%**			**3,655**			**364,089**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.
Source for median home values: *2022 American Community Survey*, 1-year data, except for Burlington (VT) and Charleston (WV), which are 5-year data.

Appendix Table 2c: Homestead Property Taxes for Largest City in Each State: Homes worth $150,000 and $300,000

		$150,000 Property Value				$300,000 Property Value				Tax Rate Varies with Property Value
State	City	Tax Rate	Tax Bill	Rank	Change from '22	Tax Rate	Tax Bill	Rank	Change from '22	
Alabama	Birmingham	0.685%	1,027	41	2 ↑	0.702%	2,107	43	2 ↑	X
Alaska	Anchorage	1.225%	1,837	20	4 ↑	1.247%	3,741	23	4 ↑	X
Arizona	Phoenix	1.084%	1,625	31	1 ↑	1.084%	3,251	34	-	
Arkansas	Little Rock	1.058%	1,586	33	-	1.183%	3,548	28	3 ↓	X
California	Los Angeles	1.143%	1,715	26	2 ↑	1.171%	3,514	29	1 ↑	X
Colorado	Denver	0.539%	809	46	1 ↑	0.539%	1,617	48	1 ↑	
Connecticut	Bridgeport	3.042%	4,562	3	-	3.042%	9,125	3	1 ↑	
DC	Washington	0.355%	533	50	-	0.593%	1,780	46	1 ↑	X
Delaware	Wilmington	1.168%	1,751	25	5 ↓	1.168%	3,503	30	8 ↓	
Florida	Jacksonville	1.221%	1,832	21	10 ↑	1.457%	4,371	13	7 ↑	X
Georgia	Atlanta	0.140%	209	52	1 ↓	0.675%	2,024	44	3 ↓	X
Hawaii	Honolulu	0.200%	300	51	1 ↑	0.102%	307	52	-	X
Idaho	Boise	0.434%	650	49	-	0.466%	1,399	51	1 ↓	X
Illinois	Aurora*	2.815%	4,223	4	-	2.992%	8,977	4	1 ↓	X
Illinois	Chicago	1.300%	1,950	18	1 ↑	1.534%	4,603	12	2 ↑	X
Indiana	Indianapolis	1.090%	1,635	30	1 ↓	1.125%	3,376	33	1 ↓	X
Iowa	Des Moines	1.750%	2,625	10	1 ↓	1.820%	5,459	10	1 ↓	X
Kansas	Wichita	1.112%	1,668	29	4 ↓	1.143%	3,429	31	3 ↓	X
Kentucky	Louisville	1.184%	1,776	24	3 ↑	1.184%	3,553	27	6 ↑	
Louisiana	New Orleans	0.644%	966	42	2 ↑	0.948%	2,843	35	1 ↑	X
Maine	Portland	1.134%	1,701	28	6 ↑	1.248%	3,743	22	7 ↑	X
Maryland	Baltimore	2.043%	3,065	7	-	2.043%	6,130	8	1 ↓	
Massachusetts	Boston	0.099%	148	53	-	0.099%	296	53	-	
Michigan	Detroit	3.132%	4,698	1	-	3.132%	9,397	1	-	
Minnesota	Minneapolis	1.059%	1,589	32	2 ↓	1.205%	3,616	24	1 ↓	X
Mississippi	Jackson	1.332%	1,999	16	1 ↑	1.432%	4,297	14	2 ↑	X
Missouri	Kansas City	1.340%	2,009	15	3 ↑	1.340%	4,019	18	1 ↑	
Montana	Billings	0.841%	1,261	37	2 ↓	0.841%	2,522	39	2 ↓	
Nebraska	Omaha	1.983%	2,975	8	-	1.983%	5,950	9	1 ↓	
Nevada	Las Vegas	1.134%	1,701	27	1 ↓	1.134%	3,403	32	1 ↓	
New Hampshire	Manchester	1.663%	2,495	11	1 ↓	1.663%	4,990	11	-	
New Jersey	Newark	3.051%	4,576	2	-	3.051%	9,152	2	-	
New Mexico	Albuquerque	1.372%	2,059	13	3 ↑	1.405%	4,215	16	1 ↑	X
New York	Buffalo*	1.365%	2,047	14	-	1.365%	4,095	17	2 ↓	
New York	New York City	1.205%	1,808	22	1 ↓	1.205%	3,615	25	1 ↓	
AVERAGE		**1.220%**	**1,830**			**1.279%**	**3,836**			**N = 24**

		$150,000 Property Value				$300,000 Property Value				Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
North Carolina	Charlotte	0.709%	1,063	40	2 ↑	0.709%	2,126	42	2 ↑	
North Dakota	Fargo	1.192%	1,788	23	-	1.192%	3,576	26	-	
Ohio	Columbus	1.411%	2,117	12	-	1.411%	4,233	15	3 ↓	
Oklahoma	Oklahoma City	1.269%	1,904	19	3 ↑	1.310%	3,930	19	2 ↑	X
Oregon	Portland	2.568%	3,852	5	-	2.568%	7,704	5	-	
Pennsylvania	Philadelphia	0.562%	843	45	8 ↓	0.936%	2,807	36	1 ↓	X
Rhode Island	Providence	0.917%	1,375	35	5 ↑	0.917%	2,750	37	5 ↑	
South Carolina	Charleston	0.475%	712	48	-	0.475%	1,424	50	1 ↑	
South Dakota	Sioux Falls	1.307%	1,960	17	2 ↓	1.307%	3,921	20	2 ↓	
Tennessee	Nashville	0.581%	872	44	5 ↓	0.581%	1,743	47	7 ↓	
Texas	Houston	1.006%	1,509	34	21 ↓	1.295%	3,886	21	8 ↓	X
Utah	Salt Lake City	0.520%	781	47	1 ↓	0.520%	1,561	49	1 ↓	
Vermont	Burlington	2.166%	3,250	6	5 ↑	2.083%	6,249	7	3 ↑	X
Virginia	Virginia Beach	0.824%	1,236	38	2 ↓	0.824%	2,471	40	2 ↓	
Washington	Seattle	0.750%	1,125	39	2 ↑	0.750%	2,251	41	2 ↑	
West Virginia	Charleston	0.847%	1,271	36	2 ↑	0.847%	2,541	38	1 ↑	
Wisconsin	Milwaukee	1.979%	2,968	9	3 ↓	2.084%	6,252	6	-	X
Wyoming	Cheyenne	0.638%	957	43	2 ↑	0.638%	1,914	45	1 ↑	
AVERAGE		**1.220%**	**1,830**			**1.279%**	**3,836**			**N = 24**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.

Appendix Table 2d: Homestead Property Taxes for the Largest 50 US Cities: Median Valued Homes

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	City	Rate	Rank	Change from '22	Amount	Rank	Change from '22	
Arizona	Mesa	0.759%	42	3 ↑	3,192	36	3 ↑	420,600
Arizona	Phoenix	1.084%	37	-	4,651	20	4 ↑	429,200
Arizona	Tucson	0.896%	38	1 ↑	2,401	46	-	268,000
California	Bakersfield	1.157%	31	-	4,235	25	-	366,000
California	Fresno	1.243%	23	1 ↑	4,548	21	2 ↑	365,900
California	Long Beach	1.233%	24	4 ↑	9,525	7	1 ↑	772,500
California	Los Angeles	1.190%	28	4 ↑	10,755	6	1 ↓	903,700
California	Oakland	1.362%	17	1 ↑	12,440	4	-	913,600
California	Sacramento	1.132%	34	-	5,886	14	-	520,200
California	San Diego	1.216%	26	1 ↑	11,005	5	1 ↑	905,300
California	San Francisco	1.172%	30	1 ↓	15,742	1	-	1,343,700
California	San Jose	1.279%	21	-	15,497	2	-	1,211,900
Colorado	Colorado Springs	0.385%	50	-	1,752	50	-	455,200
Colorado	Denver	0.539%	48	-	3,232	34	1 ↑	599,500
DC	Washington	0.731%	44	2 ↑	5,197	15	-	711,100
Florida	Jacksonville	1.458%	14	9 ↑	4,388	22	11 ↑	301,000
Florida	Miami	1.719%	8	3 ↑	9,205	8	2 ↑	535,600
Florida	Tampa	1.535%	12	n/a	6,403	12	n/a	417,100
Georgia	Atlanta	0.829%	40	-	3,521	29	1 ↑	424,600
Illinois	Chicago	1.544%	11	4 ↑	4,838	16	1 ↑	313,300
Indiana	Indianapolis	1.112%	36	-	2,409	45	3 ↑	216,700
Kansas	Wichita	1.125%	35	5 ↓	2,112	47	2 ↑	187,800
Kentucky	Louisville	1.184%	29	6 ↑	2,717	41	2 ↑	229,400
Maryland	Baltimore	2.043%	4	3 ↑	4,297	23	3 ↓	210,300
Massachusetts	Boston	0.495%	49	-	3,474	32	-	701,400
Michigan	Detroit	3.132%	1	-	2,619	43	2 ↑	83,600
Minnesota	Minneapolis	1.225%	25	3 ↓	4,255	24	2 ↓	347,300
Missouri	Kansas City	1.340%	18	2 ↑	3,207	35	1 ↑	239,400
Nebraska	Omaha	1.983%	6	3 ↑	4,835	18	-	243,800
Nevada	Las Vegas	1.134%	33	-	4,836	17	4 ↑	426,400
New Mexico	Albuquerque	1.404%	16	3 ↑	4,053	27	4 ↑	288,700
New York	New York City	1.205%	27	1 ↓	8,730	10	3 ↓	724,400
North Carolina	Charlotte	0.709%	45	2 ↑	2,732	40	2 ↑	385,600
North Carolina	Raleigh	0.705%	46	4 ↓	3,036	38	-	430,600
Ohio	Columbus	1.411%	15	3 ↓	3,512	30	2 ↓	248,900
AVERAGE		**1.285%**			**5,324**			**446,518**

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
Oklahoma	Oklahoma City	1.297%	20	5 ↑	2,948	39	2 ↑	227,300
Oklahoma	Tulsa	1.332%	19	2 ↓	2,660	42	2 ↓	199,600
Oregon	Portland	2.568%	2	-	14,445	3	-	562,500
Pennsylvania	Philadelphia	0.838%	39	1 ↓	1,994	49	5 ↓	237,900
Tennessee	Memphis	1.155%	32	16 ↓	2,004	48	1 ↓	173,400
Tennessee	Nashville	0.581%	47	4 ↓	2,513	44	7 ↓	432,400
Texas	Austin	1.485%	13	3 ↓	8,809	9	-	593,000
Texas	Dallas	1.853%	7	6 ↑	5,935	13	6 ↑	320,400
Texas	El Paso	2.305%	3	-	4,073	26	1 ↑	176,700
Texas	Fort Worth	1.622%	10	4 ↓	4,761	19	6 ↓	293,600
Texas	Houston	1.260%	22	8 ↓	3,363	33	7 ↓	267,000
Texas	San Antonio	1.717%	9	5 ↓	3,962	28	12 ↓	230,700
Virginia	Virginia Beach	0.824%	41	-	3,050	37	3 ↓	370,300
Washington	Seattle	0.750%	43	1 ↑	6,933	11	-	924,200
Wisconsin	Milwaukee	2.008%	5	-	3,507	31	2 ↓	174,600
AVERAGE		**1.285%**			**5,324**			**446,518**

Source for median home values: *2022 American Community Survey*, 1-year data.

Appendix Table 2e: Homestead Property Taxes for the Largest 50 US Cities: Median Valued Homes, with Assessment Limits

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	City	Rate	Rank	Change from '22	Amount	Rank	Change from '22	
Arizona	Mesa	0.445%	49	-	1,870	45	3 ↑	420,600
Arizona	Phoenix	0.598%	39	1 ↑	2,565	35	6 ↑	429,200
Arizona	Tucson	0.634%	35	1 ↓	1,699	48	1 ↓	268,000
California	Bakersfield	0.632%	36	8 ↑	2,315	39	6 ↑	366,000
California	Fresno	0.579%	43	-	2,118	41	3 ↑	365,900
California	Long Beach	0.629%	37	1 ↑	4,860	11	5 ↑	772,500
California	Los Angeles	0.616%	38	3 ↑	5,563	8	4 ↑	903,700
California	Oakland	0.652%	33	6 ↑	5,961	6	1 ↑	913,600
California	Sacramento	0.566%	44	4 ↑	2,943	31	9 ↑	520,200
California	San Diego	0.644%	34	2 ↑	5,831	7	1 ↑	905,300
California	San Francisco	0.922%	23	4 ↑	12,384	1	-	1,343,700
California	San Jose	0.707%	31	4 ↑	8,565	3	-	1,211,900
Colorado	Colorado Springs	0.385%	50	-	1,752	47	1 ↓	455,200
Colorado	Denver	0.539%	46	4 ↓	3,232	26	2 ↑	599,500
DC	Washington	0.731%	29	3 ↑	5,197	10	4 ↓	711,100
Florida	Jacksonville	0.550%	45	2 ↑	1,656	49	1 ↑	301,000
Florida	Miami	0.580%	42	5 ↓	3,104	28	5 ↑	535,600
Florida	Tampa	0.582%	40	n/a	2,427	37	n/a	417,100
Georgia	Atlanta	0.829%	26	-	3,521	21	1 ↑	424,600
Illinois	Chicago	1.392%	10	1 ↑	4,360	14	5 ↓	313,300
Indiana	Indianapolis	1.112%	20	1 ↑	2,409	38	-	216,700
Kansas	Wichita	1.125%	19	1 ↓	2,112	42	3 ↓	187,800
Kentucky	Louisville	1.184%	16	4 ↑	2,717	34	1 ↑	229,400
Maryland	Baltimore	2.043%	2	1 ↑	4,297	15	1 ↓	210,300
Massachusetts	Boston	0.495%	47	1 ↓	3,474	24	2 ↑	701,400
Michigan	Detroit	1.679%	6	2 ↑	1,403	50	1 ↓	83,600
Minnesota	Minneapolis	1.225%	15	1 ↑	4,255	16	1 ↑	347,300
Missouri	Kansas City	1.340%	12	3 ↑	3,207	27	2 ↑	239,400
Nebraska	Omaha	1.983%	4	1 ↑	4,835	13	-	243,800
Nevada	Las Vegas	1.134%	18	1 ↑	4,836	12	3 ↑	426,400
New Mexico	Albuquerque	1.001%	21	2 ↑	2,889	32	-	288,700
New York	New York City	0.493%	48	3 ↓	3,571	19	5 ↑	724,400
North Carolina	Charlotte	0.709%	30	3 ↑	2,732	33	1 ↑	385,600
North Carolina	Raleigh	0.705%	32	3 ↓	3,036	30	1 ↑	430,600
Ohio	Columbus	1.411%	9	-	3,512	22	2 ↓	248,900
AVERAGE		**0.995%**			**3,844**			**446,518**

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
Oklahoma	Oklahoma City	0.940%	22	3 ↑	2,137	40	3 ↑	227,300
Oklahoma	Tulsa	0.910%	24	2 ↓	1,817	46	4 ↓	199,600
Oregon	Portland	1.642%	7	3 ↑	9,235	2	-	562,500
Pennsylvania	Philadelphia	0.838%	25	1 ↓	1,994	44	8 ↓	237,900
Tennessee	Memphis	1.155%	17	5 ↓	2,004	43	6 ↓	173,400
Tennessee	Nashville	0.581%	41	11 ↓	2,513	36	6 ↓	432,400
Texas	Austin	1.316%	13	4 ↑	7,801	4	1 ↑	593,000
Texas	Dallas	1.696%	5	9 ↑	5,433	9	10 ↑	320,400
Texas	El Paso	2.072%	1	-	3,662	18	7 ↑	176,700
Texas	Fort Worth	1.375%	11	5 ↓	4,036	17	7 ↓	293,600
Texas	Houston	1.249%	14	1 ↓	3,334	25	2 ↓	267,000
Texas	San Antonio	1.532%	8	4 ↓	3,534	20	2 ↓	230,700
Virginia	Virginia Beach	0.824%	27	1 ↑	3,050	29	2 ↓	370,300
Washington	Seattle	0.750%	28	3 ↑	6,933	5	1 ↓	924,200
Wisconsin	Milwaukee	2.008%	3	1 ↓	3,507	23	2 ↓	174,600
AVERAGE		**0.995%**			**3,844**			**446,518**

Source for median home values: *2022 American Community Survey*, 1-year data.

Appendix Table 2f: Homestead Property Taxes for the Largest 50 US Cities: Homes worth $150,000 and $300,000

		$150,000 Property Value				$300,000 Property Value				Tax Rate Varies with Property Value
State	City	Rate	Tax Bill	Rank	Change from '22	Tax Rate	Tax Bill	Rank	Change from '22	
Arizona	Mesa	0.759%	1,138	40	4 ↑	0.759%	2,277	41	4 ↑	
Arizona	Phoenix	1.084%	1,625	34	3 ↑	1.084%	3,251	37	-	
Arizona	Tucson	0.896%	1,344	38	-	0.896%	2,688	39	-	
California	Bakersfield	1.125%	1,687	29	-	1.152%	3,457	31	1 ↓	X
California	Fresno	1.208%	1,812	20	4 ↑	1.238%	3,713	23	2 ↑	X
California	Long Beach	1.186%	1,779	23	5 ↑	1.215%	3,646	24	5 ↑	X
California	Los Angeles	1.143%	1,715	27	5 ↑	1.171%	3,514	29	3 ↑	X
California	Oakland	1.308%	1,962	14	4 ↑	1.340%	4,021	18	1 ↑	X
California	Sacramento	1.093%	1,640	32	2 ↑	1.120%	3,361	36	-	X
California	San Diego	1.168%	1,752	25	1 ↑	1.197%	3,590	27	-	X
California	San Francisco	1.123%	1,684	30	1 ↑	1.150%	3,451	32	1 ↓	X
California	San Jose	1.226%	1,839	18	3 ↑	1.256%	3,769	22	-	X
Colorado	Colorado Springs	0.385%	577	47	-	0.385%	1,155	49	-	
Colorado	Denver	0.539%	809	46	-	0.539%	1,617	48	-	
DC	Washington	0.355%	533	48	-	0.593%	1,780	46	1 ↑	X
Florida	Jacksonville	1.221%	1,832	19	17 ↑	1.457%	4,371	13	8 ↑	X
Florida	Miami	1.322%	1,983	12	8 ↑	1.597%	4,792	10	4 ↑	X
Florida	Tampa	1.197%	1,796	22	n/a	1.461%	4,383	12	n/a	X
Georgia	Atlanta	0.140%	209	49	-	0.675%	2,024	45	2 ↓	X
Illinois	Chicago	1.300%	1,950	15	4 ↑	1.534%	4,603	11	4 ↑	X
Indiana	Indianapolis	1.090%	1,635	33	-	1.125%	3,376	35	1 ↓	X
Kansas	Wichita	1.112%	1,668	31	6 ↓	1.143%	3,429	33	5 ↓	X
Kentucky	Louisville	1.184%	1,776	24	6 ↑	1.184%	3,553	28	7 ↑	
Maryland	Baltimore	2.043%	3,065	4	2 ↑	2.043%	6,130	5	2 ↑	
Massachusetts	Boston	0.099%	148	50	-	0.099%	296	50	-	
Michigan	Detroit	3.132%	4,698	1	-	3.132%	9,397	1	-	
Minnesota	Minneapolis	1.059%	1,589	35	-	1.205%	3,616	25	1 ↓	X
Missouri	Kansas City	1.340%	2,009	11	6 ↑	1.340%	4,019	19	1 ↑	
Nebraska	Omaha	1.983%	2,975	5	2 ↑	1.983%	5,950	6	3 ↑	
Nevada	Las Vegas	1.134%	1,701	28	1 ↓	1.134%	3,403	34	1 ↓	
New Mexico	Albuquerque	1.372%	2,059	10	6 ↑	1.405%	4,215	15	3 ↑	X
New York	New York City	1.205%	1,808	21	1 ↑	1.205%	3,615	26	-	
North Carolina	Charlotte	0.709%	1,063	42	3 ↑	0.709%	2,126	43	3 ↑	
North Carolina	Raleigh	0.705%	1,058	43	2 ↓	0.705%	2,115	44	3 ↓	
Ohio	Columbus	1.411%	2,117	9	1 ↑	1.411%	4,233	14	4 ↓	
AVERAGE		**1.182%**	**1,773**			**1.272%**	**3,815**			**N = 28**

		$150,000 Property Value				$300,000 Property Value				Tax Rate Varies with Property Value
State	**City**	**Rate**	**Tax Bill**	**Rank**	**Change from '22**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Oklahoma	Oklahoma City	1.269%	1,904	17	6 ↑	1.310%	3,930	20	3 ↑	X
Oklahoma	Tulsa	1.311%	1,967	13	2 ↑	1.354%	4,061	16	1 ↑	X
Oregon	Portland	2.568%	3,852	2	-	2.568%	7,704	2	-	
Pennsylvania	Philadelphia	0.562%	843	45	5 ↓	0.936%	2,807	38	-	X
Tennessee	Memphis	1.155%	1,733	26	15 ↓	1.155%	3,466	30	14 ↓	
Tennessee	Nashville	0.581%	872	44	2 ↓	0.581%	1,743	47	5 ↓	
Texas	Austin	1.055%	1,583	36	23 ↓	1.343%	4,030	17	5 ↓	X
Texas	Dallas	1.709%	2,563	7	7 ↑	1.844%	5,532	7	6 ↑	X
Texas	El Paso	2.253%	3,380	3	-	2.426%	7,278	3	-	X
Texas	Fort Worth	1.274%	1,910	16	8 ↓	1.630%	4,889	9	3 ↓	X
Texas	Houston	1.006%	1,509	37	25 ↓	1.295%	3,886	21	10 ↓	X
Texas	San Antonio	1.434%	2,151	8	4 ↓	1.839%	5,517	8	4 ↓	X
Virginia	Virginia Beach	0.824%	1,236	39	-	0.824%	2,471	40	-	
Washington	Seattle	0.750%	1,125	41	2 ↑	0.750%	2,251	42	2 ↑	
Wisconsin	Milwaukee	1.979%	2,968	6	1 ↓	2.084%	6,252	4	1 ↑	X
AVERAGE		**1.182%**	**1,773**			**1.272%**	**3,815**			**N = 28**

Appendix Table 2g: Homestead Property Taxes for Selected Rural Municipalities: Median Valued Homes

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	City	Rate	Rank	Change from '22	Amount	Rank	Change from '22	
Alabama	Monroeville	0.450%	46	3 ↑	518	49	-	115,300
Alaska	Ketchikan	1.104%	25	1 ↑	3,987	5	1 ↑	361,000
Arizona	Safford	0.502%	44	3 ↓	895	42	5 ↓	178,400
Arkansas	Pocahontas	0.427%	47	-	425	50	-	99,600
California	Yreka	1.011%	30	1 ↑	2,114	20	2 ↑	209,100
Colorado	Walsenburg	0.579%	41	2 ↓	802	43	1 ↑	138,500
Connecticut	Litchfield	1.289%	20	1 ↓	4,481	2	1 ↑	347,534
Delaware	Georgetown	0.423%	48	2 ↓	1,089	36	1 ↓	257,200
Florida	Moore Haven	1.103%	26	7 ↑	989	38	3 ↑	89,600
Georgia	Fitzgerald	1.438%	16	2 ↑	1,369	30	2 ↑	95,200
Hawaii	Kauai	0.211%	50	-	1,799	25	3 ↑	854,600
Idaho	Saint Anthony	0.378%	49	1 ↓	646	48	1 ↓	170,700
Illinois	Galena	2.263%	3	2 ↑	3,995	4	3 ↑	176,500
Indiana	North Vernon	0.909%	33	1 ↑	955	40	2 ↓	105,100
Iowa	Hampton	1.835%	7	8 ↑	1,629	27	-	88,800
Kansas	Iola	2.088%	5	1 ↑	1,785	26	3 ↓	85,500
Kentucky	Morehead	1.018%	29	1 ↓	1,620	28	3 ↓	159,100
Louisiana	Natchitoches	0.514%	43	2 ↑	901	41	2 ↓	175,200
Maine	Rockland	2.117%	4	3 ↑	4,145	3	2 ↑	195,800
Maryland	Denton	1.535%	13	4 ↑	3,453	8	2 ↑	225,000
Massachusetts	Adams	1.799%	9	1 ↓	3,052	11	2 ↓	169,600
Michigan	Manistique	1.713%	11	2 ↓	1,230	34	4 ↓	71,800
Minnesota	Glencoe	1.158%	24	4 ↓	2,367	16	-	204,500
Mississippi	Philadelphia	1.093%	27	2 ↑	1,139	35	1 ↑	104,200
Missouri	Boonville	0.909%	32	-	1,328	31	-	146,100
Montana	Glasgow	1.074%	28	3 ↓	2,034	21	-	189,400
Nebraska	Sidney	2.080%	6	2 ↓	2,528	15	-	121,500
Nevada	Fallon	1.274%	21	1 ↑	2,980	13	1 ↑	234,000
New Hampshire	Lancaster	1.158%	23	12 ↓	2,175	18	5 ↓	187,800
New Jersey	Maurice River Twp	2.460%	2	-	4,719	1	1 ↑	191,800
New Mexico	Santa Rosa	0.931%	31	7 ↑	1,020	37	5 ↑	109,500
New York	Warsaw	2.866%	1	-	3,580	7	1 ↑	124,900
North Carolina	Edenton	0.888%	34	7 ↓	1,971	22	3 ↓	222,100
North Dakota	Devils Lake	1.321%	19	2 ↑	2,131	19	1 ↑	161,400
Ohio	Bryan	1.493%	15	1 ↑	1,861	23	3 ↑	124,600
AVERAGE		**1.192%**			**2,007**			**181,733**

		Tax Rate (%)			Tax Bill ($)			Median Home Value
State	**City**	**Rate**	**Rank**	**Change from '22**	**Amount**	**Rank**	**Change from '22**	
Oklahoma	Mangum	0.882%	35	-	774	45	3 ↑	87,700
Oregon	Tillamook	1.159%	22	2 ↑	3,004	12	5 ↑	259,100
Pennsylvania	Ridgway	1.659%	12	1 ↑	1,396	29	-	84,100
Rhode Island	Hopkinton	1.355%	18	6 ↓	3,415	10	6 ↓	252,100
South Carolina	Mullins	0.831%	37	1 ↓	775	44	1 ↑	93,200
South Dakota	Vermillion	1.775%	10	4 ↑	3,415	9	2 ↑	192,400
Tennessee	Savannah	0.615%	40	3 ↑	958	39	4 ↑	155,800
Texas	Fort Stockton	1.363%	17	6 ↑	2,308	17	7 ↑	169,400
Utah	Richfield	0.529%	42	-	1,247	33	-	235,800
Vermont	Hartford	1.504%	14	11 ↓	3,930	6	5 ↓	261,300
Virginia	Wise	0.651%	39	1 ↑	759	46	6 ↓	116,700
Washington	Okanogan	0.850%	36	6 ↓	1,839	24	6 ↓	216,400
West Virginia	Elkins	0.496%	45	1 ↓	650	47	1 ↓	131,100
Wisconsin	Rice Lake	1.806%	8	2 ↑	2,924	14	2 ↓	161,900
Wyoming	Worland	0.702%	38	1 ↓	1,254	32	2 ↑	178,700
AVERAGE		**1.192%**			**2,007**			**181,733**

Source for median home values: *2022 American Community Survey*, 5-year data.

Appendix Table 2h: Homestead Property Taxes for Selected Rural Municipalities: Homes worth $150,000 and $300,000

		$150,000 Property Value				$300,000 Property Value				Tax Rate Varies with Property Value
State	City	Tax Rate	Tax Bill	Rank	Change from '22	Tax Rate	Tax Bill	Rank	Change from '22	
Alabama	Monroeville	0.463%	694	46	2 ↑	0.485%	1,454	47	1 ↑	X
Alaska	Ketchikan	1.104%	1,657	26	2 ↑	1.104%	3,313	27	1 ↑	
Arizona	Safford	0.502%	752	44	3 ↓	0.502%	1,505	45	2 ↓	
Arkansas	Pocahontas	0.553%	830	42	2 ↑	0.678%	2,035	40	1 ↓	X
California	Yreka	0.997%	1,496	30	2 ↑	1.022%	3,065	29	3 ↑	X
Colorado	Walsenburg	0.579%	869	41	2 ↓	0.579%	1,738	43	2 ↓	
Connecticut	Litchfield	1.289%	1,934	21	1 ↓	1.289%	3,868	21	-	
Delaware	Georgetown	0.423%	635	48	2 ↓	0.423%	1,270	48	1 ↓	
Florida	Moore Haven	1.521%	2,282	15	4 ↑	1.831%	5,493	10	5 ↑	X
Georgia	Fitzgerald	1.508%	2,263	16	-	1.570%	4,709	15	1 ↑	X
Hawaii	Kauai	0.100%	150	50	-	0.121%	363	50	-	X
Idaho	Saint Anthony	0.378%	567	49	-	0.391%	1,174	49	-	X
Illinois	Galena	2.218%	3,327	3	2 ↑	2.369%	6,003	3	-	X
Indiana	North Vernon	0.909%	1,364	34	1 ↑	0.909%	2,727	34	1 ↑	
Iowa	Hampton	1.922%	2,882	8	2 ↑	1.984%	5,953	8	1 ↑	X
Kansas	Iola	2.134%	3,202	4	-	2.165%	6,495	6	-	X
Kentucky	Morehead	1.018%	1,528	29	1 ↑	1.018%	3,055	30	-	
Louisiana	Natchitoches	0.446%	669	47	-	0.683%	2,050	39	1 ↑	X
Maine	Rockland	2.023%	3,034	7	-	2.225%	6,674	5	-	X
Maryland	Denton	1.535%	2,302	14	4 ↑	1.535%	4,604	16	3 ↑	
Massachusetts	Adams	1.799%	2,699	9	3 ↓	1.799%	5,398	11	4 ↓	
Michigan	Manistique	1.713%	2,570	12	3 ↓	1.713%	5,139	13	3 ↓	
Minnesota	Glencoe	1.071%	1,607	28	7 ↓	1.234%	3,701	24	4 ↓	X
Mississippi	Philadelphia	1.181%	1,771	23	2 ↑	1.281%	3,842	22	3 ↑	X
Missouri	Boonville	0.909%	1,364	33	-	0.909%	2,727	33	1 ↑	
Montana	Glasgow	1.074%	1,611	27	-	1.074%	3,222	28	1 ↓	
Nebraska	Sidney	2.080%	3,121	6	3 ↓	2.080%	6,241	7	3 ↓	
Nevada	Fallon	1.274%	1,911	22	1 ↑	1.274%	3,821	23	-	
New Hampshire	Lancaster	1.158%	1,737	25	13 ↓	1.158%	3,474	26	15 ↓	
New Jersey	Maurice River Twp	2.460%	3,690	2	-	2.460%	7,381	2	-	
New Mexico	Santa Rosa	0.945%	1,418	31	7 ↑	0.965%	2,894	31	7 ↑	X
New York	Warsaw	2.866%	4,300	1	-	2.866%	8,599	1	-	
North Carolina	Edenton	0.888%	1,331	35	6 ↓	0.888%	2,663	35	6 ↓	
North Dakota	Devils Lake	1.321%	1,981	20	2 ↑	1.321%	3,962	20	2 ↑	
Ohio	Bryan	1.493%	2,240	17	-	1.493%	4,480	17	1 ↑	
AVERAGE		**1.213%**	**1,819**			**1.254%**	**3,761**			**N = 19**

		$150,000 Property Value				$300,000 Property Value				Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Oklahoma	Mangum	0.921%	1,381	32	2 ↑	0.948%	2,843	32	1 ↑	X
Oregon	Tillamook	1.159%	1,739	24	2 ↑	1.159%	3,478	25	1 ↑	
Pennsylvania	Ridgway	1.659%	2,489	13	1 ↑	1.659%	4,978	14	1 ↓	
Rhode Island	Hopkinton	1.355%	2,032	18	5 ↓	1.355%	4,064	19	7 ↓	
South Carolina	Mullins	0.831%	1,247	37	1 ↓	0.831%	2,493	37	1 ↓	
South Dakota	Vermillion	1.775%	2,663	11	4 ↑	1.775%	5,325	12	2 ↑	
Tennessee	Savannah	0.615%	923	40	3 ↑	0.615%	1,845	42	3 ↑	
Texas	Fort Stockton	1.330%	1,996	19	5 ↑	1.472%	4,415	18	6 ↑	X
Utah	Richfield	0.529%	793	43	1 ↓	0.529%	1,586	44	-	
Vermont	Hartford	2.119%	3,179	5	3 ↑	2.346%	7,037	4	13 ↑	X
Virginia	Wise	0.651%	976	39	1 ↑	0.651%	1,952	41	1 ↑	
Washington	Okanogan	0.850%	1,275	36	5 ↓	0.850%	2,549	36	5 ↓	
West Virginia	Elkins	0.496%	744	45	-	0.496%	1,487	46	-	
Wisconsin	Rice Lake	1.789%	2,683	10	1 ↑	1.905%	5,716	9	1 ↓	X
Wyoming	Worland	0.702%	1,053	38	1 ↓	0.702%	2,105	38	1 ↓	
AVERAGE		**1.213%**	**1,819**			**1.254%**	**3,761**			**N = 19**

Appendix Table 3a: Commercial Property Taxes for Largest City in Each State

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value	Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**		
Alabama	Birmingham	2.022%	2,426	15 (19 ↑)	2.022%	24,259	18 (19 ↑)	2.022%	606,463	19 (19 ↑)		
Alaska	Anchorage	1.276%	1,531	37 (2 ↑)	1.531%	18,375	31 (-)	1.559%	467,559	32 (-)	X	X
Arizona	Phoenix	1.843%	2,212	20 (2 ↓)	1.843%	22,115	24 (3 ↓)	2.247%	673,971	15 (1 ↑)	X	X
Arkansas	Little Rock	1.366%	1,639	34 (3 ↓)	1.366%	16,387	36 (2 ↓)	1.366%	409,675	37 (2 ↓)		
California	Los Angeles	1.199%	1,439	39 (2 ↑)	1.199%	14,393	40 (2 ↑)	1.199%	359,819	41 (2 ↑)		
Colorado	Denver	1.771%	2,126	24 (1 ↑)	2.141%	25,693	16 (-)	2.141%	642,327	17 (-)	X	
Connecticut	Bridgeport	2.353%	2,823	12 (8 ↓)	2.353%	28,234	14 (10 ↓)	2.353%	705,856	14 (9 ↓)		
DC	Washington	1.192%	1,431	40 (-)	1.192%	14,306	41 (-)	1.847%	554,008	25 (-)	X	X
Delaware	Wilmington	0.834%	1,001	48 (5 ↓)	0.834%	10,007	49 (5 ↓)	0.834%	250,182	50 (5 ↓)		X
Florida	Jacksonville	1.411%	1,693	31 (4 ↑)	1.662%	19,944	29 (1 ↑)	1.696%	508,945	29 (1 ↑)	X	X
Georgia	Atlanta	1.502%	1,802	29 (1 ↓)	1.502%	18,018	32 (3 ↓)	1.502%	450,450	33 (2 ↓)		
Hawaii	Honolulu	1.019%	1,223	44 (4 ↑)	1.019%	12,226	44 (5 ↑)	1.019%	305,660	45 (4 ↑)		X
Idaho	Boise	0.779%	935	49 (3 ↑)	0.779%	9,351	50 (2 ↑)	0.932%	279,477	49 (1 ↑)	X	X
Illinois	Aurora*	2.641%	3,169	6 (-)	2.641%	31,693	7 (-)	2.641%	792,322	8 (1 ↓)		X
Illinois	Chicago	4.076%	4,891	1 (-)	4.076%	48,911	1 (-)	4.076%	1,222,781	1 (-)		X
Indiana	Indianapolis	2.384%	2,861	11 (2 ↑)	2.848%	34,171	4 (5 ↑)	2.848%	854,278	4 (5 ↑)	X	
Iowa	Des Moines	1.679%	2,015	25 (10 ↓)	2.602%	31,230	8 (3 ↓)	2.759%	827,661	5 (1 ↓)	X	X
Kansas	Wichita	2.443%	2,931	10 (1 ↑)	2.443%	29,315	12 (1 ↑)	2.443%	732,865	13 (1 ↑)		
Kentucky	Louisville	1.304%	1,565	36 (3 ↓)	1.304%	15,648	38 (2 ↓)	1.304%	391,199	39 (2 ↓)		
Louisiana	New Orleans	1.872%	2,246	19 (2 ↓)	1.872%	22,459	22 (2 ↓)	1.872%	561,469	24 (2 ↓)		
Maine	Portland	1.361%	1,633	35 (3 ↑)	1.361%	16,332	37 (3 ↑)	1.361%	408,300	38 (4 ↑)		
Maryland	Baltimore	2.596%	3,115	7 (2 ↑)	2.596%	31,148	9 (2 ↑)	2.596%	778,707	9 (2 ↑)		
Massachusetts	Boston	1.789%	2,147	23 (1 ↑)	1.789%	21,472	27 (-)	1.789%	536,790	28 (-)		X
Michigan	Detroit	3.411%	4,093	3 (1 ↓)	4.046%	48,550	2 (-)	4.046%	1,213,751	2 (-)	X	X
Minnesota	Minneapolis	1.539%	1,847	28 (1 ↓)	2.375%	28,503	13 (1 ↑)	2.522%	756,534	12 (1 ↑)	X	X
Mississippi	Jackson	2.731%	3,277	4 (3 ↑)	2.731%	32,771	5 (3 ↑)	2.731%	819,267	6 (2 ↑)		
Missouri	Kansas City	2.727%	3,272	5 (-)	2.727%	32,725	6 (-)	2.727%	818,123	7 (1 ↓)		X
Montana	Billings	0.952%	1,142	45 (-)	0.952%	11,420	45 (1 ↑)	1.116%	334,728	43 (3 ↓)	X	X
Nebraska	Omaha	2.005%	2,406	16 (4 ↑)	2.005%	24,063	19 (1 ↓)	2.005%	601,581	21 (2 ↓)		
Nevada	Las Vegas	1.131%	1,357	41 (1 ↑)	1.131%	13,572	42 (1 ↑)	1.131%	339,306	42 (2 ↑)		
New Hampshire	Manchester	1.386%	1,663	33 (4 ↓)	1.386%	16,635	35 (3 ↓)	1.386%	415,863	36 (3 ↓)		X
New Jersey	Newark	2.542%	3,051	9 (1 ↓)	2.542%	30,506	11 (1 ↓)	2.542%	762,656	11 (1 ↓)		X
New Mexico	Albuquerque	1.665%	1,998	26 (-)	1.665%	19,979	28 (-)	1.665%	499,486	30 (1 ↓)		
New York	Buffalo*	1.657%	1,988	27 (5 ↓)	1.657%	19,883	30 (5 ↓)	1.657%	497,076	31 (5 ↓)		X
New York	New York City	1.501%	1,801	30 (-)	1.501%	18,007	33 (-)	1.501%	450,186	34 (-)		X
AVERAGE		**1.720%**	**2,064**		**1.809%**	**21,710**		**1.845%**	**553,526**		**N = 14**	**N = 25**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value	Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**		
North Carolina	Charlotte	0.713%	855	52 (1 ↓)	0.713%	8,553	52 (1 ↓)	0.713%	213,834	52 (-)		
North Dakota	Fargo	1.068%	1,282	43 (1 ↑)	1.068%	12,821	43 (2 ↑)	1.068%	320,513	44 (2 ↑)		X
Ohio	Columbus	1.829%	2,195	21 (2 ↓)	1.829%	21,952	25 (3 ↓)	1.829%	548,792	26 (3 ↓)		X
Oklahoma	Oklahoma City	1.407%	1,689	32 (-)	1.407%	16,888	34 (1 ↑)	1.407%	422,194	35 (1 ↑)		
Oregon	Portland	2.568%	3,082	8 (2 ↑)	2.568%	30,815	10 (2 ↑)	2.568%	770,385	10 (2 ↑)		
Pennsylvania	Philadelphia	1.080%	1,296	42 (4 ↑)	1.848%	22,178	23 (1 ↑)	2.007%	601,960	20 (1 ↑)	X	X
Rhode Island	Providence	3.454%	4,145	2 (1 ↑)	3.454%	41,445	3 (-)	3.454%	1,036,129	3 (-)		
South Carolina	Charleston	1.873%	2,247	18 (5 ↑)	1.873%	22,471	21 (5 ↑)	1.873%	561,780	23 (4 ↑)		
South Dakota	Sioux Falls	1.211%	1,454	38 (2 ↓)	1.211%	14,538	39 (1 ↓)	1.211%	363,444	40 (1 ↓)		X
Tennessee	Nashville	0.937%	1,125	47 (10 ↓)	0.937%	11,250	47 (8 ↓)	0.937%	281,243	47 (6 ↓)		X
Texas	Houston	1.920%	2,303	17 (3 ↓)	1.920%	23,035	20 (3 ↓)	1.920%	575,873	22 (4 ↓)		
Utah	Salt Lake City	0.770%	924	50 (1 ↓)	0.935%	11,221	48 (1 ↓)	0.935%	280,515	48 (1 ↓)	X	
Vermont	Burlington	2.089%	2,507	14 (2 ↑)	2.089%	25,074	17 (2 ↑)	2.089%	626,846	18 (2 ↑)		X
Virginia	Virginia Beach	0.950%	1,140	46 (1 ↑)	0.950%	11,399	46 (2 ↑)	0.950%	284,980	46 (2 ↑)		
Washington	Seattle	0.754%	905	51 (1 ↓)	0.754%	9,053	51 (1 ↓)	0.754%	226,314	51 (-)		
West Virginia	Charleston	1.804%	2,165	22 (1 ↓)	1.804%	21,649	26 (3 ↓)	1.804%	541,227	27 (3 ↓)		
Wisconsin	Milwaukee	2.128%	2,553	13 (1 ↓)	2.183%	26,199	15 (-)	2.189%	656,741	16 (1 ↓)	X	
Wyoming	Cheyenne	0.649%	779	53 (-)	0.649%	7,792	53 (-)	0.649%	194,806	53 (-)		
AVERAGE		**1.720%**	**2,064**		**1.809%**	**21,710**		**1.845%**	**553,526**		**N = 14**	**N = 25**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.

Note: $100,000-valued property has an additional $20,000 worth of fixtures; $1 million-valued property has an additional $200,000 worth of fixtures; $25 million-valued property has an additional $5 million worth of fixtures.

Appendix Table 3b: Commercial Property Taxes for the Largest 50 US Cities

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value	Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**		
Arizona	Mesa	1.328%	1,593	33 (3 ↓)	1.328%	15,932	34 (1 ↓)	1.623%	486,866	29 (2 ↓)	X	X
Arizona	Phoenix	1.843%	2,212	16 (-)	1.843%	22,115	20 (1 ↓)	2.247%	673,971	11 (3 ↑)	X	X
Arizona	Tucson	1.470%	1,764	26 (4 ↓)	1.470%	17,638	30 (5 ↓)	1.827%	548,080	23 (6 ↓)	X	X
California	Bakersfield	1.180%	1,416	41 (-)	1.180%	14,156	42 (-)	1.180%	353,909	42 (-)		
California	Fresno	1.267%	1,521	36 (-)	1.267%	15,207	37 (-)	1.267%	380,167	38 (-)		
California	Long Beach	1.244%	1,493	37 (3 ↑)	1.244%	14,931	38 (3 ↑)	1.244%	373,284	39 (2 ↑)		
California	Los Angeles	1.199%	1,439	39 (4 ↑)	1.199%	14,393	40 (4 ↑)	1.199%	359,819	41 (3 ↑)		
California	Oakland	1.372%	1,647	31 (2 ↓)	1.372%	16,466	33 (1 ↓)	1.372%	411,660	35 (1 ↓)		
California	Sacramento	1.147%	1,376	43 (1 ↑)	1.147%	13,764	44 (1 ↑)	1.147%	344,100	44 (1 ↑)		
California	San Diego	1.225%	1,470	38 (-)	1.225%	14,701	39 (-)	1.225%	367,527	40 (-)		
California	San Francisco	1.178%	1,413	42 (-)	1.178%	14,132	43 (-)	1.178%	353,308	43 (-)		
California	San Jose	1.286%	1,543	35 (-)	1.286%	15,434	36 (-)	1.286%	385,860	37 (-)		
Colorado	Colorado Springs	1.344%	1,612	32 (1 ↓)	1.619%	19,427	27 (1 ↓)	1.619%	485,684	30 (2 ↓)	X	
Colorado	Denver	1.771%	2,126	19 (2 ↑)	2.141%	25,693	13 (2 ↑)	2.141%	642,327	14 (2 ↑)	X	
DC	Washington	1.192%	1,431	40 (1 ↓)	1.192%	14,306	41 (1 ↓)	1.847%	554,008	20 (5 ↑)	X	X
Florida	Jacksonville	1.411%	1,693	28 (6 ↑)	1.662%	19,944	26 (3 ↑)	1.696%	508,945	26 (4 ↑)	X	X
Florida	Miami	1.561%	1,873	22 (4 ↑)	1.848%	22,181	17 (6 ↑)	1.888%	566,370	19 (5 ↑)	X	X
Florida	Tampa	1.438%	1,725	n/a	1.706%	20,475	n/a	1.743%	522,937	n/a	X	
Georgia	Atlanta	1.502%	1,802	24 (1 ↑)	1.502%	18,018	28 (-)	1.502%	450,450	31 (-)		
Illinois	Chicago	4.076%	4,891	1 (-)	4.076%	48,911	1 (-)	4.076%	1,222,781	1 (-)		X
Indiana	Indianapolis	2.384%	2,861	9 (4 ↑)	2.848%	34,171	3 (2 ↑)	2.848%	854,278	3 (2 ↑)	X	
Kansas	Wichita	2.443%	2,931	7 (1 ↑)	2.443%	29,315	8 (1 ↑)	2.443%	732,865	9 (1 ↑)		
Kentucky	Louisville	1.304%	1,565	34 (1 ↓)	1.304%	15,648	35 (-)	1.304%	391,199	36 (-)		
Maryland	Baltimore	2.596%	3,115	5 (-)	2.596%	31,148	6 (-)	2.596%	778,707	6 (-)		
Massachusetts	Boston	1.789%	2,147	18 (2 ↑)	1.789%	21,472	22 (2 ↑)	1.789%	536,790	24 (2 ↑)		X
Michigan	Detroit	3.411%	4,093	2 (-)	4.046%	48,550	2 (-)	4.046%	1,213,751	2 (-)	X	X
Minnesota	Minneapolis	1.539%	1,847	23 (1 ↑)	2.375%	28,503	10 (-)	2.522%	756,534	8 (-)	X	X
Missouri	Kansas City	2.727%	3,272	3 (1 ↑)	2.727%	32,725	4 (-)	2.727%	818,123	4 (-)		X
Nebraska	Omaha	2.005%	2,406	13 (6 ↑)	2.005%	24,063	15 (2 ↑)	2.005%	601,581	17 (2 ↑)		
Nevada	Las Vegas	1.131%	1,357	44 (1 ↑)	1.131%	13,572	45 (1 ↑)	1.131%	339,294	45 (1 ↑)		
New Mexico	Albuquerque	1.665%	1,998	21 (2 ↑)	1.665%	19,979	25 (2 ↑)	1.665%	499,486	28 (1 ↑)		
New York	New York City	1.501%	1,801	25 (3 ↑)	1.501%	18,007	29 (2 ↑)	1.501%	450,186	32 (1 ↑)		X
North Carolina	Charlotte	0.713%	855	50 (-)	0.713%	8,553	50 (-)	0.713%	213,834	50 (-)		
North Carolina	Raleigh	0.769%	923	48 (-)	0.769%	9,230	48 (-)	0.769%	230,753	48 (-)		
Ohio	Columbus	1.829%	2,195	17 (-)	1.829%	21,952	21 (1 ↓)	1.829%	548,792	22 (-)		X
AVERAGE		**1.679%**	**2,014**		**1.763%**	**21,154**		**1.806%**	**541,652**		**N = 13**	**N = 17**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value	Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**		
Oklahoma	Oklahoma City	1.407%	1,689	29 (3 ↑)	1.407%	16,888	31 (3 ↑)	1.407%	422,194	33 (2 ↑)		
Oklahoma	Tulsa	1.375%	1,650	30 (3 ↓)	1.375%	16,498	32 (2 ↓)	1.375%	412,458	34 (2 ↓)		X
Oregon	Portland	2.568%	3,082	6 (-)	2.568%	30,815	7 (-)	2.568%	770,385	7 (-)		
Pennsylvania	Philadelphia	1.080%	1,296	45 (1 ↑)	1.848%	22,178	18 (4 ↑)	2.007%	601,960	16 (4 ↑)	X	X
Tennessee	Memphis	1.845%	2,214	15 (5 ↓)	1.845%	22,142	19 (6 ↓)	1.845%	553,547	21 (8 ↓)		X
Tennessee	Nashville	0.937%	1,125	47 (10 ↓)	0.937%	11,250	47 (9 ↓)	0.937%	281,243	47 (8 ↓)		X
Texas	Austin	1.683%	2,020	20 (2 ↓)	1.683%	20,201	24 (3 ↓)	1.683%	505,024	27 (4 ↓)		
Texas	Dallas	2.207%	2,649	10 (5 ↑)	2.207%	26,490	11 (7 ↑)	2.207%	662,244	12 (9 ↑)		
Texas	El Paso	2.711%	3,254	4 (1 ↓)	2.711%	32,538	5 (2 ↓)	2.711%	813,438	5 (2 ↓)		
Texas	Fort Worth	2.129%	2,555	11 (2 ↓)	2.129%	25,549	14 (3 ↓)	2.129%	638,733	15 (4 ↓)		
Texas	Houston	1.920%	2,303	14 (-)	1.920%	23,035	16 (-)	1.920%	575,873	18 (-)		
Texas	San Antonio	2.397%	2,877	8 (1 ↓)	2.397%	28,769	9 (1 ↓)	2.397%	719,221	10 (1 ↓)		
Virginia	Virginia Beach	0.950%	1,140	46 (1 ↑)	0.950%	11,399	46 (1 ↑)	0.950%	284,980	46 (1 ↑)		
Washington	Seattle	0.754%	905	49 (-)	0.754%	9,053	49 (-)	0.754%	226,314	49 (-)		
Wisconsin	Milwaukee	2.128%	2,553	12 (1 ↓)	2.183%	26,199	12 (-)	2.189%	656,741	13 (1 ↓)	X	
AVERAGE		**1.679%**	**2,014**		**1.763%**	**21,154**		**1.806%**	**541,652**		**N = 13**	**N = 17**

Note: $100,000-valued property has an additional $20,000 worth of fixtures; $1-million valued property has an additional $200,000 worth of fixtures; $25-million valued property has an additional $5 million worth of fixtures.

Appendix Table 3c: Commercial Property Taxes for Selected Rural Municipalities

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value	Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**		
Alabama	Monroeville	0.734%	881	47 (5 ↓)	0.734%	8,807	47 (4 ↓)	0.734%	220,170	47 (3 ↓)		
Alaska	Ketchikan	0.920%	1,104	40 (-)	1.092%	13,110	35 (1 ↓)	1.116%	334,825	34 (1 ↑)	X	X
Arizona	Safford	0.920%	1,104	41 (2 ↓)	0.920%	11,042	42 (1 ↓)	1.176%	352,785	32 (-)	X	X
Arkansas	Pocahontas	0.819%	983	45 (-)	0.819%	9,828	46 (-)	0.819%	245,693	46 (1 ↑)		
California	Yreka	1.046%	1,255	35 (2 ↑)	1.046%	12,552	36 (2 ↑)	1.046%	313,796	37 (2 ↑)		
Colorado	Walsenburg	2.013%	2,415	14 (5 ↓)	2.413%	28,959	9 (3 ↓)	2.413%	723,971	9 (2 ↓)	X	
Connecticut	Litchfield	1.716%	2,060	19 (-)	1.716%	20,596	21 (-)	1.716%	514,910	21 (-)		
Delaware	Georgetown	0.347%	416	49 (1 ↑)	0.347%	4,161	49 (1 ↑)	0.347%	104,031	50 (-)		X
Florida	Moore Haven	1.784%	2,141	18 (3 ↑)	2.093%	25,113	14 (5 ↑)	2.135%	640,529	12 (3 ↑)	X	X
Georgia	Fitzgerald	1.644%	1,972	22 (2 ↓)	1.644%	19,724	23 (1 ↓)	1.644%	493,089	23 (1 ↓)		
Hawaii	Kauai	0.675%	810	48 (-)	0.675%	8,100	48 (-)	0.675%	202,500	48 (-)		X
Idaho	Saint Anthony	0.330%	397	50 (3 ↓)	0.330%	3,966	50 (3 ↓)	0.469%	140,778	49 (7 ↓)	X	X
Illinois	Galena	2.100%	2,520	10 (1 ↑)	2.100%	25,205	13 (1 ↑)	2.100%	630,114	14 (-)		X
Indiana	North Vernon	2.440%	2,928	5 (-)	2.940%	35,280	3 (-)	2.940%	882,000	3 (-)	X	
Iowa	Hampton	1.691%	2,029	20 (16 ↓)	2.621%	31,451	4 (2 ↓)	2.778%	833,521	4 (2 ↓)	X	X
Kansas	Iola	4.621%	5,545	1 (-)	4.621%	55,447	1 (-)	4.621%	1,386,18	1 (-)		
Kentucky	Morehead	1.469%	1,763	24 (8 ↑)	1.469%	17,626	24 (8 ↑)	1.469%	440,657	24 (9 ↑)		
Louisiana	Natchitoches	1.314%	1,577	28 (1 ↑)	1.314%	15,772	28 (1 ↑)	1.314%	394,312	29 (-)		
Maine	Rockland	2.427%	2,912	6 (-)	2.427%	29,124	8 (-)	2.427%	728,100	8 (-)		
Maryland	Denton	2.003%	2,404	15 (-)	2.003%	24,036	19 (3 ↓)	2.003%	600,898	19 (2 ↓)		
Massachusetts	Adams	2.073%	2,488	11 (11 ↑)	2.073%	24,881	15 (8 ↑)	2.073%	622,013	15 (9 ↑)		X
Michigan	Manistique	2.520%	3,024	3 (-)	2.520%	30,240	5 (-)	2.520%	755,993	6 (1 ↓)		X
Minnesota	Glencoe	1.624%	1,948	23 (-)	2.477%	29,718	6 (1 ↑)	2.627%	787,953	5 (1 ↑)	X	X
Mississippi	Philadelphia	2.071%	2,485	12 (5 ↑)	2.071%	24,854	16 (2 ↑)	2.071%	621,360	16 (3 ↑)		
Missouri	Boonville	2.441%	2,929	4 (12 ↑)	2.441%	29,295	7 (10 ↑)	2.441%	732,363	7 (11 ↑)		X
Montana	Glasgow	1.209%	1,451	31 (4 ↓)	1.209%	14,514	31 (4 ↓)	1.411%	423,426	26 (3 ↓)	X	X
Nebraska	Sidney	2.129%	2,555	9 (3 ↑)	2.129%	25,549	12 (2 ↓)	2.129%	638,733	13 (3 ↓)		
Nevada	Fallon	1.260%	1,512	29 (1 ↑)	1.260%	15,116	29 (1 ↑)	1.260%	377,895	30 (-)		
New	Lancaster	0.965%	1,158	37 (12 ↓)	0.965%	11,580	39 (14 ↓)	0.965%	289,510	40 (14 ↓)		X
New Jersey	Maurice River Twp	2.050%	2,460	13 (5 ↓)	2.050%	24,603	17 (6 ↓)	2.050%	615,082	17 (6 ↓)		X
New Mexico	Santa Rosa	1.096%	1,315	34 (10 ↑)	1.096%	13,151	34 (11 ↑)	1.096%	328,767	36 (10 ↑)		
New York	Warsaw	2.389%	2,866	7 (-)	2.389%	28,664	10 (1 ↓)	2.389%	716,591	10 (1 ↓)		X
North Carolina	Edenton	0.934%	1,121	39 (5 ↓)	0.934%	11,206	41 (6 ↓)	0.934%	280,152	42 (6 ↓)		
North Dakota	Devils Lake	1.223%	1,467	30 (1 ↑)	1.223%	14,673	30 (1 ↑)	1.223%	366,829	31 (-)		X
Ohio	Bryan	1.661%	1,993	21 (3 ↑)	1.661%	19,929	22 (2 ↑)	1.661%	498,224	22 (3 ↑)		X
AVERAGE		**1.549%**	**1,859**		**1.617%**	**19,400**		**1.636%**	**490,850**		**N = 11**	**N = 22**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value	Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**		
Oklahoma	Mangum	1.016%	1,219	36 (2 ↑)	1.016%	12,186	37 (3 ↑)	1.016%	304,650	38 (3 ↑)		
Oregon	Tillamook	1.159%	1,391	32 (1 ↑)	1.159%	13,914	32 (1 ↑)	1.159%	347,847	33 (1 ↑)		
Pennsylvania	Ridgway	1.383%	1,659	26 (-)	1.383%	16,595	26 (-)	1.383%	414,868	27 (-)		X
Rhode Island	Hopkinton	1.373%	1,648	27 (9 ↓)	1.373%	16,478	27 (7 ↓)	1.373%	411,946	28 (8 ↓)		
South Carolina	Mullins	2.940%	3,528	2 (-)	2.940%	35,281	2 (2 ↑)	2.940%	882,015	2 (2 ↑)		
South Dakota	Vermillion	1.422%	1,706	25 (3 ↑)	1.422%	17,060	25 (3 ↑)	1.422%	426,497	25 (3 ↑)		X
Tennessee	Savannah	0.943%	1,132	38 (3 ↑)	0.943%	11,316	40 (2 ↑)	0.943%	282,900	41 (2 ↑)		X
Texas	Fort Stockton	1.953%	2,343	17 (4 ↓)	1.953%	23,433	20 (5 ↓)	1.953%	585,817	20 (4 ↓)		
Utah	Richfield	0.808%	970	46 (-)	0.975%	11,697	38 (1 ↑)	0.975%	292,425	39 (1 ↑)	X	
Vermont	Hartford	2.163%	2,595	8 (2 ↑)	2.163%	25,955	11 (1 ↑)	2.163%	648,870	11 (1 ↑)		X
Virginia	Wise	0.847%	1,017	43 (-)	0.847%	10,166	44 (-)	0.847%	254,138	44 (1 ↑)		
Washington	Okanogan	0.882%	1,059	42 (6 ↓)	0.882%	10,586	43 (6 ↓)	0.882%	264,652	43 (5 ↓)		
West Virginia	Elkins	1.112%	1,334	33 (2 ↑)	1.112%	13,339	33 (3 ↑)	1.112%	333,468	35 (2 ↑)		
Wisconsin	Rice Lake	1.954%	2,345	16 (2 ↓)	2.015%	24,181	18 (5 ↓)	2.022%	606,496	18 (5 ↓)	X	
Wyoming	Worland	0.827%	993	44 (5 ↑)	0.827%	9,926	45 (4 ↑)	0.827%	248,154	45 (4 ↑)		
AVERAGE		**1.549%**	**1,859**		**1.617%**	**19,400**		**1.636%**	**490,850**		**N = 11**	**N = 22**

Note: $100,000-valued property has an additional $20,000 worth of fixtures; $1 million-valued property has an additional $200,000 worth of fixtures; $25 million-valued property has an additional $5 million worth of fixtures.

Appendix Table 4a: Industrial Property Taxes for Largest City in Each State (Personal Property = 50% of Total Parcel Value)

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Alabama	Birmingham	1.173%	2,347	25 (2 ↑)	1.173%	23,467	29 (3 ↑)	1.173%	586,670	30 (3 ↑)	
Alaska	Anchorage	1.447%	2,893	17 (1 ↑)	1.600%	31,999	14 (5 ↑)	1.616%	808,159	16 (4 ↑)	X
Arizona	Phoenix	1.106%	2,212	28 (1 ↑)	1.581%	31,611	16 (1 ↓)	1.855%	927,587	11 (1 ↓)	X
Arkansas	Little Rock	1.379%	2,759	20 (-)	1.379%	27,587	21 (1 ↑)	1.379%	689,675	22 (2 ↑)	
California	Los Angeles	0.960%	1,919	32 (2 ↑)	0.960%	19,190	36 (1 ↑)	0.960%	479,759	37 (1 ↑)	
Colorado	Denver	1.728%	3,457	12 (-)	1.728%	34,568	12 (-)	1.728%	864,202	14 (1 ↑)	
Connecticut	Bridgeport	1.260%	2,519	24 (11 ↓)	1.260%	25,193	27 (13 ↓)	1.260%	629,819	27 (10 ↓)	
DC	Washington	0.715%	1,431	40 (2 ↑)	1.353%	27,056	23 (3 ↑)	1.788%	894,008	13 (1 ↓)	X
Delaware	Wilmington	0.500%	1,001	51 (7 ↓)	0.500%	10,007	52 (6 ↓)	0.500%	250,182	52 (6 ↓)	
Florida	Jacksonville	1.148%	2,296	27 (6 ↑)	1.342%	26,839	24 (6 ↑)	1.363%	681,322	24 (6 ↑)	X
Georgia	Atlanta	1.393%	2,785	19 (-)	1.393%	27,850	20 (1 ↑)	1.393%	696,250	21 (2 ↑)	
Hawaii	Honolulu	0.611%	1,223	46 (5 ↑)	0.611%	12,226	48 (4 ↑)	0.611%	305,660	48 (4 ↑)	
Idaho	Boise	0.468%	935	53 (-)	0.636%	12,718	47 (4 ↑)	0.751%	375,674	42 (6 ↑)	X
Illinois	Aurora*	1.585%	3,169	14 (-)	1.585%	31,693	15 (2 ↑)	1.585%	792,322	17 (1 ↑)	
Illinois	Chicago	2.456%	4,912	2 (-)	2.456%	49,117	2 (-)	2.456%	1,227,923	2 (-)	
Indiana	Indianapolis	2.137%	4,273	5 (2 ↓)	2.137%	42,735	6 (3 ↓)	2.137%	1,068,369	6 (3 ↓)	
Iowa	Des Moines	0.634%	1,268	45 (17 ↓)	0.983%	19,651	35 (19 ↓)	1.042%	520,797	35 (22 ↓)	X
Kansas	Wichita	1.322%	2,643	22 (1 ↓)	1.322%	26,435	25 (1 ↓)	1.322%	660,874	25 (-)	
Kentucky	Louisville	0.733%	1,465	38 (3 ↑)	0.733%	14,654	42 (2 ↑)	0.733%	366,349	44 (-)	
Louisiana	New Orleans	1.930%	3,860	8 (1 ↑)	1.930%	38,602	8 (1 ↑)	1.930%	965,059	8 (1 ↑)	
Maine	Portland	0.749%	1,497	37 (6 ↑)	0.749%	14,971	41 (4 ↑)	0.749%	374,275	43 (2 ↑)	
Maryland	Baltimore	1.278%	2,556	23 (1 ↑)	1.278%	25,556	26 (3 ↑)	1.278%	638,909	26 (3 ↑)	
Massachusetts	Boston	1.074%	2,147	30 (2 ↑)	1.074%	21,472	32 (4 ↑)	1.074%	536,790	32 (5 ↑)	
Michigan	Detroit	2.109%	4,218	6 (-)	2.270%	45,390	4 (-)	2.270%	1,134,754	4 (-)	X
Minnesota	Minneapolis	0.645%	1,291	43 (7 ↓)	0.985%	19,700	34 (11 ↓)	1.057%	528,586	34 (13 ↓)	X
Mississippi	Jackson	2.793%	5,585	1 (-)	2.793%	55,853	1 (-)	2.793%	1,396,317	1 (-)	
Missouri	Kansas City	2.157%	4,315	4 (1 ↑)	2.157%	43,149	5 (1 ↑)	2.157%	1,078,719	5 (1 ↑)	
Montana	Billings	0.571%	1,142	49 (3 ↓)	0.728%	14,562	43 (2 ↓)	1.061%	530,629	33 (2 ↑)	X
Nebraska	Omaha	1.647%	3,295	13 (3 ↑)	1.647%	32,948	13 (-)	1.647%	823,690	15 (1 ↑)	
Nevada	Las Vegas	0.908%	1,816	34 (1 ↑)	0.908%	18,161	38 (-)	0.908%	454,031	39 (-)	
New Hampshire	Manchester	0.832%	1,663	35 (2 ↑)	0.832%	16,635	39 (-)	0.832%	415,863	40 (-)	
New Jersey	Newark	1.525%	3,051	15 (-)	1.525%	30,506	17 (1 ↑)	1.525%	762,656	18 (1 ↑)	
New Mexico	Albuquerque	1.368%	2,735	21 (2 ↑)	1.368%	27,354	22 (5 ↑)	1.368%	683,850	23 (4 ↑)	
New York	Buffalo*	0.994%	1,988	31 (-)	0.994%	19,883	33 (2 ↑)	0.994%	497,076	36 (-)	
New York	New York City	0.530%	1,059	50 (-)	0.530%	10,591	51 (1 ↓)	0.530%	264,774	51 (-)	
AVERAGE		**1.231%**	**2,463**		**1.290%**	**25,807**		**1.317%**	**658,614**		**N = 11**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
North Carolina	Charlotte	0.574%	1,149	48 (1 ↓)	0.574%	11,487	50 (2 ↓)	0.574%	287,184	50 (1 ↓)	
North Dakota	Fargo	0.641%	1,282	44 (1 ↑)	0.641%	12,821	46 (1 ↑)	0.641%	320,513	47 (-)	
Ohio	Columbus	1.101%	2,202	29 (3 ↓)	1.101%	22,023	31 (-)	1.101%	550,582	31 (-)	
Oklahoma	Oklahoma	1.520%	3,040	16 (1 ↑)	1.520%	30,398	18 (2 ↑)	1.520%	759,949	19 (3 ↑)	
Oregon	Portland	2.054%	4,109	7 (1 ↑)	2.054%	41,087	7 (1 ↑)	2.054%	1,027,180	7 (1 ↑)	
Pennsylvania	Philadelphia	0.648%	1,296	42 (7 ↑)	1.109%	22,178	30 (4 ↑)	1.204%	601,960	29 (3 ↑)	X
Rhode Island	Providence	1.805%	3,611	11 (-)	1.805%	36,105	11 (-)	1.805%	902,629	12 (2 ↑)	
South Carolina	Charleston	2.420%	4,839	3 (1 ↑)	2.420%	48,394	3 (2 ↑)	2.420%	1,209,840	3 (2 ↑)	
South Dakota	Sioux Falls	0.727%	1,454	39 (-)	0.727%	14,538	44 (2 ↓)	0.727%	363,444	45 (3 ↓)	
Tennessee	Nashville	0.953%	1,906	33 (3 ↓)	0.953%	19,059	37 (4 ↓)	0.953%	476,483	38 (4 ↓)	
Texas	Houston	1.922%	3,843	9 (2 ↓)	1.922%	38,435	9 (2 ↓)	1.922%	960,863	9 (2 ↓)	
Utah	Salt Lake	0.759%	1,518	36 (2 ↑)	0.759%	15,175	40 (-)	0.759%	379,375	41 (-)	
Vermont	Burlington	1.426%	2,853	18 (4 ↑)	1.426%	28,528	19 (6 ↑)	1.426%	713,195	20 (6 ↑)	
Virginia	Virginia	0.490%	980	52 (-)	0.490%	9,799	53 (-)	0.490%	244,980	53 (-)	
Washington	Seattle	0.608%	1,215	47 (1 ↑)	0.608%	12,154	49 (-)	0.608%	303,850	49 (1 ↑)	
West Virginia	Charleston	1.883%	3,765	10 (-)	1.883%	37,651	10 (-)	1.883%	941,265	10 (1 ↑)	
Wisconsin	Milwaukee	1.167%	2,335	26 (1 ↓)	1.200%	24,009	28 (-)	1.204%	602,006	28 (-)	X
Wyoming	Cheyenne	0.699%	1,399	41 (1 ↓)	0.699%	13,986	45 (2 ↓)	0.699%	349,661	46 (3 ↓)	
AVERAGE		**1.231%**	**2,463**		**1.290%**	**25,807**		**1.317%**	**658,614**		**N = 11**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.

Note:
$100,000-valued property has an additional $50,000 worth of machinery and equipment, an additional $40,000 worth of inventories, and an additional $10,000 worth of fixtures.
$1 million-valued property has an additional $500,000 worth of machinery and equipment, an additional $400,000 worth of inventories, and an additional $100,000 worth of fixtures.
$25 million-valued property has an additional $12.5 million worth of machinery and equipment, an additional $10 million worth of inventories, and an additional $2.5 million worth of fixtures.

Appendix Table 4b: Industrial Property Taxes for Largest City in Each State (Personal Property = 60% of Total Parcel Value)

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Alabama	Birmingham	1.113%	2,782	25 (-)	1.113%	27,817	27 (3 ↑)	1.113%	695,420	27 (4 ↑)	
Alaska	Anchorage	1.498%	3,745	15 (-)	1.621%	40,514	12 (2 ↑)	1.634%	1,021,034	14 (1 ↑)	X
Arizona	Phoenix	0.885%	2,212	30 (1 ↑)	1.569%	39,220	14 (3 ↓)	1.788%	1,117,799	12 (1 ↓)	X
Arkansas	Little Rock	1.383%	3,459	16 (-)	1.383%	34,587	18 (-)	1.383%	864,675	18 (1 ↑)	
California	Los Angeles	0.912%	2,279	29 (3 ↑)	0.912%	22,789	31 (3 ↑)	0.912%	569,714	33 (3 ↑)	
Colorado	Denver	1.649%	4,122	11 (-)	1.649%	41,224	11 (1 ↑)	1.649%	1,030,608	13 (-)	
Connecticut	Bridgeport	1.069%	2,671	26 (9 ↓)	1.069%	26,713	28 (9 ↓)	1.069%	667,837	29 (9 ↓)	
DC	Washington	0.572%	1,431	42 (2 ↑)	1.490%	37,256	17 (1 ↓)	1.838%	1,149,008	11 (1 ↑)	X
Delaware	Wilmington	0.400%	1,001	52 (6 ↓)	0.400%	10,007	53 (4 ↓)	0.400%	250,182	53 (4 ↓)	
Florida	Jacksonville	1.125%	2,813	23 (5 ↑)	1.280%	32,011	21 (5 ↑)	1.297%	810,606	21 (5 ↑)	X
Georgia	Atlanta	1.376%	3,440	17 (1 ↑)	1.376%	34,404	19 (1 ↑)	1.376%	860,100	19 (2 ↑)	
Hawaii	Honolulu	0.489%	1,223	48 (3 ↑)	0.489%	12,226	50 (2 ↑)	0.489%	305,660	50 (2 ↑)	
Idaho	Boise	0.374%	935	53 (-)	0.624%	15,604	45 (3 ↑)	0.717%	447,822	41 (4 ↑)	X
Illinois	Aurora*	1.268%	3,169	19 (-)	1.268%	31,693	22 (-)	1.268%	792,322	22 (-)	
Illinois	Chicago	1.965%	4,912	5 (3 ↑)	1.965%	49,117	5 (4 ↑)	1.965%	1,227,923	5 (4 ↑)	
Indiana	Indianapolis	2.043%	5,108	3 (1 ↓)	2.043%	51,076	3 (1 ↓)	2.043%	1,276,899	3 (1 ↓)	
Iowa	Des Moines	0.507%	1,268	47 (17 ↓)	0.786%	19,651	38 (17 ↓)	0.833%	520,797	38 (20 ↓)	X
Kansas	Wichita	1.115%	2,787	24 (1 ↓)	1.115%	27,875	26 (1 ↑)	1.115%	696,869	26 (2 ↑)	
Kentucky	Louisville	0.644%	1,610	38 (2 ↑)	0.644%	16,101	43 (-)	0.644%	402,524	44 (1 ↓)	
Louisiana	New Orleans	1.948%	4,869	7 (1 ↓)	1.948%	48,692	7 (1 ↓)	1.948%	1,217,303	7 (1 ↓)	
Maine	Portland	0.626%	1,565	39 (6 ↑)	0.626%	15,652	44 (3 ↑)	0.626%	391,288	45 (3 ↑)	
Maryland	Baltimore	1.134%	2,835	22 (2 ↑)	1.134%	28,352	25 (3 ↑)	1.134%	708,808	25 (4 ↑)	
Massachusetts	Boston	0.859%	2,147	33 (2 ↑)	0.859%	21,472	35 (3 ↑)	0.859%	536,790	36 (3 ↑)	
Michigan	Detroit	1.687%	4,218	10 (-)	1.880%	46,995	10 (2 ↓)	1.880%	1,174,879	10 (2 ↓)	X
Minnesota	Minneapolis	0.516%	1,291	45 (8 ↓)	0.788%	19,700	37 (8 ↓)	0.846%	528,586	37 (10 ↓)	X
Mississippi	Jackson	2.811%	7,028	1 (-)	2.811%	70,279	1 (-)	2.811%	1,756,973	1 (-)	
Missouri	Kansas City	2.039%	5,097	4 (-)	2.039%	50,967	4 (-)	2.039%	1,274,167	4 (-)	
Montana	Billings	0.457%	1,142	49 (1 ↓)	0.708%	17,705	40 (-)	1.100%	687,769	28 (2 ↑)	X
Nebraska	Omaha	1.584%	3,961	12 (-)	1.584%	39,611	13 (-)	1.584%	990,271	15 (1 ↓)	
Nevada	Las Vegas	0.864%	2,160	32 (1 ↑)	0.864%	21,603	34 (2 ↑)	0.864%	540,083	35 (2 ↑)	
New Hampshire	Manchester	0.665%	1,663	36 (3 ↑)	0.665%	16,635	41 (1 ↑)	0.665%	415,863	42 (-)	
New Jersey	Newark	1.220%	3,051	21 (-)	1.220%	30,506	24 (-)	1.220%	762,656	24 (-)	
New Mexico	Albuquerque	1.315%	3,288	18 (2 ↑)	1.315%	32,885	20 (3 ↑)	1.315%	822,122	20 (3 ↑)	
New York	Buffalo*	0.795%	1,988	34 (-)	0.795%	19,883	36 (1 ↑)	0.795%	497,076	39 (1 ↓)	
New York	New York City	0.424%	1,059	51 (1 ↓)	0.424%	10,591	52 (1 ↓)	0.424%	264,774	52 (1 ↓)	
AVERAGE		**1.115%**	**2,788**		**1.182%**	**29,539**		**1.205%**	**753,411**		**N = 11**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
North Carolina	Charlotte	0.548%	1,369	43 (2 ↓)	0.548%	13,688	48 (4 ↓)	0.548%	342,196	48 (4 ↓)	
North Dakota	Fargo	0.513%	1,282	46 (1 ↑)	0.513%	12,821	49 (1 ↑)	0.513%	320,513	49 (1 ↑)	
Ohio	Columbus	0.881%	2,202	31 (2 ↓)	0.881%	22,023	33 (-)	0.881%	550,582	34 (-)	
Oklahoma	Oklahoma City	1.554%	3,884	13 (1 ↑)	1.554%	38,842	15 (2 ↑)	1.554%	971,046	16 (1 ↑)	
Oregon	Portland	1.952%	4,879	6 (1 ↑)	1.952%	48,791	6 (1 ↑)	1.952%	1,219,776	6 (1 ↑)	
Pennsylvania	Philadelphia	0.518%	1,296	44 (5 ↑)	0.887%	22,178	32 (3 ↑)	0.963%	601,960	31 (4 ↑)	X
Rhode Island	Providence	1.551%	3,878	14 (1 ↓)	1.551%	38,775	16 (1 ↓)	1.551%	969,379	17 (1 ↓)	
South Carolina	Charleston	2.299%	5,747	2 (1 ↑)	2.299%	57,467	2 (1 ↑)	2.299%	1,436,685	2 (1 ↑)	
South Dakota	Sioux Falls	0.582%	1,454	40 (3 ↑)	0.582%	14,538	46 (-)	0.582%	363,444	46 (1 ↑)	
Tennessee	Nashville	0.958%	2,394	28 (2 ↓)	0.958%	23,940	30 (1 ↑)	0.958%	598,508	32 (-)	
Texas	Houston	1.922%	4,806	8 (3 ↓)	1.922%	48,059	8 (3 ↓)	1.922%	1,201,482	8 (3 ↓)	
Utah	Salt Lake City	0.726%	1,814	35 (1 ↑)	0.726%	18,141	39 (-)	0.726%	453,520	40 (-)	
Vermont	Burlington	1.249%	3,124	20 (2 ↑)	1.249%	31,236	23 (2 ↑)	1.249%	780,902	23 (2 ↑)	
Virginia	Virginia Beach	0.424%	1,060	50 (2 ↑)	0.424%	10,599	51 (2 ↑)	0.424%	264,980	51 (2 ↑)	
Washington	Seattle	0.579%	1,448	41 (1 ↑)	0.579%	14,480	47 (2 ↓)	0.579%	362,001	47 (1 ↓)	
West Virginia	Charleston	1.883%	4,706	9 (-)	1.883%	47,063	9 (1 ↑)	1.883%	1,176,581	9 (1 ↑)	
Wisconsin	Milwaukee	0.978%	2,444	27 (-)	1.004%	25,104	29 (3 ↑)	1.007%	629,374	30 (3 ↑)	X
Wyoming	Cheyenne	0.657%	1,643	37 (1 ↑)	0.657%	16,426	42 (1 ↓)	0.657%	410,648	43 (2 ↓)	
AVERAGE		**1.115%**	**2,788**		**1.182%**	**29,539**		**1.205%**	**753,411**		**N = 11**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.

Note:
$100,000-valued property has an additional $75,000 worth of machinery and equipment, an additional $60,000 worth of inventories, and an additional $15,000 worth of fixtures.
$1 million-valued property has an additional $750,000 worth of machinery and equipment, an additional $600,000 worth of inventories, and an additional $150,000 worth of fixtures.
$25 million-valued property has an additional $18.75 million worth of machinery and equipment, an additional $15 million worth of inventories, and an additional $3.75 million worth of fixtures.

Appendix Table 4c: Industrial Property Taxes for the Largest 50 US Cities (Personal Property = 50% of Total Parcel Value)

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Arizona	Mesa	0.797%	1,593	41 (1 ↑)	1.144%	22,877	29 (2 ↑)	1.345%	672,343	24 (1 ↓)	X
Arizona	Phoenix	1.106%	2,212	24 (1 ↑)	1.581%	31,611	15 (1 ↑)	1.855%	927,587	11 (2 ↑)	X
Arizona	Tucson	0.882%	1,764	40 (10 ↓)	1.302%	26,040	25 (8 ↓)	1.545%	772,478	17 (1 ↓)	X
California	Bakersfield	0.944%	1,888	35 (5 ↑)	0.944%	18,875	41 (3 ↑)	0.944%	471,878	41 (3 ↑)	
California	Fresno	1.014%	2,028	30 (2 ↑)	1.014%	20,276	35 (2 ↑)	1.014%	506,889	36 (1 ↑)	
California	Long Beach	0.995%	1,991	31 (3 ↑)	0.995%	19,908	36 (3 ↑)	0.995%	497,712	37 (2 ↑)	
California	Los Angeles	0.960%	1,919	33 (3 ↑)	0.960%	19,190	39 (2 ↑)	0.960%	479,759	39 (2 ↑)	
California	Oakland	1.098%	2,196	26 (1 ↑)	1.098%	21,955	32 (1 ↑)	1.098%	548,880	32 (2 ↑)	
California	Sacramento	0.918%	1,835	37 (-)	0.918%	18,352	43 (1 ↓)	0.918%	458,800	43 (1 ↓)	
California	San Diego	0.980%	1,960	32 (1 ↑)	0.980%	19,601	38 (-)	0.980%	490,036	38 (-)	
California	San Francisco	0.942%	1,884	36 (1 ↓)	0.942%	18,843	42 (2 ↓)	0.942%	471,078	42 (2 ↓)	
California	San Jose	1.029%	2,058	29 (2 ↑)	1.029%	20,579	34 (2 ↑)	1.029%	514,480	35 (1 ↑)	
Colorado	Colorado Springs	0.889%	1,778	39 (-)	1.260%	25,209	27 (1 ↑)	1.300%	650,057	27 (-)	X
Colorado	Denver	1.174%	2,347	21 (3 ↑)	1.673%	33,459	13 (2 ↑)	1.726%	863,093	15 (2 ↑)	X
DC	Washington	0.715%	1,431	43 (1 ↑)	1.353%	27,056	21 (3 ↑)	1.788%	894,008	13 (2 ↑)	X
Florida	Jacksonville	1.148%	2,296	23 (6 ↑)	1.342%	26,839	22 (7 ↑)	1.363%	681,322	23 (7 ↑)	X
Florida	Miami	1.282%	2,563	19 (3 ↑)	1.504%	30,075	17 (1 ↑)	1.527%	763,711	18 (1 ↑)	X
Florida	Tampa	1.093%	2,186	n/a	1.392%	27,847	n/a	1.414%	707,232	n/a	X
Georgia	Atlanta	1.393%	2,785	15 (1 ↑)	1.393%	27,850	18 (2 ↑)	1.393%	696,250	21 (1 ↑)	
Illinois	Chicago	2.456%	4,912	2 (2 ↑)	2.456%	49,117	2 (2 ↑)	2.456%	1,227,923	2 (2 ↑)	
Indiana	Indianapolis	2.137%	4,273	7 (1 ↓)	2.137%	42,735	8 (2 ↓)	2.137%	1,068,369	8 (2 ↓)	
Kansas	Wichita	1.322%	2,643	18 (-)	1.322%	26,435	24 (1 ↓)	1.322%	660,874	26 (1 ↓)	
Kentucky	Louisville	0.733%	1,465	42 (1 ↑)	0.733%	14,654	45 (-)	0.733%	366,349	45 (-)	
Maryland	Baltimore	1.278%	2,556	20 (-)	1.278%	25,556	26 (1 ↑)	1.278%	638,909	28 (1 ↑)	
Massachusetts	Boston	1.074%	2,147	28 (-)	1.074%	21,472	33 (2 ↑)	1.074%	536,790	33 (2 ↑)	
Michigan	Detroit	2.109%	4,218	8 (-)	2.270%	45,390	4 (3 ↑)	2.270%	1,134,754	4 (3 ↑)	X
Minnesota	Minneapolis	0.645%	1,291	46 (5 ↓)	0.985%	19,700	37 (15 ↓)	1.057%	528,586	34 (14 ↓)	X
Missouri	Kansas City	2.157%	4,315	6 (1 ↑)	2.157%	43,149	7 (1 ↑)	2.157%	1,078,719	7 (1 ↑)	
Nebraska	Omaha	1.647%	3,295	13 (1 ↑)	1.647%	32,948	14 (-)	1.647%	823,690	16 (2 ↑)	
Nevada	Las Vegas	0.908%	1,816	38 (-)	0.908%	18,161	44 (1 ↓)	0.908%	454,031	44 (1 ↓)	
New Mexico	Albuquerque	1.368%	2,735	16 (3 ↑)	1.368%	27,354	20 (5 ↑)	1.368%	683,850	22 (4 ↑)	
New York	New York City	0.530%	1,059	49 (-)	0.530%	10,591	49 (-)	0.530%	264,774	49 (-)	
North Carolina	Charlotte	0.574%	1,149	48 (2 ↓)	0.574%	11,487	48 (1 ↓)	0.574%	287,184	48 (1 ↓)	
North Carolina	Raleigh	0.680%	1,359	44 (1 ↑)	0.680%	13,590	46 (-)	0.680%	339,753	46 (-)	
Ohio	Columbus	1.101%	2,202	25 (2 ↓)	1.101%	22,023	31 (1 ↓)	1.101%	550,582	31 (-)	
AVERAGE		**1.280%**	**2,560**		**1.369%**	**27,386**		**1.399%**	**699,482**		**N = 12**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Oklahoma	Oklahoma City	1.520%	3,040	14 (1 ↑)	1.520%	30,398	16 (3 ↑)	1.520%	759,949	19 (2 ↑)	
Oklahoma	Tulsa	1.333%	2,665	17 (-)	1.333%	26,651	23 (2 ↓)	1.333%	666,278	25 (1 ↓)	
Oregon	Portland	2.054%	4,109	9 (2 ↑)	2.054%	41,087	9 (2 ↑)	2.054%	1,027,180	9 (2 ↑)	
Pennsylvania	Philadelphia	0.648%	1,296	45 (3 ↑)	1.109%	22,178	30 (4 ↑)	1.204%	601,960	30 (2 ↑)	X
Tennessee	Memphis	1.838%	3,676	11 (2 ↓)	1.838%	36,762	11 (2 ↓)	1.838%	919,046	12 (3 ↓)	
Tennessee	Nashville	0.953%	1,906	34 (8 ↓)	0.953%	19,059	40 (8 ↓)	0.953%	476,483	40 (7 ↓)	
Texas	Austin	1.744%	3,489	12 (1 ↑)	1.744%	34,886	12 (1 ↑)	1.744%	872,160	14 (-)	
Texas	Dallas	2.264%	4,527	4 (8 ↑)	2.264%	45,272	5 (7 ↑)	2.264%	1,131,807	5 (7 ↑)	
Texas	El Paso	2.751%	5,503	1 (-)	2.751%	55,026	1 (-)	2.751%	1,375,647	1 (-)	
Texas	Fort Worth	2.184%	4,368	5 (2 ↓)	2.184%	43,679	6 (3 ↓)	2.184%	1,091,985	6 (3 ↓)	
Texas	Houston	1.922%	3,843	10 (-)	1.922%	38,435	10 (-)	1.922%	960,863	10 (-)	
Texas	San Antonio	2.454%	4,909	3 (1 ↓)	2.454%	49,088	3 (1 ↓)	2.454%	1,227,202	3 (1 ↓)	
Virginia	Virginia Beach	0.490%	980	50 (-)	0.490%	9,799	50 (-)	0.490%	244,980	50 (-)	
Washington	Seattle	0.608%	1,215	47 (-)	0.608%	12,154	47 (1 ↑)	0.608%	303,850	47 (1 ↑)	
Wisconsin	Milwaukee	1.167%	2,335	22 (1 ↓)	1.200%	24,009	28 (2 ↓)	1.204%	602,006	29 (1 ↓)	X
AVERAGE		**1.280%**	**2,560**		**1.369%**	**27,386**		**1.399%**	**699,482**		**N = 12**

Note:
$100,000-valued property has an additional $50,000 worth of machinery and equipment, an additional $40,000 worth of inventories, and an additional $10,000 worth of fixtures.
$1 million-valued property has an additional $500,000 worth of machinery and equipment, an additional $400,000 worth of inventories, and an additional $100,000 worth of fixtures.
$25 million-valued property has an additional $12.5 million worth of machinery and equipment, an additional $10 million worth of inventories, and an additional $2.5 million worth of fixtures.

Appendix Table 4d: Industrial Property Taxes for the Largest 50 US Cities (Personal Property = 60% of Total Parcel Value)

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Arizona	Mesa	0.637%	1,593	43 (1 ↑)	1.138%	28,442	26 (1 ↓)	1.298%	811,450	24 (1 ↓)	X
Arizona	Phoenix	0.885%	2,212	35 (3 ↓)	1.569%	39,220	15 (1 ↓)	1.788%	1,117,799	13 (1 ↑)	X
Arizona	Tucson	0.706%	1,764	40 (-)	1.311%	32,772	23 (6 ↓)	1.505%	940,777	18 (2 ↓)	X
California	Bakersfield	0.897%	2,241	33 (6 ↑)	0.897%	22,414	37 (7 ↑)	0.897%	560,356	38 (6 ↑)	
California	Fresno	0.963%	2,408	27 (2 ↑)	0.963%	24,077	32 (3 ↑)	0.963%	601,930	33 (2 ↑)	
California	Long Beach	0.946%	2,364	29 (4 ↑)	0.946%	23,641	34 (3 ↑)	0.946%	591,033	35 (3 ↑)	
California	Los Angeles	0.912%	2,279	31 (4 ↑)	0.912%	22,789	36 (3 ↑)	0.912%	569,714	37 (3 ↑)	
California	Oakland	1.043%	2,607	24 (1 ↑)	1.043%	26,072	29 (3 ↑)	1.043%	651,795	29 (3 ↑)	
California	Sacramento	0.872%	2,179	37 (1 ↓)	0.872%	21,793	41 (-)	0.872%	544,825	41 (-)	
California	San Diego	0.931%	2,328	30 (1 ↑)	0.931%	23,277	35 (1 ↑)	0.931%	581,918	36 (1 ↑)	
California	San Francisco	0.895%	2,238	34 (-)	0.895%	22,376	38 (-)	0.895%	559,405	39 (-)	
California	San Jose	0.978%	2,444	26 (1 ↑)	0.978%	24,438	31 (2 ↑)	0.978%	610,945	31 (2 ↑)	
Colorado	Colorado Springs	0.909%	2,273	32 (2 ↓)	1.207%	30,165	25 (1 ↓)	1.238%	773,956	26 (1 ↓)	X
Colorado	Denver	1.205%	3,013	19 (1 ↑)	1.605%	40,115	13 (3 ↑)	1.647%	1,029,499	15 (2 ↑)	X
DC	Washington	0.572%	1,431	45 (2 ↑)	1.490%	37,256	17 (1 ↑)	1.838%	1,149,008	11 (4 ↑)	X
Florida	Jacksonville	1.125%	2,813	22 (4 ↑)	1.280%	32,011	24 (2 ↑)	1.297%	810,606	25 (1 ↑)	X
Florida	Miami	1.262%	3,155	18 (1 ↑)	1.440%	35,995	18 (2 ↑)	1.459%	911,717	19 (1 ↑)	X
Florida	Tampa	1.169%	2,923	n/a	1.335%	33,376	n/a	1.353%	845,453	n/a	X
Georgia	Atlanta	1.376%	3,440	15 (1 ↑)	1.376%	34,404	19 (2 ↑)	1.376%	860,100	20 (1 ↑)	
Illinois	Chicago	1.965%	4,912	7 (4 ↑)	1.965%	49,117	7 (5 ↑)	1.965%	1,227,923	7 (5 ↑)	
Indiana	Indianapolis	2.043%	5,108	5 (-)	2.043%	51,076	5 (-)	2.043%	1,276,899	5 (-)	
Kansas	Wichita	1.115%	2,787	23 (2 ↓)	1.115%	27,875	28 (1 ↓)	1.115%	696,869	28 (-)	
Kentucky	Louisville	0.644%	1,610	42 (1 ↑)	0.644%	16,101	46 (-)	0.644%	402,524	46 (-)	
Maryland	Baltimore	1.134%	2,835	21 (1 ↑)	1.134%	28,352	27 (1 ↑)	1.134%	708,808	27 (2 ↑)	
Massachusetts	Boston	0.859%	2,147	39 (1 ↓)	0.859%	21,472	43 (-)	0.859%	536,790	43 (-)	
Michigan	Detroit	1.687%	4,218	12 (1 ↑)	1.880%	46,995	10 (1 ↑)	1.880%	1,174,879	10 (1 ↑)	X
Minnesota	Minneapolis	0.516%	1,291	48 (7 ↓)	0.788%	19,700	44 (15 ↓)	0.846%	528,586	44 (17 ↓)	X
Missouri	Kansas City	2.039%	5,097	6 (-)	2.039%	50,967	6 (-)	2.039%	1,274,167	6 (-)	
Nebraska	Omaha	1.584%	3,961	13 (1 ↑)	1.584%	39,611	14 (1 ↑)	1.584%	990,271	16 (2 ↑)	
Nevada	Las Vegas	0.864%	2,160	38 (1 ↓)	0.864%	21,603	42 (-)	0.864%	540,083	42 (-)	
New Mexico	Albuquerque	1.315%	3,288	17 (1 ↑)	1.315%	32,885	22 (1 ↑)	1.315%	822,122	23 (1 ↑)	
New York	New York City	0.424%	1,059	50 (1 ↓)	0.424%	10,591	50 (1 ↓)	0.424%	264,774	50 (1 ↓)	
North Carolina	Charlotte	0.548%	1,369	46 (1 ↓)	0.548%	13,688	48 (1 ↓)	0.548%	342,196	48 (1 ↓)	
North Carolina	Raleigh	0.674%	1,686	41 (1 ↑)	0.674%	16,860	45 (-)	0.674%	421,503	45 (-)	
Ohio	Columbus	0.881%	2,202	36 (8 ↓)	0.881%	22,023	40 (6 ↓)	0.881%	550,582	40 (6 ↓)	
AVERAGE		**1.202%**	**3,005**		**1.297%**	**32,428**		**1.321%**	**825,533**		**N = 12**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Oklahoma	Oklahoma City	1.554%	3,884	14 (1 ↑)	1.554%	38,842	16 (3 ↑)	1.554%	971,046	17 (2 ↑)	
Oklahoma	Tulsa	1.320%	3,300	16 (1 ↑)	1.320%	32,997	21 (1 ↑)	1.320%	824,915	22 (-)	
Oregon	Portland	1.952%	4,879	8 (2 ↑)	1.952%	48,791	8 (2 ↑)	1.952%	1,219,776	8 (2 ↑)	
Pennsylvania	Philadelphia	0.518%	1,296	47 (1 ↑)	0.887%	22,178	39 (1 ↑)	0.963%	601,960	32 (4 ↑)	X
Tennessee	Memphis	1.836%	4,590	10 (1 ↓)	1.836%	45,899	11 (2 ↓)	1.836%	1,147,482	12 (3 ↓)	
Tennessee	Nashville	0.958%	2,394	28 (5 ↓)	0.958%	23,940	33 (3 ↓)	0.958%	598,508	34 (4 ↓)	
Texas	Austin	1.763%	4,406	11 (1 ↑)	1.763%	44,065	12 (1 ↑)	1.763%	1,101,621	14 (1 ↓)	
Texas	Dallas	2.280%	5,701	3 (5 ↑)	2.280%	57,011	3 (5 ↑)	2.280%	1,425,283	3 (5 ↑)	
Texas	El Paso	2.763%	6,908	1 (-)	2.763%	69,081	1 (-)	2.763%	1,727,027	1 (-)	
Texas	Fort Worth	2.200%	5,501	4 (1 ↓)	2.200%	55,011	4 (1 ↓)	2.200%	1,375,267	4 (1 ↓)	
Texas	Houston	1.922%	4,806	9 (2 ↓)	1.922%	48,059	9 (2 ↓)	1.922%	1,201,482	9 (2 ↓)	
Texas	San Antonio	2.472%	6,179	2 (-)	2.472%	61,788	2 (-)	2.472%	1,544,691	2 (-)	
Virginia	Virginia Beach	0.424%	1,060	49 (1 ↑)	0.424%	10,599	49 (1 ↑)	0.424%	264,980	49 (1 ↑)	
Washington	Seattle	0.579%	1,448	44 (2 ↑)	0.579%	14,480	47 (1 ↑)	0.579%	362,001	47 (1 ↑)	
Wisconsin	Milwaukee	0.978%	2,444	25 (1 ↓)	1.004%	25,104	30 (1 ↑)	1.007%	629,374	30 (1 ↑)	X
AVERAGE		**1.202%**	**3,005**		**1.297%**	**32,428**		**1.321%**	**825,533**		**N = 12**

Note:
$100,000-valued property has an additional $75,000 worth of machinery and equipment, an additional $60,000 worth of inventories, and an additional $15,000 worth of fixtures.
$1 million-valued property has an additional $750,000 worth of machinery and equipment, an additional $600,000 worth of inventories, and an additional $150,000 worth of fixtures.
$25 million-valued property has an additional $18.75 million worth of machinery and equipment, an additional $15 million worth of inventories, and an additional $3.75 million worth of fixtures.

Appendix Table 4e: Industrial Property Taxes for Selected Rural Municipalities (Personal Property = 50% of Total Parcel Value)

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Alabama	Monroeville	0.656%	1,312	45 (-)	0.656%	13,120	46 (-)	0.656%	328,000	46 (1 ↑)	
Alaska	Ketchikan	0.759%	1,517	39 (2 ↑)	0.891%	17,830	30 (5 ↑)	0.906%	452,825	31 (3 ↑)	X
Arizona	Safford	0.552%	1,104	47 (-)	0.853%	17,060	33 (1 ↑)	1.027%	513,512	26 (2 ↓)	X
Arkansas	Pocahontas	0.815%	1,631	34 (3 ↑)	0.815%	16,309	38 (2 ↑)	0.815%	407,733	38 (2 ↑)	
California	Yreka	0.837%	1,674	31 (4 ↑)	0.837%	16,736	35 (3 ↑)	0.837%	418,395	35 (3 ↑)	
Colorado	Walsenburg	1.929%	3,857	6 (2 ↓)	1.929%	38,572	6 (2 ↓)	1.929%	964,293	6 (2 ↓)	
Connecticut	Litchfield	0.936%	1,873	26 (1 ↑)	0.936%	18,727	27 (2 ↑)	0.936%	468,185	29 (1 ↑)	
Delaware	Georgetown	0.208%	416	49 (1 ↑)	0.208%	4,161	50 (-)	0.208%	104,031	50 (-)	
Florida	Moore Haven	1.441%	2,882	10 (1 ↑)	1.679%	33,583	9 (1 ↑)	1.705%	852,275	9 (1 ↑)	X
Georgia	Fitzgerald	1.455%	2,911	9 (1 ↑)	1.455%	29,106	11 (-)	1.455%	727,653	11 (1 ↑)	
Hawaii	Kauai	0.405%	810	48 (1 ↑)	0.405%	8,100	48 (1 ↑)	0.405%	202,500	49 (-)	
Idaho	Saint Anthony	0.198%	397	50 (2 ↓)	0.352%	7,033	49 (1 ↓)	0.457%	228,421	48 (5 ↓)	X
Illinois	Galena	1.260%	2,520	17 (-)	1.260%	25,205	18 (1 ↑)	1.260%	630,114	19 (1 ↑)	
Indiana	North Vernon	2.364%	4,728	3 (1 ↓)	2.364%	47,280	3 (1 ↓)	2.364%	1,182,000	3 (1 ↓)	
Iowa	Hampton	0.759%	1,518	38 (1 ↑)	1.176%	23,528	21 (3 ↓)	1.247%	623,546	20 (6 ↓)	X
Kansas	Iola	2.515%	5,030	2 (1 ↑)	2.515%	50,304	2 (1 ↑)	2.515%	1,257,592	2 (1 ↑)	
Kentucky	Morehead	0.830%	1,660	32 (14 ↑)	0.830%	16,603	36 (11 ↑)	0.830%	415,080	36 (12 ↑)	
Louisiana	Natchitoches	1.358%	2,717	12 (1 ↑)	1.358%	27,166	13 (1 ↑)	1.358%	679,162	13 (3 ↑)	
Maine	Rockland	1.335%	2,670	13 (2 ↑)	1.335%	26,697	14 (2 ↑)	1.335%	667,425	14 (4 ↑)	
Maryland	Denton	1.004%	2,009	24 (3 ↓)	1.004%	20,086	26 (2 ↓)	1.004%	502,148	28 (3 ↓)	
Massachusetts	Adams	1.244%	2,488	18 (5 ↑)	1.244%	24,881	19 (7 ↑)	1.244%	622,013	21 (6 ↑)	
Michigan	Manistique	1.287%	2,574	15 (6 ↓)	1.287%	25,739	16 (7 ↓)	1.287%	643,480	17 (8 ↓)	
Minnesota	Glencoe	0.974%	1,948	25 (-)	1.486%	29,718	10 (2 ↑)	1.576%	787,953	10 (1 ↑)	X
Mississippi	Philadelphia	2.071%	4,142	4 (2 ↑)	2.071%	41,424	4 (2 ↑)	2.071%	1,035,600	4 (2 ↑)	
Missouri	Boonville	1.915%	3,830	7 (1 ↑)	1.915%	38,296	7 (1 ↑)	1.915%	957,393	7 (1 ↑)	
Montana	Glasgow	0.726%	1,451	43 (12 ↓)	0.919%	18,381	29 (7 ↓)	1.329%	664,459	15 (2 ↓)	X
Nebraska	Sidney	1.752%	3,504	8 (1 ↓)	1.752%	35,040	8 (1 ↓)	1.752%	875,994	8 (1 ↓)	
Nevada	Fallon	1.012%	2,024	23 (1 ↓)	1.012%	20,240	25 (-)	1.012%	505,995	27 (1 ↓)	
New	Lancaster	0.579%	1,158	46 (18 ↓)	0.579%	11,580	47 (17 ↓)	0.579%	289,510	47 (16 ↓)	
New Jersey	Maurice River	1.230%	2,460	19 (5 ↓)	1.230%	24,603	20 (5 ↓)	1.230%	615,082	22 (5 ↓)	
New Mexico	Santa Rosa	0.873%	1,746	28 (16 ↑)	0.873%	17,458	31 (14 ↑)	0.873%	436,454	32 (14 ↑)	
New York	Warsaw	1.433%	2,866	11 (1 ↑)	1.433%	28,664	12 (1 ↑)	1.433%	716,591	12 (3 ↑)	
North Carolina	Edenton	0.793%	1,587	35 (2 ↓)	0.793%	15,866	39 (3 ↓)	0.793%	396,652	39 (3 ↓)	
North Dakota	Devils Lake	0.734%	1,467	42 (-)	0.734%	14,673	44 (1 ↓)	0.734%	366,829	44 (-)	
Ohio	Bryan	1.280%	2,559	16 (10 ↑)	1.280%	25,593	17 (11 ↑)	1.280%	639,832	18 (11 ↑)	
AVERAGE		**1.143%**	**2,285**		**1.182%**	**23,647**		**1.200%**	**600,107**		**N = 8**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Oklahoma	Mangum	1.097%	2,193	20 (1 ↓)	1.097%	21,935	23 (2 ↓)	1.097%	548,370	24 (2 ↓)	
Oregon	Tillamook	0.928%	1,855	27 (2 ↑)	0.928%	18,552	28 (3 ↑)	0.928%	463,796	30 (2 ↑)	
Pennsylvania	Ridgway	0.830%	1,659	33 (3 ↓)	0.830%	16,595	37 (5 ↓)	0.830%	414,868	37 (4 ↓)	
Rhode Island	Hopkinton	0.751%	1,501	40 (16 ↓)	0.751%	15,012	42 (15 ↓)	0.751%	375,296	42 (14 ↓)	
South Carolina	Mullins	3.893%	7,787	1 (-)	3.893%	77,869	1 (-)	3.893%	1,946,720	1 (-)	
South Dakota	Vermillion	0.853%	1,706	30 (8 ↑)	0.853%	17,060	34 (7 ↑)	0.853%	426,497	34 (7 ↑)	
Tennessee	Savannah	0.861%	1,722	29 (5 ↑)	0.861%	17,220	32 (5 ↑)	0.861%	430,500	33 (4 ↑)	
Texas	Fort Stockton	1.948%	3,896	5 (-)	1.948%	38,964	5 (-)	1.948%	974,097	5 (-)	
Utah	Richfield	0.785%	1,570	36 (-)	0.785%	15,697	40 (1 ↓)	0.785%	392,425	40 (1 ↓)	
Vermont	Hartford	1.298%	2,595	14 (2 ↑)	1.298%	25,955	15 (2 ↑)	1.298%	648,870	16 (3 ↑)	
Virginia	Wise	0.778%	1,557	37 (3 ↑)	0.778%	15,566	41 (1 ↑)	0.778%	389,138	41 (1 ↑)	
Washington	Okanogan	0.738%	1,476	41 (9 ↓)	0.738%	14,762	43 (10 ↓)	0.738%	369,051	43 (8 ↓)	
West Virginia	Elkins	1.082%	2,163	21 (1 ↓)	1.082%	21,631	24 (1 ↓)	1.082%	540,774	25 (2 ↓)	
Wisconsin	Rice Lake	1.071%	2,142	22 (4 ↓)	1.108%	22,159	22 (2 ↓)	1.112%	555,948	23 (2 ↓)	X
Wyoming	Worland	0.701%	1,401	44 (1 ↓)	0.701%	14,012	45 (1 ↓)	0.701%	350,290	45 (-)	
AVERAGE		**1.143%**	**2,285**		**1.182%**	**23,647**		**1.200%**	**600,107**		**N = 8**

$100,000-valued property has an additional $50,000 worth of machinery and equipment, an additional $40,000 worth of inventories, and an additional $10,000 worth of fixtures.
$1 million-valued property has an additional $500,000 worth of machinery and equipment, an additional $400,000 worth of inventories, and an additional $100,000 worth of fixtures.
$25 million-valued property has an additional $12.5 million worth of machinery and equipment, an additional $10 million worth of inventories, and an additional $2.5 million worth of fixtures.

Appendix Table 4f: Industrial Property Taxes for Selected Rural Municipalities (Personal Property = 60% of Total Parcel Value)

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Alabama	Monroeville	0.623%	1,558	42 (2 ↑)	0.623%	15,580	45 (1 ↑)	0.623%	389,500	45 (1 ↑)	
Alaska	Ketchikan	0.749%	1,871	34 (2 ↑)	0.855%	21,370	30 (-)	0.866%	541,325	30 (1 ↓)	X
Arizona	Safford	0.442%	1,104	47 (-)	0.875%	21,882	29 (4 ↓)	1.014%	634,057	21 (-)	X
Arkansas	Pocahontas	0.814%	2,036	28 (-)	0.814%	20,360	33 (-)	0.814%	509,008	33 (-)	
California	Yreka	0.795%	1,987	30 (2 ↑)	0.795%	19,874	35 (2 ↑)	0.795%	496,844	35 (2 ↑)	
Colorado	Walsenburg	1.831%	4,578	6 (1 ↓)	1.831%	45,781	6 (1 ↓)	1.831%	1,144,535	6 (1 ↓)	
Connecticut	Litchfield	0.786%	1,966	31 (1 ↓)	0.786%	19,662	36 (1 ↓)	0.786%	491,547	36 (1 ↓)	
Delaware	Georgetown	0.166%	416	49 (1 ↑)	0.166%	4,161	50 (-)	0.166%	104,031	50 (-)	
Florida	Moore Haven	1.407%	3,517	10 (-)	1.597%	39,935	9 (-)	1.618%	1,011,084	9 (-)	X
Georgia	Fitzgerald	1.420%	3,550	9 (-)	1.420%	35,504	10 (-)	1.420%	887,599	10 (-)	
Hawaii	Kauai	0.324%	810	48 (1 ↑)	0.324%	8,100	49 (-)	0.324%	202,500	49 (-)	
Idaho	Saint Anthony	0.159%	397	50 (2 ↓)	0.387%	9,663	48 (4 ↓)	0.471%	294,154	47 (7 ↓)	X
Illinois	Galena	1.008%	2,520	19 (-)	1.008%	25,205	20 (2 ↑)	1.008%	630,114	22 (1 ↑)	
Indiana	North Vernon	2.251%	5,628	2 (-)	2.251%	56,280	2 (-)	2.251%	1,407,000	2 (-)	
Iowa	Hampton	0.607%	1,518	43 (-)	0.941%	23,528	24 (4 ↓)	0.998%	623,546	23 (7 ↓)	X
Kansas	Iola	2.115%	5,288	3 (3 ↑)	2.115%	52,875	3 (3 ↑)	2.115%	1,321,886	3 (3 ↑)	
Kentucky	Morehead	0.723%	1,806	36 (10 ↑)	0.723%	18,065	39 (9 ↑)	0.723%	451,618	39 (9 ↑)	
Louisiana	Natchitoches	1.372%	3,429	11 (-)	1.372%	34,288	11 (1 ↑)	1.372%	857,193	12 (1 ↑)	
Maine	Rockland	1.116%	2,791	14 (-)	1.116%	27,911	15 (-)	1.116%	697,763	16 (1 ↑)	
Maryland	Denton	0.882%	2,206	24 (2 ↓)	0.882%	22,061	27 (1 ↓)	0.882%	551,523	28 (2 ↓)	
Massachusetts	Adams	0.995%	2,488	20 (9 ↑)	0.995%	24,881	21 (13 ↑)	0.995%	622,013	24 (10 ↑)	
Michigan	Manistique	1.063%	2,657	16 (4 ↓)	1.063%	26,567	17 (6 ↓)	1.063%	664,180	18 (6 ↓)	
Minnesota	Glencoe	0.779%	1,948	32 (1 ↑)	1.189%	29,718	12 (1 ↑)	1.261%	787,953	13 (1 ↑)	X
Mississippi	Philadelphia	2.071%	5,178	4 (-)	2.071%	51,780	4 (-)	2.071%	1,294,500	4 (-)	
Missouri	Boonville	1.802%	4,505	7 (1 ↑)	1.802%	45,047	7 (1 ↑)	1.802%	1,126,165	7 (1 ↑)	
Montana	Glasgow	0.581%	1,451	45 (6 ↓)	0.890%	22,247	26 (5 ↓)	1.372%	857,802	11 (-)	X
Nebraska	Sidney	1.686%	4,216	8 (1 ↓)	1.686%	42,158	8 (1 ↓)	1.686%	1,053,940	8 (1 ↓)	
Nevada	Fallon	0.963%	2,408	22 (2 ↓)	0.963%	24,083	23 (1 ↑)	0.963%	602,070	26 (1 ↓)	
New Hampshire	Lancaster	0.463%	1,158	46 (9 ↓)	0.463%	11,580	47 (7 ↓)	0.463%	289,510	48 (7 ↓)	
New Jersey	Maurice River	0.984%	2,460	21 (4 ↓)	0.984%	24,603	22 (4 ↓)	0.984%	615,082	25 (5 ↓)	
New Mexico	Santa Rosa	0.828%	2,069	27 (14 ↑)	0.828%	20,689	32 (11 ↑)	0.828%	517,219	32 (12 ↑)	
New York	Warsaw	1.147%	2,866	12 (3 ↑)	1.147%	28,664	13 (3 ↑)	1.147%	716,591	14 (4 ↑)	
North Carolina	Edenton	0.774%	1,936	33 (7 ↓)	0.774%	19,361	37 (6 ↓)	0.774%	484,027	37 (6 ↓)	
North Dakota	Devils Lake	0.587%	1,467	44 (1 ↑)	0.587%	14,673	46 (1 ↑)	0.587%	366,829	46 (1 ↑)	
Ohio	Bryan	1.024%	2,559	18 (17 ↑)	1.024%	25,593	19 (20 ↑)	1.024%	639,832	20 (19 ↑)	
AVERAGE		**1.035%**	**2,587**		**1.076%**	**26,891**		**1.093%**	**683,138**		**N = 8**

		Land and Building Value: $100,000			Land and Building Value: $1 Million			Land and Building Value: $25 Million			Tax Rate Varies with Property Value
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	**Tax Rate**	**Tax Bill**	**Rank**	
Oklahoma	Mangum	1.121%	2,803	13 (-)	1.121%	28,028	14 (-)	1.121%	700,695	15 (-)	
Oregon	Tillamook	0.881%	2,203	25 (2 ↓)	0.881%	22,030	28 (1 ↓)	0.881%	550,758	29 (2 ↓)	
Pennsylvania	Ridgway	0.664%	1,659	40 (2 ↓)	0.664%	16,595	43 (2 ↓)	0.664%	414,868	43 (1 ↓)	
Rhode Island	Hopkinton	0.630%	1,574	41 (14 ↓)	0.630%	15,745	44 (12 ↓)	0.630%	393,621	44 (12 ↓)	
South Carolina	Mullins	3.699%	9,247	1 (-)	3.699%	92,469	1 (-)	3.699%	2,311,730	1 (-)	
South Dakota	Vermillion	0.682%	1,706	38 (4 ↑)	0.682%	17,060	41 (4 ↑)	0.682%	426,497	41 (4 ↑)	
Tennessee	Savannah	0.836%	2,091	26 (1 ↓)	0.836%	20,910	31 (2 ↓)	0.836%	522,750	31 (1 ↓)	
Texas	Fort Stockton	1.947%	4,867	5 (2 ↓)	1.947%	48,671	5 (2 ↓)	1.947%	1,216,772	5 (2 ↓)	
Utah	Richfield	0.748%	1,870	35 (1 ↓)	0.748%	18,697	38 (-)	0.748%	467,425	38 (-)	
Vermont	Hartford	1.038%	2,595	17 (1 ↑)	1.038%	25,955	18 (1 ↑)	1.038%	648,870	19 (3 ↑)	
Virginia	Wise	0.797%	1,992	29 (2 ↑)	0.797%	19,916	34 (2 ↑)	0.797%	497,888	34 (2 ↑)	
Washington	Okanogan	0.716%	1,789	37 (13 ↓)	0.716%	17,894	40 (12 ↓)	0.716%	447,350	40 (12 ↓)	
West Virginia	Elkins	1.082%	2,704	15 (1 ↑)	1.082%	27,039	16 (1 ↑)	1.082%	675,968	17 (2 ↑)	
Wisconsin	Rice Lake	0.897%	2,244	23 (2 ↓)	0.927%	23,170	25 (2 ↓)	0.930%	581,222	27 (3 ↓)	X
Wyoming	Worland	0.666%	1,664	39 (1 ↑)	0.666%	16,639	42 (-)	0.666%	415,969	42 (1 ↑)	
AVERAGE		**1.035%**	**2,587**		**1.076%**	**26,891**		**1.093%**	**683,138**		**N = 8**

$100,000-valued property has an additional $75,000 worth of machinery and equipment, an additional $60,000 worth of inventories, and an additional $15,000 worth of fixtures.
$1 million-valued property has an additional $750,000 worth of machinery and equipment, an additional $600,000 worth of inventories, and an additional $150,000 worth of fixtures.
$25 million-valued property has an additional $18.75 million worth of machinery and equipment, an additional $15 million worth of inventories, and an additional $3.75 million worth of fixtures.

Appendix Table 4g: Preferential Treatment of Personal Property, Largest City in Each State

State	City	Machinery & Equipment		Manufacturers' Inventories		Fixtures		Rural Municipality
		Full Exemption	Preferential Treatment	Full Exemption	Preferential Treatment	Full Exemption	Preferential Treatment	Are preferences for personal property the same as in the state's rural municipality?
Alabama	Birmingham			X	X			Yes
Alaska	Anchorage		X		X		X	No - See note below
Arizona	Phoenix		X	X	X		X	Yes
Arkansas	Little Rock							No - See note below
California	Los Angeles			X	X			Yes
Colorado	Denver			X	X			Yes
Connecticut	Bridgeport	X	X	X	X			Yes
DC	Washington		***	X	X		***	Yes
Delaware	Wilmington	X	X	X	X	X	X	Yes
Florida	Jacksonville		X	X	X		X	Yes
Georgia	Atlanta				X			Yes
Hawaii	Honolulu	X	X	X	X	X	X	Yes
Idaho	Boise		X	X	X		X	Yes
Illinois	Aurora*	X	X	X	X	X	X	Yes
Illinois	Chicago	X	X	X	X	X	X	Yes
Indiana	Indianapolis			X	X			Yes
Iowa	Des Moines	X	X	X	X	X	X	Yes
Kansas	Wichita	X	X	X	X			Yes
Kentucky	Louisville		X		X		-	Yes
Louisiana	New Orleans		-		-		-	Yes
Maine	Portland	X	X	X	X			Yes
Maryland	Baltimore	X	X	X	X		-	Yes
Massachusetts	Boston	X	X	X	X	X	X	Yes
Michigan	Detroit	X	X	X	X		X	Yes
Minnesota	Minneapolis	X	X	X	X	X	X	Yes
Mississippi	Jackson							Yes
Missouri	Kansas City		X	X	X		X	Yes
Montana	Billings		***	X	X		***	Yes
Nebraska	Omaha		-	X	X		-	Yes
Nevada	Las Vegas			X	X			Yes
New Hampshire	Manchester	X	X	X	X	X	X	Yes
New Jersey	Newark	X	X	X	X	X	X	Yes
New Mexico	Albuquerque			X	X			No - See note below
New York	Buffalo*	X	X	X	X	X	X	Yes
New York	New York City	X	X	X	X	X	X	Yes
	Number of Cities	**22**	**31**	**43**	**47**	**15**	**23**	**No = 7**

State	City	Machinery & Equipment		Manufacturers' Inventories		Fixtures		Rural Municipality
		Full Exemption	Preferential Treatment	Full Exemption	Preferential Treatment	Full Exemption	Preferential Treatment	Are preferences for personal property the same as in the state's rural municipality?
North Carolina	Charlotte			X	X			Yes
North Dakota	Fargo	X	X	X	X	X	X	Yes
Ohio	Columbus	X	X	X	X	X	X	Yes
Oklahoma	Oklahoma City		-		-		-	Yes
Oregon	Portland			X	X			Yes
Pennsylvania	Philadelphia	X	X	X	X	X	X	Yes
Rhode Island	Providence	X	X	X	X		-	No - See note below
South Carolina	Charleston			X	X			Yes
South Dakota	Sioux Falls	X	X	X	X	X	X	Yes
Tennessee	Nashville		X		X		X	Yes
Texas	Houston							Yes
Utah	Salt Lake City			X	X			Yes
Vermont	Burlington		X	X	X		X	No - See note below
Virginia	Virginia Beach		X	X	X		-	No - See note below
Washington	Seattle			X	X			Yes
West Virginia	Charleston							Yes
Wisconsin	Milwaukee	X	X	X	X		-	Yes
Wyoming	Cheyenne			X	X			No - See note below
	Number of Cities	**22**	**31**	**43**	**47**	**15**	**23**	**No = 7**

* Preferential treatment means there are statutory provisions that result in lower property taxes on personal property than on real property, which could be due to exemptions/credits, the nominal tax rate, or the assessment ratio. Preferences are usually fairly uniform within a state.
** A dash ("-") indicates that real property is treated preferentially to personal property.
*** In the District of Columbia there is a personal property exemption, which is capped at a fixed value amount. This provides personal property with preferential treatment for a $100,000-valued property but the nonpreferential treatment embedded in the tax system overwhelms that benefit at higher values.
*** In Montana, whether personal property is treated preferentially to real property depends on the total value of a parcel. At low values, machinery and equipment and fixtures are taxed preferentially, because of Montana's exemption of the first $300,000 of property value. But at high values, personal property is being taxed more heavily than real property because the state has a system of tiered assessment ratios.

Differences in Preferential Treatment in Rural Municipalities
-Alaska: Ketchikan has a full exemption for manufacturers' inventories.
-Arkansas: Pocahontas has preferential treatment for manufacturers' inventories.
-New Mexico: Santa Rosa has preferential treatment for machinery/equipment and fixtures.
-Rhode Island: Hopkinton does not treat real property preferentially to fixtures.
-Vermont: Hartford has a full exemption for machinery/equipment and fixtures.
-Virginia: Wise treats real property preferentially to machinery/equipment.
-Wyoming: Worland does not have preferential treatment for manufacturers' inventories.

Appendix Table 5a: Apartment Property Taxes for Largest City in Each State

		Land and Building Value: $600,000				Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Alabama	Birmingham	1.444%	9,100	26	1 ↑	
Alaska	Anchorage	1.485%	9,356	22	4 ↑	X
Arizona	Phoenix	1.161%	7,313	38	1 ↓	X
Arkansas	Little Rock	1.361%	8,572	31	3 ↓	
California	Los Angeles	1.199%	7,556	37	3 ↑	
Colorado	Denver	0.520%	3,273	50	2 ↑	X
Connecticut	Bridgeport	1.841%	11,595	15	11 ↓	
DC	Washington	0.702%	4,422	49	-	X
Delaware	Wilmington	1.112%	7,005	41	2 ↓	X
Florida	Jacksonville	1.626%	10,243	20	3 ↑	X
Georgia	Atlanta	1.482%	9,337	23	1 ↓	
Hawaii	Honolulu	0.320%	2,014	53	-	X
Idaho	Boise	0.891%	5,611	44	2 ↑	X
Illinois	Aurora*	3.018%	19,016	2	-	X
Illinois	Chicago	1.453%	9,157	24	3 ↓	X
Indiana	Indianapolis	2.314%	14,577	6	10 ↑	X
Iowa	Des Moines	1.706%	10,747	19	12 ↓	X
Kansas	Wichita	1.240%	7,814	35	1 ↓	
Kentucky	Louisville	1.120%	7,056	40	1 ↑	X
Louisiana	New Orleans	1.288%	8,115	32	2 ↓	
Maine	Portland	1.361%	8,574	30	6 ↑	
Maryland	Baltimore	2.168%	13,656	9	-	
Massachusetts	Boston	0.941%	5,928	42	1 ↑	X
Michigan	Detroit	3.715%	23,404	1	-	X
Minnesota	Minneapolis	1.438%	9,061	27	3 ↓	X
Mississippi	Jackson	2.709%	17,066	4	1 ↑	
Missouri	Kansas City	1.276%	8,037	33	2 ↑	X
Montana	Billings	0.801%	5,044	45	1 ↓	X
Nebraska	Omaha	1.974%	12,439	11	3 ↑	
Nevada	Las Vegas	1.126%	7,091	39	3 ↑	
New Hampshire	Manchester	1.584%	9,981	21	3 ↓	X
New Jersey	Newark	2.905%	18,304	3	-	X
New Mexico	Albuquerque	1.447%	9,113	25	4 ↑	
New York	Buffalo*	1.894%	11,930	14	1 ↓	X
New York	New York City	1.786%	11,251	17	2 ↓	X
AVERAGE		**1.511%**	**9,521**			**N = 29**

		Land and Building Value: $600,000				Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
North Carolina	Charlotte	0.710%	4,472	48	1 ↓	
North Dakota	Fargo	1.221%	7,692	36	3 ↓	X
Ohio	Columbus	2.091%	13,171	10	1 ↑	X
Oklahoma	Oklahoma	1.367%	8,613	29	2 ↑	
Oregon	Portland	2.568%	16,178	5	1 ↑	
Pennsylvania	Philadelphia	1.246%	7,853	34	4 ↑	X
Rhode Island	Providence	1.786%	11,252	16	3 ↑	
South Carolina	Charleston	1.708%	10,761	18	2 ↑	
South Dakota	Sioux Falls	1.385%	8,723	28	3 ↓	X
Tennessee	Nashville	0.932%	5,871	43	11 ↓	
Texas	Houston	1.946%	12,259	12	-	
Utah	Salt Lake City	0.484%	3,050	52	1 ↓	X
Vermont	Burlington	2.195%	13,829	7	3 ↑	X
Virginia	Virginia Beach	0.713%	4,491	47	1 ↑	
Washington	Seattle	0.751%	4,734	46	1 ↓	
West Virginia	Charleston	1.912%	12,049	13	4 ↑	X
Wisconsin	Milwaukee	2.180%	13,736	8	-	
Wyoming	Cheyenne	0.499%	3,144	51	1 ↓	
AVERAGE		**1.511%**	**9,521**			**N = 29**

* Illinois and New York have two cities included in this table, because the tax systems in Chicago and New York City are significantly different from those in the rest of the state.

Note: Property has an additional $30,000 worth of fixtures.

Appendix Table 5b: Apartment Property Taxes for the Largest 50 US Cities

		Land and Building Value: $600,000				Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Arizona	Mesa	0.852%	5,368	43	-	X
Arizona	Phoenix	1.161%	7,313	36	5 ↓	X
Arizona	Tucson	0.976%	6,146	40	-	X
California	Bakersfield	1.180%	7,432	34	1 ↑	
California	Fresno	1.267%	7,983	28	-	
California	Long Beach	1.244%	7,839	30	4 ↑	
California	Los Angeles	1.199%	7,556	33	4 ↑	
California	Oakland	1.372%	8,645	24	-	
California	Sacramento	1.147%	7,226	37	2 ↑	
California	San Diego	1.225%	7,718	32	1 ↑	
California	San Francisco	1.178%	7,419	35	1 ↑	
California	San Jose	1.286%	8,103	26	1 ↑	
Colorado	Colorado Springs	0.372%	2,346	50	-	X
Colorado	Denver	0.520%	3,273	49	-	X
DC	Washington	0.702%	4,422	48	-	X
Florida	Jacksonville	1.626%	10,243	18	2 ↑	X
Florida	Miami	1.799%	11,335	15	2 ↑	X
Florida	Tampa	1.657%	10,442	17	n/a	
Georgia	Atlanta	1.482%	9,337	19	-	
Illinois	Chicago	1.453%	9,157	20	2 ↓	X
Indiana	Indianapolis	2.314%	14,577	5	10 ↑	X
Kansas	Wichita	1.240%	7,814	31	2 ↓	
Kentucky	Louisville	1.120%	7,056	39	1 ↓	X
Maryland	Baltimore	2.168%	13,656	8	1 ↑	
Massachusetts	Boston	0.941%	5,928	41	1 ↑	X
Michigan	Detroit	3.715%	23,404	1	-	X
Minnesota	Minneapolis	1.438%	9,061	22	1 ↓	X
Missouri	Kansas City	1.276%	8,037	27	3 ↑	X
Nebraska	Omaha	1.974%	12,439	11	2 ↑	
Nevada	Las Vegas	1.126%	7,091	38	3 ↑	
New Mexico	Albuquerque	1.447%	9,113	21	2 ↑	
New York	New York City	1.786%	11,251	16	2 ↓	X
North Carolina	Charlotte	0.710%	4,472	47	1 ↓	
North Carolina	Raleigh	0.723%	4,557	45	1 ↓	
Ohio	Columbus	2.091%	13,171	9	1 ↑	X
AVERAGE		**1.479%**	**9,320**			**N = 20**

		Land and Building Value: $600,000				Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Oklahoma	Oklahoma City	1.367%	8,613	25	-	
Oklahoma	Tulsa	1.390%	8,757	23	1 ↓	X
Oregon	Portland	2.568%	16,178	3	-	
Pennsylvania	Philadelphia	1.246%	7,853	29	3 ↑	X
Tennessee	Memphis	1.848%	11,640	13	8 ↓	X
Tennessee	Nashville	0.932%	5,871	42	16 ↓	
Texas	Austin	1.820%	11,464	14	2 ↑	
Texas	Dallas	2.216%	13,964	6	5 ↑	
Texas	El Paso	2.706%	17,049	2	-	
Texas	Fort Worth	2.084%	13,127	10	4 ↓	
Texas	Houston	1.946%	12,259	12	-	
Texas	San Antonio	2.433%	15,331	4	-	
Virginia	Virginia Beach	0.713%	4,491	46	1 ↑	
Washington	Seattle	0.751%	4,734	44	1 ↑	
Wisconsin	Milwaukee	2.179%	13,728	7	1 ↑	
AVERAGE		**1.479%**	**9,320**			**N = 20**

Note: Property has an additional $30,000 worth of fixtures.

Appendix Table 5c: Apartment Property Taxes for Selected Rural Municipalities

		Land and Building Value: $600,000				Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Alabama	Monroeville	0.909%	5,727	38	4 ↑	X
Alaska	Ketchikan	1.061%	6,686	31	1 ↑	X
Arizona	Safford	0.579%	3,648	45	-	X
Arkansas	Pocahontas	0.820%	5,167	42	1 ↓	X
California	Yreka	1.046%	6,590	32	1 ↑	
Colorado	Walsenburg	0.558%	3,514	46	1 ↑	X
Connecticut	Litchfield	1.340%	8,440	25	-	
Delaware	Georgetown	0.403%	2,541	49	1 ↑	X
Florida	Moore Haven	2.056%	12,950	12	2 ↑	X
Georgia	Fitzgerald	1.635%	10,298	19	3 ↑	
Hawaii	Kauai	0.519%	3,270	47	1 ↑	X
Idaho	Saint Anthony	0.378%	2,380	50	10 ↓	X
Illinois	Galena	2.400%	15,123	6	1 ↑	X
Indiana	North Vernon	1.859%	11,712	16	-	X
Iowa	Hampton	1.930%	12,161	14	6 ↓	X
Kansas	Iola	2.321%	14,625	8	1 ↑	
Kentucky	Morehead	1.303%	8,208	26	10 ↑	X
Louisiana	Natchitoches	0.945%	5,951	37	-	
Maine	Rockland	2.427%	15,290	5	1 ↑	
Maryland	Denton	1.725%	10,867	17	2 ↑	
Massachusetts	Adams	1.714%	10,796	18	3 ↓	X
Michigan	Manistique	2.526%	15,915	3	2 ↓	
Minnesota	Glencoe	1.506%	9,488	22	1 ↑	X
Mississippi	Philadelphia	2.071%	13,049	11	2 ↑	
Missouri	Boonville	0.866%	5,454	40	1 ↓	X
Montana	Glasgow	1.023%	6,444	33	3 ↓	X
Nebraska	Sidney	2.094%	13,194	9	1 ↑	
Nevada	Fallon	1.246%	7,850	27	-	
New	Lancaster	1.103%	6,948	30	10 ↓	X
New Jersey	Maurice River Twp	2.343%	14,762	7	3 ↓	X
New Mexico	Santa Rosa	0.983%	6,193	35	9 ↑	X
New York	Warsaw	2.730%	17,198	1	2 ↑	X
North Carolina	Edenton	0.901%	5,675	39	8 ↓	
North Dakota	Devils Lake	1.397%	8,804	23	3 ↑	X
Ohio	Bryan	1.898%	11,957	15	3 ↑	X
AVERAGE		**1.429%**	**9,003**			**N = 29**

		Land and Building Value: $600,000				Lower Tax Rate on Personal Property
State	**City**	**Tax Rate**	**Tax Bill**	**Rank**	**Change from '22**	
Oklahoma	Mangum	0.986%	6,215	34	1 ↑	
Oregon	Tillamook	1.159%	7,305	29	-	
Pennsylvania	Ridgway	1.580%	9,957	21	-	X
Rhode Island	Hopkinton	1.360%	8,567	24	7 ↓	
South Carolina	Mullins	2.665%	16,788	2	-	
South Dakota	Vermillion	1.625%	10,236	20	4 ↑	X
Tennessee	Savannah	0.972%	6,125	36	2 ↑	X
Texas	Fort Stockton	2.077%	13,083	10	2 ↑	
Utah	Richfield	0.508%	3,200	48	1 ↑	X
Vermont	Hartford	2.472%	15,573	4	1 ↑	X
Virginia	Wise	0.736%	4,635	43	-	
Washington	Okanogan	0.859%	5,412	41	7 ↓	
West Virginia	Elkins	1.185%	7,463	28	-	X
Wisconsin	Rice Lake	2.009%	12,656	13	2 ↓	
Wyoming	Worland	0.641%	4,037	44	2 ↑	
AVERAGE		**1.429%**	**9,003**			**N = 29**

Note: Property has an additional $30,000 worth of fixtures.

Appendix Table 6a: Commercial-Homestead Classification Ratio for Largest City in Each State

		Classification Ratio			Causes of Preferential Treatment of Homesteads				
State	City	Rank	Ratio	Change from '22	Assessment Ratio	Nominal Tax Rate	Exemptions & Credits	Assessment Limits	Sales Ratio
Alabama	Birmingham	8	3.151	1.259	X		X		+
Alaska	Anchorage	32	1.178	-0.017			X		
Arizona	Phoenix	16	2.041	-0.054	X	X			+
Arkansas	Little Rock	24	1.626	0.066			X	X	+
California	Los Angeles	41	1.008	-0.001			X		
Colorado	Denver	4	3.943	-0.167	X				-
Connecticut	Bridgeport	53	0.728	-0.272					-
DC	Washington	17	1.957	-0.003		X	X		-
Delaware	Wilmington	52	0.857	-0.224					-
Florida	Jacksonville	9	3.078	-0.365			X	X	
Georgia	Atlanta	20	1.778	0.113			X		
Hawaii	Honolulu	2	4.783	1.067		X	X		+
Idaho	Boise	28	1.494	0.218			X		+
Illinois	Aurora*	37	1.067	-0.011			X		
Illinois	Chicago	6	3.514	0.361	X		X	X	
Indiana	Indianapolis	11	2.573	0.183			X		+
Iowa	Des Moines	22	1.762	-0.015	X		X		+
Kansas	Wichita	14	2.094	-0.057	X		X		-
Kentucky	Louisville	49	0.993	-0.090					-
Louisiana	New Orleans	18	1.938	-0.136	X		X		+
Maine	Portland	38	1.057	-0.002			X		
Maryland	Baltimore	51	0.977	0.020					-
Massachusetts	Boston	3	4.335	-0.021		X	X		-
Michigan	Detroit	31	1.307	0.075		X			+
Minnesota	Minneapolis	19	1.844	0.012	X	X	X		-
Mississippi	Jackson	12	2.124	-0.058	X		X		+
Missouri	Kansas City	15	2.054	-0.111	X	X			+
Montana	Billings	30	1.358	-0.050	X				-
Nebraska	Omaha	50	0.989	-0.021					-
Nevada	Las Vegas	48	0.994	0.000					-
New Hampshire	Manchester	42	1.000	0.000					
New Jersey	Newark	42	1.000	0.000					
New Mexico	Albuquerque	23	1.628	0.053		X	X	X	
New York	Buffalo*	29	1.457	-0.029		X			
New York	New York City	5	3.653	0.193	X	-		X	-

		Classification Ratio			Causes of Preferential Treatment of Homesteads				
State	**City**	**Rank**	**Ratio**	**Change from '22**	**Assessment Ratio**	**Nominal Tax Rate**	**Exemptions & Credits**	**Assessment Limits**	**Sales Ratio**
North Carolina	Charlotte	42	1.000	0.000					
North Dakota	Fargo	36	1.076	-0.035	X				-
Ohio	Columbus	26	1.556	0.147		X	X		-
Oklahoma	Oklahoma City	39	1.042	-0.008			X		
Oregon	Portland	42	1.000	0.000					
Pennsylvania	Philadelphia	10	2.646	0.475		X	X		
Rhode Island	Providence	7	3.356	-0.260	X	X			
South Carolina	Charleston	1	6.207	0.516	X		X	X	
South Dakota	Sioux Falls	34	1.112	-0.028		X			-
Tennessee	Nashville	25	1.600	0.000	X				
Texas	Houston	27	1.537	0.082			X	X	-
Utah	Salt Lake City	21	1.776	0.055			X		-
Vermont	Burlington	33	1.160	0.081	X	-	X		+
Virginia	Virginia Beach	47	0.995	0.089					-
Washington	Seattle	42	1.000	0.000					
West Virginia	Charleston	13	2.111	-0.074		X			+
Wisconsin	Milwaukee	35	1.086	-0.001			X		
Wyoming	Cheyenne	40	1.011	0.106					+
TOTAL/AVERAGE			**1.861**	**0.058**	**17**	**14**	**28**	**7**	**14 (+), 19 (-)**

*For sales ratio, "+" indicates that the sales ratio is higher for commercial properties and thus increases the classification ratio, while "-" indicates that the sales ratio is lower for commercial properties and thus decreases the classification ratio. For a few cities, one of the other three features of the property tax system favors commercial properties over homesteads, and this is also indicated with a "-".

Appendix Table 6b: Apartment-Homestead Classification Ratio for Largest City in Each State

		Classification Ratio			Causes of Preferential Treatment of Homesteads				
State	City	Rank	Ratio	Change from '22	Assessment Ratio	Nominal Tax Rate	Exemptions & Credits	Assessment Limits	Sales Ratio
Alabama	Birmingham	6	2.130	0.020	X		X		+
Alaska	Anchorage	23	1.178	-0.025			X		
Arizona	Phoenix	25	1.125	-0.072		X			
Arkansas	Little Rock	11	1.626	0.066			X	X	+
California	Los Angeles	37	1.008	-0.001			X		
Colorado	Denver	34	1.012	0.025					+
Connecticut	Bridgeport	53	0.585	-0.415					-
DC	Washington	36	1.008	-0.002			X		-
Delaware	Wilmington	38	1.000	0.000					
Florida	Jacksonville	3	3.078	-0.365			X	X	
Georgia	Atlanta	9	1.778	0.113			X		
Hawaii	Honolulu	20	1.313	0.160			X		
Idaho	Boise	16	1.494	0.218			X		+
Illinois	Aurora*	30	1.067	-0.011			X		
Illinois	Chicago	27	1.097	-0.017	-		X	X	
Indiana	Indianapolis	4	2.573	0.183			X		+
Iowa	Des Moines	35	1.011	-0.345			X		-
Kansas	Wichita	33	1.030	0.013			X		
Kentucky	Louisville	46	0.993	-0.090					-
Louisiana	New Orleans	19	1.317	-0.048			X		
Maine	Portland	31	1.057	-0.002			X		
Maryland	Baltimore	49	0.977	0.020					-
Massachusetts	Boston	8	1.995	-0.007			X		
Michigan	Detroit	21	1.245	0.003		X			
Minnesota	Minneapolis	22	1.232	-0.006	X		X		-
Mississippi	Jackson	7	2.124	-0.058	X		X		+
Missouri	Kansas City	38	1.000	0.000					
Montana	Billings	38	1.000	0.000					
Nebraska	Omaha	48	0.989	-0.021					-
Nevada	Las Vegas	47	0.991	0.000					-
New Hampshire	Manchester	38	1.000	0.000					
New Jersey	Newark	38	1.000	0.000					
New Mexico	Albuquerque	18	1.437	0.056			X	X	
New York	Buffalo*	17	1.457	-0.029		X			
New York	New York City	2	3.804	-0.432	X	-		X	-

		Classification Ratio			Causes of Preferential Treatment of Homesteads				
State	**City**	**Rank**	**Ratio**	**Change from '22**	**Assessment Ratio**	**Nominal Tax Rate**	**Exemptions & Credits**	**Assessment Limits**	**Sales Ratio**
North Carolina	Charlotte	38	1.000	0.000					
North Dakota	Fargo	29	1.076	-0.035	X				-
Ohio	Columbus	15	1.556	0.147		X	X		-
Oklahoma	Oklahoma City	32	1.042	-0.008			X		
Oregon	Portland	38	1.000	0.000					
Pennsylvania	Philadelphia	13	1.562	0.279			X		
Rhode Island	Providence	10	1.754	-0.064	X				
South Carolina	Charleston	1	6.207	0.516	X		X	X	
South Dakota	Sioux Falls	26	1.112	-0.028		X			-
Tennessee	Nashville	12	1.600	0.000	X				
Texas	Houston	14	1.556	0.083			X	X	-
Utah	Salt Lake City	50	0.977	0.030					-
Vermont	Burlington	24	1.149	0.062	X	-	X		-
Virginia	Virginia Beach	51	0.811	0.059					-
Washington	Seattle	38	1.000	0.000					
West Virginia	Charleston	5	2.259	0.111		X			+
Wisconsin	Milwaukee	28	1.085	0.000			X		
Wyoming	Cheyenne	52	0.768	-0.125					-
TOTAL/AVERAGE			**1.439**	**-0.001**	**9**	**6**	**27**	**7**	**7 (+), 17 (-)**

* For sales ratio, "+" indicates that the sales ratio is higher for apartments and thus increases the classification ratio, while "-" indicates that the sales ratio is lower for apartments and thus decreases the classification ratio. For a few cities, one of the other three features of the property tax system favors apartments over homesteads, and this is also indicated with a "-".

Appendix Table 7: Impact of Assessment Limits

Difference in Property Taxes between a Newly Purchased Home and a Home that Has Been Owned for the Average Duration for the City (For Median Valued Homes)

State	City	Tax Rate on Median Valued Home			Tax Bill on Median Valued Home			
		Newly Purchased Home	Home Owned for Average Duration in City	Difference	Newly Purchased Home	Home Owned for Average Duration in City	Difference	Ratio
Arizona	Mesa	0.759%	0.445%	0.314%	3,192	1,870	1,322	1.71
Arizona	Phoenix	1.084%	0.598%	0.486%	4,651	2,565	2,086	1.81
Arizona	Tucson	0.896%	0.634%	0.262%	2,401	1,699	702	1.41
Arkansas	Little Rock	1.133%	0.836%	0.298%	2,436	1,796	640	1.36
California	Bakersfield	1.157%	0.632%	0.525%	4,235	2,315	1,920	1.83
California	Fresno	1.243%	0.579%	0.664%	4,548	2,118	2,430	2.15
California	Long Beach	1.233%	0.629%	0.604%	9,525	4,860	4,665	1.96
California	Los Angeles	1.190%	0.616%	0.575%	10,755	5,563	5,192	1.93
California	Oakland	1.362%	0.652%	0.709%	12,440	5,961	6,479	2.09
California	Sacramento	1.132%	0.566%	0.566%	5,886	2,943	2,944	2.00
California	San Diego	1.216%	0.644%	0.572%	11,005	5,831	5,174	1.89
California	San Francisco	1.172%	0.922%	0.250%	15,742	12,384	3,358	1.27
California	San Jose	1.279%	0.707%	0.572%	15,497	8,565	6,933	1.81
Florida	Jacksonville	1.458%	0.550%	0.908%	4,388	1,656	2,732	2.65
Florida	Miami	1.719%	0.580%	1.139%	9,205	3,104	6,100	2.97
Florida	Tampa	1.535%	0.582%	0.953%	6,403	2,427	3,976	2.64
Illinois	Chicago	1.544%	1.392%	0.153%	4,838	4,360	478	1.11
Michigan	Detroit	3.132%	1.679%	1.454%	2,619	1,403	1,215	1.87
New Mexico	Albuquerque	1.404%	1.001%	0.403%	4,053	2,889	1,164	1.40
New York	New York City*	1.205%	0.493%	0.712%	8,730	3,571	5,159	2.44
Oklahoma	Oklahoma City	1.297%	0.940%	0.357%	2,948	2,137	811	1.38
Oklahoma	Tulsa	1.332%	0.910%	0.422%	2,660	1,817	843	1.46
Oregon	Portland*	2.568%	1.642%	0.926%	14,445	9,235	5,209	1.56
South Carolina	Charleston	0.475%	0.265%	0.210%	2,357	1,314	1,043	1.79
Texas	Austin	1.485%	1.316%	0.170%	8,809	7,801	1,007	1.13
Texas	Dallas	1.853%	1.696%	0.157%	5,935	5,433	502	1.09
Texas	El Paso	2.305%	2.072%	0.233%	4,073	3,662	412	1.11
Texas	Fort Worth	1.622%	1.375%	0.247%	4,761	4,036	725	1.18
Texas	Houston	1.260%	1.249%	0.011%	3,363	3,334	30	1.01
Texas	San Antonio	1.717%	1.532%	0.185%	3,962	3,534	428	1.12
AVERAGE		**1.426%**	**0.924%**	**0.501%**	**6,529**	**4,006**	**2,523**	**1.63**

Notes: Table is for states with parcel-specific assessment limits. Taxes on newly purchased homes come from Appendix Tables 2a and 2d, which ignore assessment limits. Taxes on homes owned for the average duration in each city come from Appendix Tables 2b and 2e, which do account for assessment limits. See Methodology section for details.
* New York City and Portland (OR) have unique assessment limits, because they do not reset when a property is sold like they do in other cities. For these cities, Table 7 shows the difference in property taxes for a newly built home versus a home built prior to the implementation of assessment limits (1981 in New York City; 1996 in Portland).
(See footnote 42 on page 52 for details on the methodology for these two cities.)