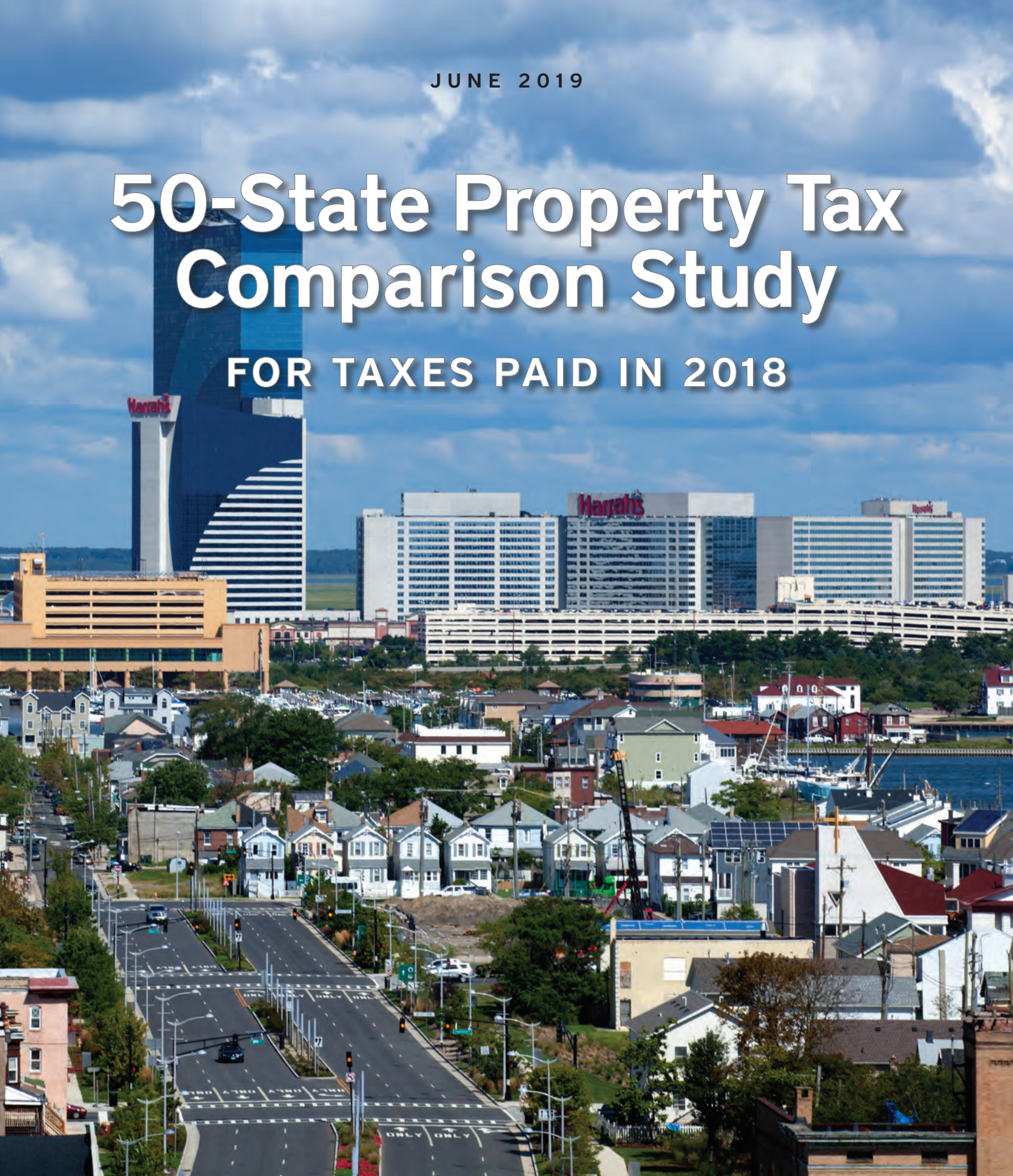


JUNE 2019

# 50-State Property Tax Comparison Study

FOR TAXES PAID IN 2018



LINCOLN INSTITUTE  
OF LAND POLICY



MINNESOTA CENTER for  
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# 50-State Property Tax Comparison Study

## For Taxes Paid in 2018

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## 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 U.S. cities and helps explain why they vary so widely. This context is important because high property tax rates usually reflect some combination of heavy property tax reliance with low sales and income taxes, low home values that drive up the tax rate needed to raise enough revenue, or higher local government spending and better public services. In addition, some cities use 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 73 large U.S. 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 considerably higher in Birmingham (\$2,805 vs. \$2,069 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 \$3,105. To raise that amount from a median valued home, the effective tax rate would need to be 22 times higher in Detroit than in San Francisco—6.19 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 other types of property (referred to as "classification"). Holding 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

There are wide variations across the country in property taxes on owner-occupied primary residences, otherwise known as homesteads. An analysis of the largest city in each state shows that the average effective tax rate on a median-valued homestead was 1.443 percent in 2018 for this group of 53 cities.<sup>1</sup> At that rate, a home worth \$200,000 would owe \$2,886 in property taxes (1.443% x \$200,000). On the high end, there are four cities with effective tax rates that are at least 2 times higher than the average – Aurora (IL), Bridgeport (CT), Detroit, and Newark (NJ). Conversely, there are six cities where tax rates are half of the study average or less – Honolulu, Charleston (SC), Boston, Denver, Cheyenne (WY), and Birmingham (AL).

### Highest and Lowest Effective Property Tax Rates on a Median Valued Home (2018)

| Highest Property Tax Rates |                 |       |  | Lowest Property Tax Rates |                 |       |   |
|----------------------------|-----------------|-------|--|---------------------------|-----------------|-------|---|
| 1                          | Aurora (IL)     | 3.65% | <i>Why:</i> High property tax reliance | 49                        | Cheyenne (WY)   | 0.64% | <i>Why:</i> Low property tax reliance                                   |
| 2                          | Bridgeport (CT) | 3.44% | <i>Why:</i> High property tax reliance | 50                        | Denver (CO)     | 0.56% | <i>Why:</i> Low property tax reliance, classification, high home values |
| 3                          | Detroit (MI)    | 3.28% | <i>Why:</i> Low property values        | 51                        | Boston (MA)     | 0.48% | <i>Why:</i> High home values, Classification shifts tax to business     |
| 4                          | Newark (NJ)     | 2.96% | <i>Why:</i> High property tax reliance | 52                        | Charleston (SC) | 0.37% | <i>Why:</i> Classification shifts tax to business, High home values     |
| 5                          | Milwaukee (WI)  | 2.57% | <i>Why:</i> Low property values        | 53                        | Honolulu (HI)   | 0.31% | <i>Why:</i> High home values, low local gov't spending, classification  |

Note: Data for all cities: Figure 2 (page 18), Appendix Table 1a (page 52), and Appendix Table 2a (page 60).

The average tax rate for these cities fell 3.5 percent between 2017 and 2018, from 1.495 percent to 1.443 percent, with decreases in 30 cities and increases in 21 cities.<sup>2</sup> The largest increase was in Providence, where the effective rate rose by about 6 percent, which drove the city's ranking up from 17<sup>th</sup> to 14<sup>th</sup> highest. The next largest increases were in Anchorage, Seattle, Kansas City (MO), and Baltimore. The largest decrease was in Charleston (SC), which had a 26 percent decline in its effective tax rate. The next largest declines were in Buffalo, Denver, Detroit, and Bridgeport (CT).

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 example, Los Angeles and Wichita both have effective tax rates of 1.18 percent on median valued homes, but because the median valued home is worth so much more in Los Angeles (\$647k vs. \$135k), the tax bill is far higher in Los Angeles (2<sup>nd</sup> highest) than in Wichita (46<sup>th</sup> highest).

Effective tax rates rise with home values in about half of the cities (27 of 53), and this pattern has a progressive impact on the property tax distribution. Usually, this relationship occurs because of

<sup>1</sup> The largest cities in each state includes 53 cities, because it includes Washington (DC) plus two cities in Illinois and New York since property taxes in Chicago and New York City are so different than the rest of the state.

<sup>2</sup> Changes in two cases are not meaningful because of changes in city selection or methodology.

homestead exemptions that 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, Honolulu, Atlanta, New Orleans, and Washington (DC).

### Commercial Property Taxes

There are also significant variations across cities in commercial property taxes, which include taxes on office buildings and similar properties. In 2018, the effective tax rate on a commercial property worth \$1 million averaged 1.945 percent across the largest cities in each state. The highest rates were in Providence (RI), Detroit, Chicago, Bridgeport (CT), and Aurora (IL), all of which had effective tax rates that were at least two-thirds higher than the average for these cities. On the other hand, rates were less than half of the average in Fargo (ND), Virginia Beach, Honolulu, Seattle, and Cheyenne (WY).

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

| Highest Property Tax Rates |                 |       |  | Lowest Property Tax Rates |                     |       |   |
|----------------------------|-----------------|-------|--|---------------------------|---------------------|-------|---|
| 1                          | Providence (RI) | 3.85% | <i>Why:</i> High property tax reliance                                       | 49                        | Honolulu (HI)       | 1.02% | <i>Why:</i> High property values, Low local gov't spending  |
| 2                          | Detroit (MI)    | 3.83% | <i>Why:</i> Low property values  | 50                        | Fargo (ND)          | 0.97% | <i>Why:</i> Low local gov't spending, Classification        |
| 3                          | Chicago (IL)    | 3.55% | <i>Why:</i> High local gov't spending, Classification shifts tax to business | 51                        | Virginia Beach (VA) | 0.96% | <i>Why:</i> Low local gov't spending, High property values  |
| 4                          | Bridgeport (CT) | 3.46% | <i>Why:</i> High property tax reliance                                       | 52                        | Seattle (WA)        | 0.90% | <i>Why:</i> High property values, Low property tax reliance |
| 5                          | Aurora (IL)     | 3.34% | <i>Why:</i> High property tax reliance                                       | 53                        | Cheyenne (WY)       | 0.63% | <i>Why:</i> Low property tax reliance                       |

Note: Analysis includes an additional \$200k in fixtures (office equipment, etc.)

Data for all cities: Figure 3 (page 24), Appendix Table 1b (page 55), and Appendix Table 3a (page 76).

Outside of declines attributable to changes in city selection or data sources, there were four cities with notable drops in commercial tax rates from 2017 to 2018. Effective tax rates fell by 18 percent in Charleston (SC) (Ranking fell from 30<sup>th</sup> to 33<sup>rd</sup>), by 10 percent in Detroit (from 1<sup>st</sup> to 2<sup>nd</sup>), and by 9 percent in Bridgeport (from 3<sup>rd</sup> to 4<sup>th</sup>) and Minneapolis (8<sup>th</sup> to 12<sup>th</sup>). The largest increase was in Wilmington (DE), where the effective tax rate increased by 33 percent, which drove the city's ranking up from 48<sup>th</sup> to 35<sup>th</sup> highest. Commercial tax rate rankings rose six places in Anchorage, five places in Kansas City (MO), and four places in Burlington (VT), Charleston (WV), Milwaukee, New Orleans, Phoenix, and Providence.

### 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 1.67, meaning that on average commercial properties experience an effective tax rate that is 67% higher than homesteads. Over a quarter of the cities (15 of 53) have classification ratios above 2.0, meaning that commercial properties face an effective tax rate that is at least double that for homesteads.

**Preferential Treatment of Homeowners: Ratio of Effective Tax Rate on Commercial and Apartment Properties to the Rate on Homestead Properties (2018)**

| Commercial vs. Homestead Ratio |                 |      | Apartment vs. Homestead Ratio |                   |      |
|--------------------------------|-----------------|------|-------------------------------|-------------------|------|
| 1                              | Boston (MA)     | 4.42 | 1                             | Charleston (SC)   | 3.12 |
| 2                              | Honolulu (HI)   | 3.97 | 2                             | New York (NY)     | 2.55 |
| 3                              | Denver (CO)     | 3.88 | 3                             | Indianapolis (IN) | 2.42 |
| 4                              | Charleston (SC) | 3.12 | 4                             | Birmingham (AL)   | 2.18 |
| 5                              | Chicago (IL)    | 2.94 | 5                             | Charleston (WV)   | 2.15 |

Note: Commercial-homestead ratio compares rate on \$1 million commercial building to median valued home.

Apartment-homestead ratio compares rate on \$600k 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 38-39), Appendix Table 6a (Pg. 102), and Appendix Table 6b (Pg. 104).

The average apartment-homestead classification ratio is significantly lower (1.31), with apartments facing an effective tax rate that is 31% higher than homesteads on average. There are six cities where apartments face an effective tax rate that is nearly double that for homesteads or more, with Charleston (SC) being an outlier with a tax rate on apartments that is over three times higher than the rate on 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 through some or all of their property taxes in the form of higher rents.

There are four types of statutory preferences built into property tax systems that can lead to lower effective tax rates on homesteads than 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. 20 of these 40 cities benefit homeowners using at least two of these four statutory preferences. In 11 cities preferential treatment for homeowners is delivered through exemptions or credits alone, while in 9 cities preferences are delivered exclusively through differences in assessment ratios or nominal tax rates. Similarly, 35 cities have statutory preferences favoring homesteads relative to apartments, but only 13 offer more than one preference. Six 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 her 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 between owners of nearly identical homes based on how long they have owned their home.

This report estimates the impact of assessment limits by calculating the difference in taxes between newly purchased homes and homes that have been owned for the average duration in each city, for median valued homes. For example, in Los Angeles, the average home has been owned for 14 years and the median home value is \$647,000. Because of the state's assessment limit, someone who has owned their home for 14 years would pay 41 percent less in property taxes than the owner of a newly-purchased home, even though both homes are worth \$647,000. The largest discrepancy is in New York City, which has an assessment limit that has capped growth in assessed values for residential properties since 1981, and unlike most assessment limits does not reset when the property is sold. As a result, the owner of a newly-built median valued home would face an effective tax rate 57 percent higher than the owner of a home built prior to 1981, even though the two homes have identical values (\$609,500). Assessment limits reduce taxes by 30% or more in New York City, the eight California cities studied, the two Florida cities studied, and Portland (OR). Of the 29 cities in this report that are affected by parcel-specific assessment limits, new homeowners face higher property tax bills than existing homeowners in 24 cities. All five cities where no home value was sheltered were in Texas: Austin, Dallas, El Paso, Houston, and San Antonio.

## **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 will 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.<sup>3</sup> 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.<sup>4</sup>

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 different sales tax rates than their neighbors, but have greater 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, there are significant differences in property values across communities, just as there are wide disparities in retail sales and incomes across localities. 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.<sup>5</sup>

***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

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<sup>3</sup> Ronald C. Fisher. 2009. “What Policy Makers Should Know About Property Taxes.” *Land Lines*. Cambridge, MA: Lincoln Institute of Land Policy.

<sup>4</sup> Institute on Taxation and Economic Policy. 2015. “Who Pays? A Distributional Analysis of the Tax Systems in All 50 States.”

<sup>5</sup> 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.

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 to have better public schools and safer neighborhoods. The bottom line is that it is the total state-local tax burden relative to the quality of public services that 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 for 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 of 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 that is most prevalent in the city for each class of property (a.k.a. statutory tax rate), including taxes paid to the state, city or township, county, school district, and special taxing districts.
- ***Assessment ratio (a.k.a. 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:

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

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.<sup>6</sup> 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.

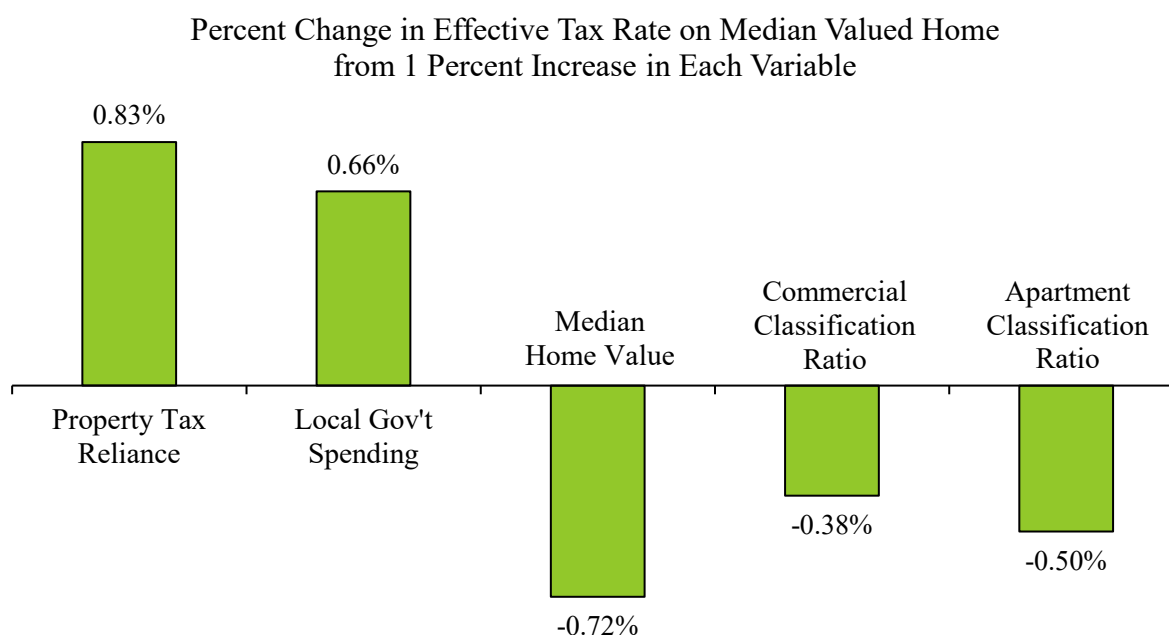
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<sup>6</sup> Note that exemptions based on assessed value are subtracted after the assessment ratio is applied.

## Why Property Tax Rates Vary Across Cities

This report demonstrates that effective property tax rates vary widely across U.S. 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 nearly three-quarters 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 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.<sup>7</sup> Cities with high local sales or income taxes do not need to raise as much revenue from the property tax,

<sup>7</sup> One way to measure the “importance” of each factor is to look at squared semi-partial correlations, which are 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, 24% of the variation in effective tax rates is explained by property tax reliance, 39% is explained by median home values, 8% by local government spending, 6% by the commercial-homestead classification ratio, and 4% by the apartment-homestead classification ratios.



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 0.83 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 2<sup>nd</sup> 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 (\$2,069 per capita), city residents pay no local sales or income taxes. In contrast, Birmingham has the 10<sup>th</sup> lowest effective tax rate on a median valued home, but also has the fourth lowest reliance on the property tax.<sup>8</sup> As a result, Birmingham residents have low property taxes (\$854 per capita), but also pay a host of other taxes to local governments, including sales taxes (\$1,041 per capita), income taxes (\$400 per capita), and other local taxes (\$510 per capita).<sup>9</sup> Consequently, total local taxes are considerably higher in Birmingham despite the fact that it has much lower property taxes than Bridgeport (\$2,805 per capita vs. \$2,069 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.<sup>10</sup>

The data on property tax reliance and local government spending that is 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.<sup>11</sup>

## 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 the median home value is associated with a 0.72 percent decrease in the effective tax rate on a median valued home.

For example, consider San Francisco and Detroit, which have the highest and lowest median home values in this study—\$1,104,100 and \$50,200 respectively. After accounting for assessment limits, the average property tax bill on a median valued home in the 73 large cities in this report is \$3,105. To raise that amount from a median valued home, the effective tax rate

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<sup>8</sup> Appendix Table 1a.

<sup>9</sup> Data on per capita tax collections in 2016 is from the Lincoln Institute's *Fiscally Standardized Cities* database.

<sup>10</sup> 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.

<sup>11</sup> <https://www.lincolninst.edu/research-data/data-toolkits/fiscally-standardized-cities>

would need to be 22 times higher in Detroit than in San Francisco—6.19 percent versus 0.28 percent. The effective tax rate on a median valued home is actually just 3.8 times higher in Detroit than San Francisco (2.36% vs. 0.62%), which means San Francisco collects nearly six times more in property taxes from a median valued home (\$6,849 vs. \$1,185). 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 there to be dramatic differences in property wealth 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 one 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.<sup>12</sup> 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 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 0.66 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, there are several factors that 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 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 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 in other cities.<sup>13</sup>

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<sup>12</sup> 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.

<sup>13</sup> 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.

## 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, 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%). An increase in the classification ratio will be associated with a decrease in the tax rate on homestead properties, because it means that 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 0.38 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 0.50 percent decrease.

Charleston (SC) has the highest classification ratio for apartment buildings relative to homesteads, and the fourth 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 3.1 times higher than a median valued home. As a result, while among the largest cities in each state Charleston has the 38<sup>th</sup> highest tax rate on apartments and the 33<sup>rd</sup> highest rate on commercial properties it has a much lower tax rate – the 2<sup>nd</sup> lowest tax rate – on a median valued home.<sup>14</sup> 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 analysis shows that a 1 percent increase in the commercial-homestead classification ratio is associated with a 0.45 percent increase in the commercial property tax rate, and a 1 percent increase in the apartment-homestead classification ratio is associated with a 0.28 percent increase in the apartment tax rate.<sup>15</sup>

Note that while renters do not pay property tax bills directly, they do pay property taxes indirectly since landlords are able to pass through some of their property taxes by increasing rents.<sup>16</sup> 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.

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<sup>14</sup> Appendix tables 2b, 5a, and 3a.

<sup>15</sup> 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; each variable has the same level of statistical significance as in Appendix table 1d and the R-square is similar (0.638).

<sup>16</sup> 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.

## Other Factors

The four key factors described above explain nearly three-quarters 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, there are other factors that 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.<sup>17</sup>

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.

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

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<sup>17</sup> Kenyon, Daphne A. 2007. *The Property Tax-School Funding Dilemma*. Cambridge, MA: Lincoln Institute of Land Policy. Page 50.

## 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 1.443 percent. At that rate, a home worth \$200,000 would owe \$2,886 in property taxes ( $1.443\% \times \$200,000$ ).

Tax rates vary widely across the 53 cities. The three cities at the top of the chart – Aurora (IL), Bridgeport (CT), and Detroit – have effective tax rates on a median-valued home that are roughly 2.2 to 2.5 times higher than the 53-city average. In six other cities, the effective property tax rate is 1.5 to about 2 times the average. Conversely, the bottom six cities – Honolulu, Charleston (SC), Boston, Denver, Cheyenne (WY), and Birmingham (AL), – all have effective tax rates that are less than half of the study average.

Overall, the average effective tax rate for all cities fell somewhat between 2017 and 2018, from 1.495 percent of value to 1.443 percent. The effective tax rate on the median-valued homestead climbed in 27 cities, fell in 23, and remained unchanged in 1 city.<sup>18</sup> The largest increase was in Providence (RI), where the effective rate rose by 6%, due to changes in assessment quality that eliminated underassessment of homes relative to market values that drives a corresponding increase in rank from 17<sup>th</sup> to 14<sup>th</sup> highest. Other cities where effective tax rates climbed by at least 4 percent include: Anchorage, Seattle, Kansas City, and Baltimore (listed from largest increase to the smallest).

Outside of declines attributable to changes in city selection or methodological changes, effective rates on median-valued homesteads fell the farthest in Charleston (SC), which had a 25.9 percent decline, from 0.502 percent of value to 0.372 percent. Other cities with declines of at least 5 percent include: Buffalo, Denver, Detroit, Bridgeport (CT), Salt Lake City, Manchester (NH), Newark (NJ), Boston, and Charlotte (NC) (listed from largest decrease to the smallest).

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, Los Angeles and Wichita have similar tax rates on a median valued home, but because the median valued home is worth so much more in Los Angeles (\$647k vs. \$135k), the tax bill is far higher in Los Angeles (2<sup>nd</sup> highest) than in Wichita (46<sup>th</sup> 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 on the next page shows cities with the largest differences in their ranking in terms of effective tax rates versus tax bills on a median valued home. Note that for the most part this

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<sup>18</sup> Note: This adds up to 51 cities; not 53. The ranking for Tennessee's largest city fell precipitously, but since the largest city has changed from Memphis to Nashville, year to year changes are not meaningful. The change in New York City's ranking is not shown because of methodological changes – see the text on page 23 for a full explanation.



report uses fixed home values (i.e., \$300k home in all cities) to estimate effective tax rates, which forces the ordering of cities in terms of tax rates to match the order for tax bills.

**Cities with Largest Differences in Ranking on Effective Tax Rate vs. Tax Bill  
for a Median Valued Home (2018)**

| <b>High Home Values</b>                          |                 |                 | <b>Low Home Values</b>                           |                 |                 |
|--|-----------------|-----------------|--|-----------------|-----------------|
| Cities with high tax bills despite low tax rates |                 |                 | Cities with low tax bills despite high tax rates |                 |                 |
| <b>City</b>                                      | <b>Tax Rate</b> | <b>Tax Bill</b> | <b>City</b>                                      | <b>Tax Rate</b> | <b>Tax Bill</b> |
| Washington (DC)                                  | 47              | 12              | Detroit (MI)                                     | 3               | 45              |
| Seattle (WA)                                     | 42              | 8               | Buffalo (NY)                                     | 16              | 47              |
| New York (NY)                                    | 30              | 3               | Jackson (MS)                                     | 22              | 50              |
| Boston (MA)                                      | 51              | 26              | Wichita (KS)                                     | 28              | 46              |
| Los Angeles (CA)                                 | 27              | 2               | Milwaukee (WI)                                   | 5               | 19              |

**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 11 of the 53 cities, with the largest impacts on New York City, Los Angeles, and Jacksonville (FL). Overall, accounting for assessment limits reduces the average property tax bill for the 53 cities by 8 percent. For more details on the impact of assessment limits, see that section 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 about half of the time (27 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.<sup>19</sup> 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 2018 offered a homestead exemption equal to the lesser of \$242,220 or 90 percent of a property's market value. This results in ultra-low effective tax rates of 0.10% on a \$150,000 home and 0.11% on a \$300,000 home, versus 0.48% for a median-valued home. Other cities with the largest differentials in the effective rates between a \$150,000-valued and a \$300,000-valued home also offer substantial homestead exemptions: Honolulu (\$80,000 exemption), Atlanta and New Orleans (which both effectively exempt \$75,000 of market value), and Washington, DC (\$73,350 exemption). 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 22).

<sup>19</sup> 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).

**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. There is considerable overlap between the two groups of cities, but some significant differences as well. In this set of tables, California has eight cities, Texas has seven, Arizona has three, and five states have two cities each (CO, FL, NC, OK, and TN). There are 21 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).

The average effective tax rates for homesteads are generally about 1 percent lower for the 50 largest cities than for the largest city in each state. The exception is when comparing median-valued homes after accounting for assessment limitations. For those cities, the discrepancy is bigger (an 8.1% difference), largely because the share of top 50 cities with assessment limits in effect is much larger than the share on a nationwide basis.

Effective tax rates can be rather homogenous across large cities in a single state. For example, consider the effective rates on median-valued homes in the two largest states shown in Table 2d:

- In the eight California cities, the highest effective tax rate is Oakland (19<sup>th</sup> highest) and the lowest is Sacramento (37<sup>th</sup>). However, California accounts for six of the 13 cities ranked between 25<sup>th</sup> and 37<sup>th</sup>, with effective tax rates clustering in the 1.1 to 1.3 percent range due to the effect of California's Proposition 13 limitations on tax rates.
- In the seven Texas cities, the highest effective tax rate is El Paso (2<sup>nd</sup> highest) and the lowest is Houston (14<sup>th</sup>), with Texas accounting for five of the eight cities ranked between 2<sup>nd</sup> and 9<sup>th</sup>. It is more difficult to point to a single feature of Texas' property tax system to explain this clustering. However, it likely reflects the fact that local governments in these six Texas cities have relatively high reliance on property taxes and that Texas has a uniform property tax system that does not allow for different tax rates or assessment ratios on different types of property.

However, in other cases there can be considerable differences in effective tax rates between cities within the same state. For example, Table 2d shows some noticeable differences in effective tax rates and rankings for median-valued homes between these sets of same-state cities:

- In Tennessee: Memphis has the 13<sup>th</sup> highest tax rate (1.811%), while Nashville has the 46<sup>th</sup> highest (0.789%) – a 33 place differential.
- In Arizona: Phoenix has the 21<sup>st</sup> highest tax rate (1.272%) and Tucson has the 30<sup>th</sup> highest tax rate (1.163%), while Mesa has the 45<sup>th</sup> highest (0.831%) – a 24 place differential between the neighboring cities of Phoenix and Mesa.

**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 located in nonmetropolitan counties.

The average effective tax rate on median-valued homes in the 50 rural communities in this report is 1.342% for taxes paid in 2018. As with large cities, the rates for rural municipalities vary considerably around that average. In four municipalities – Lancaster (NH), Warsaw (NY),

Maurice River Township (NJ), and Ridgway (PA) – the effective tax rates on median-valued homes are at least 2 times the average. In contrast, eight municipalities feature effective tax rates of less than half of the average, with the lowest rates in Kauai (HI), Pocahontas (AR), Monroeville (AL), Natchitoches (LA), and Elkins (WV).

Comparing Tables 2a and 2g shows that effective tax rates on median-valued homesteads are around 7 percent lower in rural municipalities than in large cities on average. There are two major reasons why rates are lower in rural communities: lower nominal tax rates and homestead exemptions that apply to a fixed amount of value across the state and therefore exempt higher proportions of homestead value from taxation in rural areas, where home values are generally much lower than in large cities.

In 32 states, the effective tax rate on the median-valued home is higher in the largest city<sup>20</sup> than in the rural municipality. Arkansas has the biggest difference; the 1.123% rate in Little Rock is 3.4 times the 0.255% rate in Pocahontas. In three other states the tax rate in the largest city is at least two times higher than in the rural community: Delaware, Louisiana, and Oregon, (listed alphabetically).

On the other hand, in 18 states the effective tax rate on median-valued homes is higher in the rural municipality than in the largest city in the state. The biggest difference is in Massachusetts, where the effective tax rate in Adams is 4.5 times higher than the rate in Boston (2.18% vs. 0.48%), largely because of Boston's unique (within Massachusetts) homestead exemption. Other states where the tax rate in the rural community is at least 1.5 times higher than the largest city are Kansas, New York, Pennsylvania, South Carolina, and Washington (listed alphabetically).

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 and Texas (Appendix Tables 2d-2f) show that the largest city in each state can serve as a proxy for property tax rates throughout an entire state. However, the large differences between the two largest cities in Tennessee and Arizona show that caution is needed when extrapolating findings for a single city to an entire state.

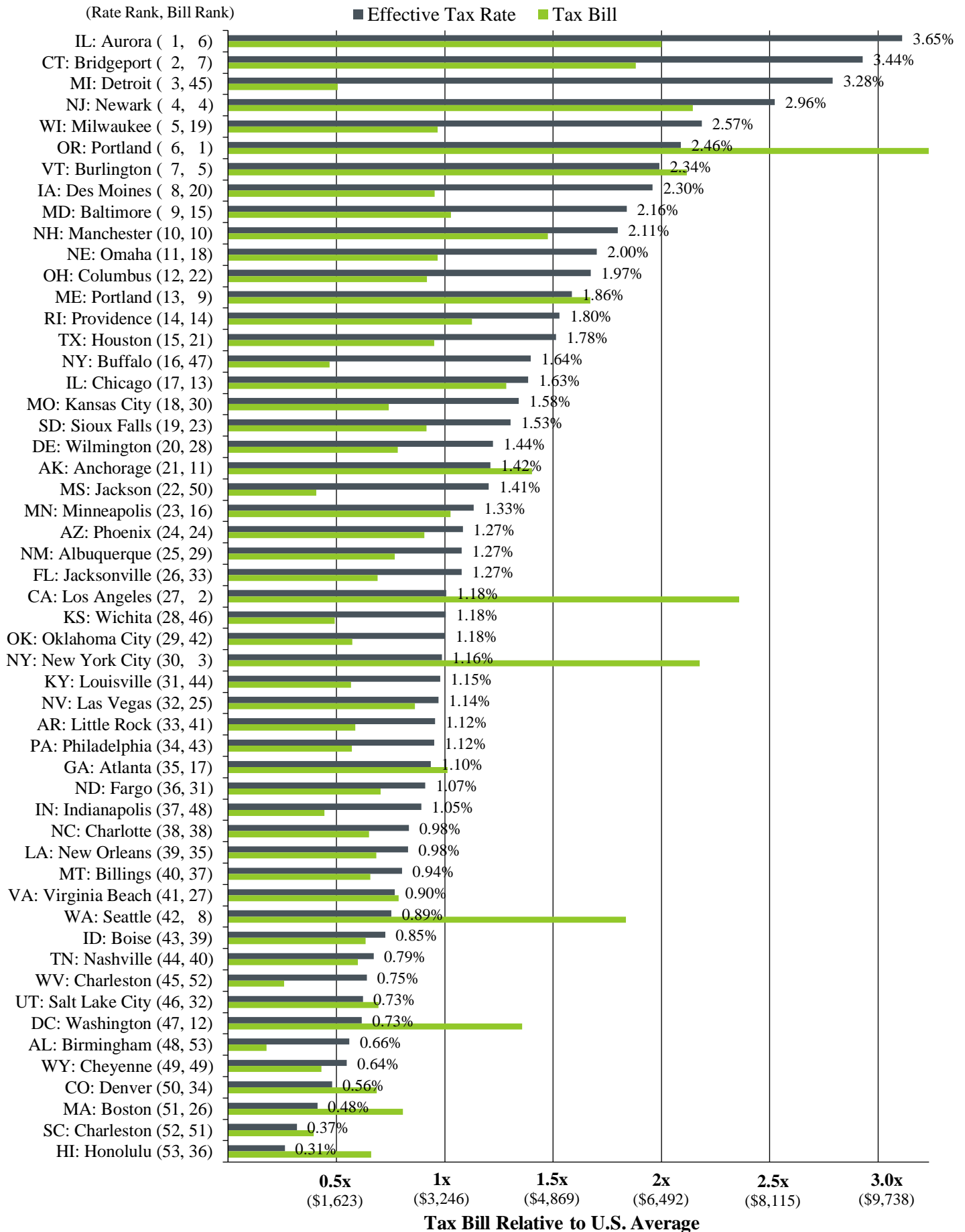
Readers wishing to determine whether taxes in a state are high, low, or somewhere in between are best served by comparing the rankings for urban and rural municipalities. For example, in six states (Illinois<sup>21</sup>, Michigan, New Hampshire, New Jersey, Vermont, and Wisconsin) the effective tax rate on the median-valued home is among the ten highest in both a rural and an urban setting – suggesting that these states are most likely to have the highest homestead property taxes. Alabama, Colorado, Hawaii, Tennessee, and West Virginia are the five states where effective tax rates on median-valued homes are among the ten lowest in both urban and rural settings – suggesting that these states are most likely to have the lowest homestead property taxes.

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<sup>20</sup> When averaging Chicago and Aurora, IL; and Buffalo and New York City, NY.

<sup>21</sup> Aurora only.

**Figure 2: Property Taxes on Median Valued Home for Largest City in Each State (2018)**



## Commercial Property Taxes

**Figure 3** shows effective property tax rates for commercial properties worth \$1 million dollars 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 worth of 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 between different types of commercial property in cities where personal property is taxed differently from real property.<sup>22</sup>

The average effective tax rate on commercial properties for the 53 cities in Figure 3 is 1.945 percent. A property worth \$1 million with \$200,000 in fixtures would thus owe \$23,340 in property taxes ( $1.945\% \times \$1.2\text{m}$ ).

Tax rates vary widely across the 53 cities. The top five cities of Providence (RI), Detroit, Chicago, Bridgeport (CT), and Aurora (IL) all have effective tax rates that are at least two-thirds higher than the average for these cities. The bottom four cities of Fargo, Virginia Beach, Seattle, and Cheyenne (WY) all have tax rates that are less than half of the average.

A few of the cities had significant changes in their effective tax rates from 2017 to 2018. Outside of declines attributable to changes in city selection or data sources, the city with the largest decline in its tax rates was Charleston, SC, where growing underassessment of commercial property led the effective tax rate on a \$1-million valued commercial property to decline by 17.9%, from 1.77% to 1.45%, with the city's ranking falling three places – from 30<sup>th</sup> to 33<sup>rd</sup>. Other cities with significant declines in their effective tax rates include Detroit (from 4.24% to 3.83%; a 9.8% drop) and Minneapolis, MN (from 2.85% to 2.61%, an 8.6% drop).<sup>23</sup>

Wilmington, DE had the largest increase in effective tax rates on commercial properties from 2017 to 2018. Improved assessment quality<sup>24</sup> sharply reduced the underassessment of commercial property, and was the main driver in increasing the city's effective tax rate on a commercial property worth \$1 million by almost 33%, from 1.07% to 1.43%, so that Wilmington's ranking has risen from 48<sup>th</sup> to 35<sup>th</sup>. From a ranking perspective, Kansas City and

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<sup>22</sup> 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.

<sup>23</sup> Changes in city selection and data source render year-on-year changes for Tennessee and New York City irrelevant. See footnote 18 on page 14 and the text box on page 23 for further details.

<sup>24</sup> The concept of “improved assessment quality” has a unique meaning in Delaware. The state uses a “base year” system for assessing property where values for all property are pegged to a base year, with assessments factored back to that year based on a variety of formulae. The base year varies by county – for Wilmington (New Castle County) that base year is 1983. In this case, “improved assessment quality” likely reflects just a change in local commercial real estate markets.



Anchorage's ranks rose five places and six places, respectively; while the ranking for six cities (Phoenix, AZ; New Orleans, LA; Providence, RI; Charleston, SC; Burlington, VT; and Milwaukee, WI), climbed by four places.

**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.

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 Philadelphia. Philadelphia has among the lowest tax rates for commercial properties worth \$100,000 (1.140%, 44<sup>th</sup> highest), but is above average for commercial properties worth \$25 million (2.118%, 22<sup>nd</sup> 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 \$100,000-valued property by 46%, but by only 0.3% for a property worth \$25 million.

Other cities where the rankings vary significantly (by at least ten places between the \$100,000-valued and \$25 million-valued parcels) because of beneficial tax treatment provided to lower-valued properties through credits, exemptions, or preferential assessment practices include:

- Minneapolis (27<sup>th</sup> highest for \$100k, 9<sup>th</sup> highest for \$25m)
- Washington, DC (39<sup>th</sup> highest for \$100k, 26<sup>th</sup> highest for \$25m)
- Des Moines (15<sup>th</sup> highest for \$100k, 5<sup>th</sup> highest for \$25m)

**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. There is considerable overlap between the two groups of cities, but some significant differences as well. In Table 3b, California has eight cities, Texas has seven cities, Arizona has three cities, and six states (CO, FL, NC, OK, and TN) have two cities each. There are 21 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 rates for commercial properties are slightly lower for the 50 largest cities shown in Table 3b than the cities shown in Table 3a—about 1 percent lower for the three property values analyzed.

In some states, tax rates do not vary too much across the largest cities. For example, consider tax rates for commercial properties worth \$1 million in the two largest states:

- For California's eight cities, the highest tax rate is in Oakland (33<sup>rd</sup> highest) and the lowest is in Sacramento (46<sup>th</sup>). California accounts for 7 of the 10 cities ranked between 37<sup>th</sup> and 46<sup>th</sup>.
- For Texas's seven cities, the highest tax rate is in El Paso (3<sup>rd</sup> highest) and the lowest is in Austin (20<sup>th</sup>). Texas accounts for four of the seven cities ranked between 10<sup>th</sup> and 16<sup>th</sup>.

However, in other cases there can be considerable differences in effective tax rates between cities within the same state. There are actually larger differences in tax rates for states with just two or three cities:

- In Arizona: Phoenix has the 17<sup>th</sup> highest tax rate, while neighboring Mesa has the 29<sup>th</sup> highest.
- In Tennessee: Memphis has the 6<sup>th</sup> highest tax rate, while Nashville has the 39<sup>th</sup> highest.
- In Colorado: Denver has the 18<sup>th</sup> highest tax rate, while Colorado Springs has the 25<sup>th</sup> highest.

**Appendix Table 3c** provides 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 that are located in nonmetropolitan counties.

On average, commercial tax rates are about 10-11 percent lower for the 50 rural communities than the largest cities in each state. For a property worth \$1 million, the average effective tax rate is 1.74% for the rural cities versus 1.94% for the urban cities shown in Appendix Table 3a. For 28 states, the effective tax rate on a \$1-million valued commercial property is lower in the selected rural municipality than in the state's largest city.<sup>25</sup>

The state with the biggest difference in the tax rate in the largest city and the rural municipality is Delaware, where the tax rate on a commercial property worth \$1 million in Georgetown is about a quarter of the rate in Wilmington (0.39% vs. 1.43%). Other states where the tax rate in the rural community is significantly lower than the largest city include Connecticut (60% lower), Oregon (53% lower), Rhode Island (47% lower), and Arkansas (46% lower).

On the other hand, in 22 states the tax rate is higher in the rural municipality than in the largest city in the state. The biggest difference is in South Carolina, where the tax rate on a commercial property worth \$1 million in Mullins is 88 percent higher than the rate in Charleston (2.74% vs. 1.45%). Other states where the tax rate in the rural municipality is significantly higher than the largest city include Kansas (63% higher), Washington (51% higher), South Dakota (41% higher), and New Hampshire (38% higher).

Variation in tax rates across the 50 rural cities is very similar to variation across the largest cities in each state.

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 and Texas (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 large differences between the largest cities in Tennessee, Arizona, and Colorado show that caution is needed when extrapolating findings for a single city to an entire state.

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<sup>25</sup> 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.

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 (Iowa, Kansas, Michigan, and Minnesota) have at least one top ten ranking in both an urban and rural setting – suggesting that these states are most likely to have the highest commercial property taxes. Conversely, four states (California, Hawaii, Virginia, and Wyoming) have multiple bottom ten rankings in both urban and rural settings.

### **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 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 it’s 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 than a \$1 million property in 2018 in most cities.

For homestead property taxes, the report analyzes property taxes on median valued homes, which adjusts for differences in property values, and thus allows for comparisons of property taxes on a “typical” home across cities and over time.

### **Changes to Tax Rate Estimates for New York City**

Astute readers will notice significant decreases in effective tax rates for commercial, industrial, and apartment buildings in New York City since last year's report. These changes have come about because this year's report uses a new data source to measure assessment quality in New York City, which shows that these three types of properties are significantly underassessed relative to their market values.

New York City uses unique assessment methods that are different from any of the other cities in this report. For Class 1 properties (1-3 unit residential buildings), the city employs the standard practice of using comparable sales to estimate market values, and has a sales ratio near 100 percent. However, state law requires the City to use the income approach for Class 2 properties (3+ unit residential, including condos/coops and apartment buildings), and the City also uses the income approach for Class 4 properties (commercial, industrial, and other non-utility properties). The income approach assumes a property is worth the present value of the cashflow stream it will generate over time and can generate accurate estimates of market values in many cases.

However, the new sales ratio data show that the income approach in New York City significantly underestimates market values for Class 2 and Class 4 properties. These problems could be caused by rent restrictions that constrain income for property owners, the requirement that assessment changes are phased in over five years, or other factors (NYC IBO 2006). It may be necessary to make changes to the City's methodology to improve accuracy, possibly including changes to the capitalization rates used to translate annual income into an estimate of market value (Citizens Budget Commission 2018). Note that sales ratios are also very low for condos and coops, although we do not present estimates of effective tax rates for those types of properties in this report, as they are uncommon outside of New York City.

In prior years, we used the only publicly available sales ratio data for New York City, which are the Assessment Equity Statistics provided by the state's Office of Real Property Tax Services.<sup>26</sup> This report shows a 74% equalization ratio for Class 2 properties and an 87% equalization ratio for Class 4 properties in New York City. However, this is not the same measure of assessment quality we use for other states, because it measures the accuracy of assessments based on the valuation methodologies used in New York City rather than actual sales prices.

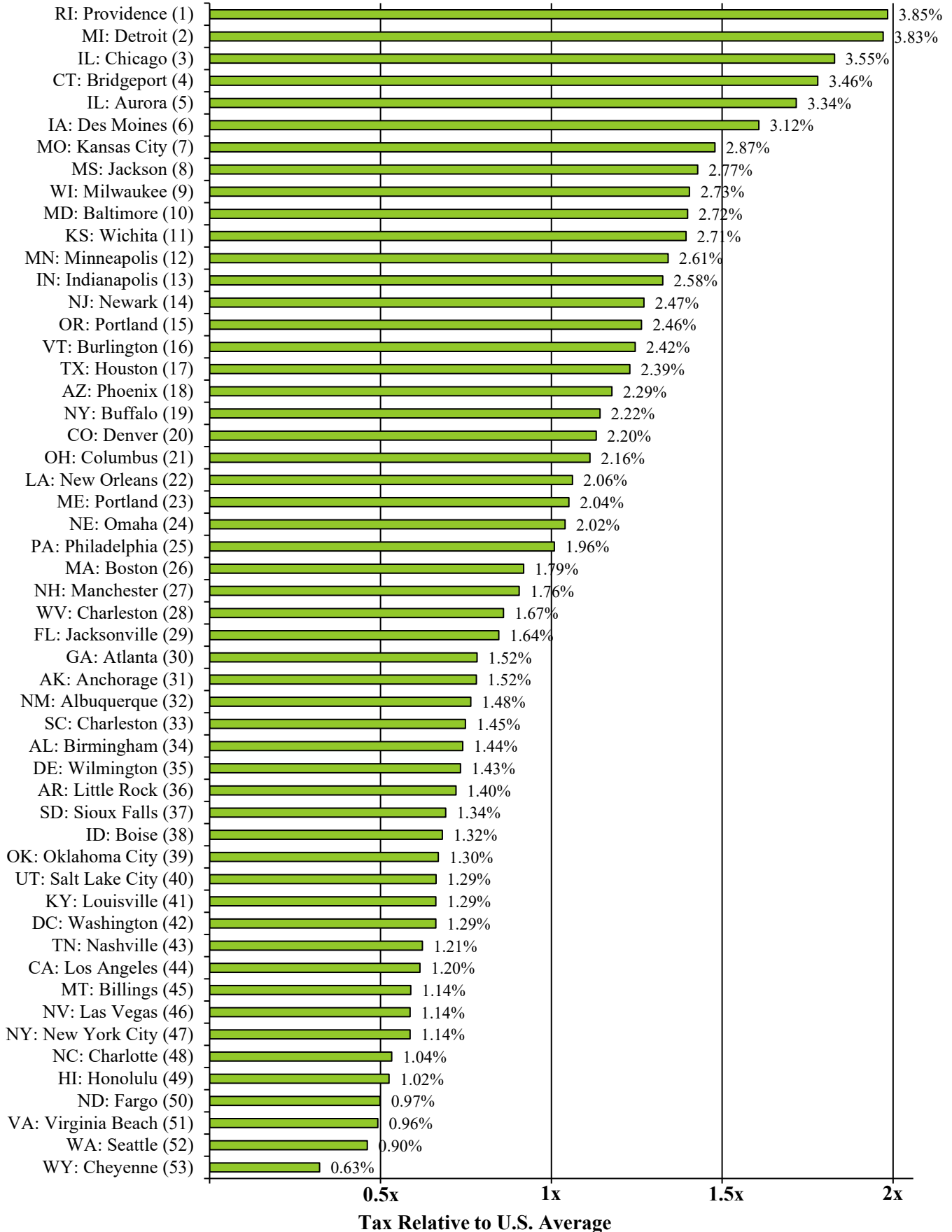
This year, the New York City Independent Budget Office (IBO) provided us with information from an internal sales ratio study it performs annually. The IBO's study compares assessed values to actual sales values, which is the standard approach used for other sales ratio studies nationwide. For commercial, industrial, and apartment buildings, these ratios all fall between 20% and 30%. This new sales ratio data results in more accurate measures of effective tax rates in New York City. We had these new estimates reviewed by the IBO and the Citizens Budget Commission to verify their accuracy.

We do not expect to find similar discrepancies in sales ratios in other locations, because the assessment methodologies used in New York City are unique. We did, however, take extra steps this year to verify the sales ratio data used in this report for other cities, and did not find any issues in other locations.

<sup>26</sup> [http://orps1.orpts.ny.gov/cfapps/MuniPro/muni\\_theme/county/county.cfm?swis=65](http://orps1.orpts.ny.gov/cfapps/MuniPro/muni_theme/county/county.cfm?swis=65)

**Figure 3: Commercial Property Taxes for Largest City in Each State (2018)**

Effective Tax Rate for \$1-Million Valued Property (plus \$200k 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 22).

The average effective tax rate on industrial properties at this value for the 53 cities in Figure 4 is 1.418 percent. A parcel with a real property value of \$1 million that has an additional \$1 million in personal property would thus owe \$28,360 in property taxes ( $1.418\% \times \$2\text{m total parcel value}$ ). For shorthand, this section refers to parcels based on their real property values.

Tax rates vary widely across the 53 cities. The top four cities of Jackson (MS), Detroit, Houston, and Kansas City all have effective tax rates that are at least 60% higher than the average for these cities. The bottom five cities of Virginia Beach, New York City, Fargo, Honolulu, and Cheyenne all have tax rates that are less than half of the average.

Some cities had significant changes in their effective tax rates from 2017 to 2018. Outside of declines attributable to changes in city selection or data sources<sup>27</sup>, the city with the largest decline in its industrial property tax rates was Charleston (SC), where growing underassessment of industrial property relative to market values dropped the effective tax rate by 15%, from 2.28% to 1.94%, so that the city's ranking dropped from 6<sup>th</sup> to 13<sup>th</sup>. Other cities with significant ranking declines include Bridgeport (CT), which fell four places from 10<sup>th</sup> highest to 14<sup>th</sup> in the rankings; Minneapolis, which fell from 17<sup>th</sup> highest to 20<sup>th</sup>; and Buffalo, which fell from 28<sup>th</sup> highest to 30<sup>th</sup>.

Similar to commercial properties, Wilmington (DE) had the largest increase in effective tax rates on industrial properties from 2017 to 2018. A reduction in the underassessment of industrial properties increased the effective tax rate on an industrial property in the city worth \$1 million by 33%, from 0.64% to 0.86%, so that the city's ranking rose from 50<sup>th</sup> to 45<sup>th</sup>. Industrial property tax rankings rose by seven places in Providence (RI), from 15<sup>th</sup> to 9<sup>th</sup> highest; while two cities experienced six-place increases in their rankings: Indianapolis rose from 12<sup>th</sup> highest to 6<sup>th</sup>; and Des Moines rose from 18<sup>th</sup> highest to 12<sup>th</sup>.

**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.

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<sup>27</sup> Changes in city selection and data source render year-on-year changes for Tennessee and New York City irrelevant. See footnote 18 on page 14 and the text box on page 23 for further details.

### 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 21 cities. In another 10 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 another 4 cities, inventories receive preferential treatment relative to real property, while the reverse is true in 2 cities.
- **Fixtures**, which include office furniture, equipment, display racks, and tools, are fully exempt from taxation in 15 cities. In another 8 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 the minimum amount being 50% (Massachusetts) and the maximum being 59% (Michigan).<sup>28</sup>

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 be a better reflection of 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 be better when personal property accounts for a larger share of total parcel value (like motor vehicle manufacturers and Michigan).

Only 12 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, D.C. The District of Columbia has one of the lowest tax rates for industrial properties worth \$100,000

<sup>28</sup> 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 their biennial *Tax Incidence Study*. These studies are available on their website: [http://www.revenue.state.mn.us/research\\_stats/Pages/Tax\\_Incidence\\_Studies.aspx](http://www.revenue.state.mn.us/research_stats/Pages/Tax_Incidence_Studies.aspx).

(0.771%, 43<sup>rd</sup> highest), but is substantially above average for industrial properties worth \$25 million (1.858%, 15<sup>th</sup> 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 (27<sup>th</sup> highest for \$100k, 5<sup>th</sup> highest for \$25m)
- Minneapolis (37<sup>th</sup> highest for \$100k, 20<sup>th</sup> highest for \$25m)
- Billings (MT) (49<sup>th</sup> highest for \$100k, 33<sup>rd</sup> highest for \$25m)
- Philadelphia (47<sup>th</sup> highest for \$100k, 32<sup>nd</sup> highest for \$25m)

**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. There is considerable overlap between the two groups of cities, but some significant differences as well. In Table 4c, California has eight cities, Texas has seven cities, Arizona has three cities, and five states (CO, FL, NC, OK, and TN) have two cities each. There are 21 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 higher for the 50 largest cities shown in Table 4c than the cities shown in Table 4a—roughly 9 percent higher, regardless of which of the three property values is analyzed.

In some states, tax rates do not vary too much across the largest cities. For example, consider tax rates for industrial properties worth \$1 million in the two largest states:

- For California's eight cities, the highest tax rate is in Oakland (35<sup>th</sup> highest) and the lowest is in Sacramento (44<sup>th</sup>). California accounts for 8 of the 10 cities ranked between 35<sup>th</sup> and 44<sup>th</sup>.
- For Texas's seven cities, the highest tax rate is in El Paso (highest among the 50) and the lowest is in Austin (10<sup>th</sup>). Texas accounts for four of the five top cities and six of the top eight.

However, in other cases there can be considerable differences in effective tax rates between cities within the same state. Consider these noticeable differences in ranking (with the associated effective tax rates) for the \$1 million-valued industrial properties in states with two or three cities among the nation's largest fifty:

- In Tennessee: Memphis has the 6<sup>th</sup> highest tax rate (2.536%), while Nashville has the 34<sup>th</sup> highest (1.104%).
- In Florida: Miami has the 21<sup>st</sup> highest tax rate (1.510%), while Jacksonville has the 30<sup>th</sup> highest (1.332%).
- In Arizona: Phoenix has the 14<sup>th</sup> highest tax rate (2.002%), while neighboring Mesa has the 27<sup>th</sup> highest (1.408%).



**Appendix Table 4e** provides 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 that are located in nonmetropolitan counties.

On average, industrial tax rates are about 8 to 10 percent lower for the 50 rural communities than the largest cities in each state. For a property worth \$1 million, the average effective tax rate is 1.285% for the rural cities shown in Appendix Table 4e versus 1.418% for the urban cities shown in Appendix Table 4a. For 27 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.<sup>29</sup>

The state with the biggest difference in the tax rate in the largest city and the rural municipality is Delaware, where the tax rate on an industrial property worth \$1 million in Georgetown is about a quarter of the rate in Wilmington (0.24% vs. 0.86%). Other states where the tax rate in the rural municipality is significantly lower than the largest city include Connecticut (61% lower), Oregon (53% lower), Arkansas (47% lower), and Rhode Island (45% lower).

On the other hand, in 23 states the tax rate is higher in the rural municipality than in the largest city in the state. The biggest difference is in South Carolina, where the tax rate on an industrial property worth \$1 million in Mullins is 85 percent higher than the rate in Charleston (3.59% vs. 1.94%). Other states where the tax rate in the rural municipality is significantly higher than the largest city include Kansas (64% higher), Virginia (52% higher), Washington (51% higher), and South Dakota (41% higher).

Variation in industrial tax rates across the 50 rural cities is very similar to variation across the largest cities in each state.

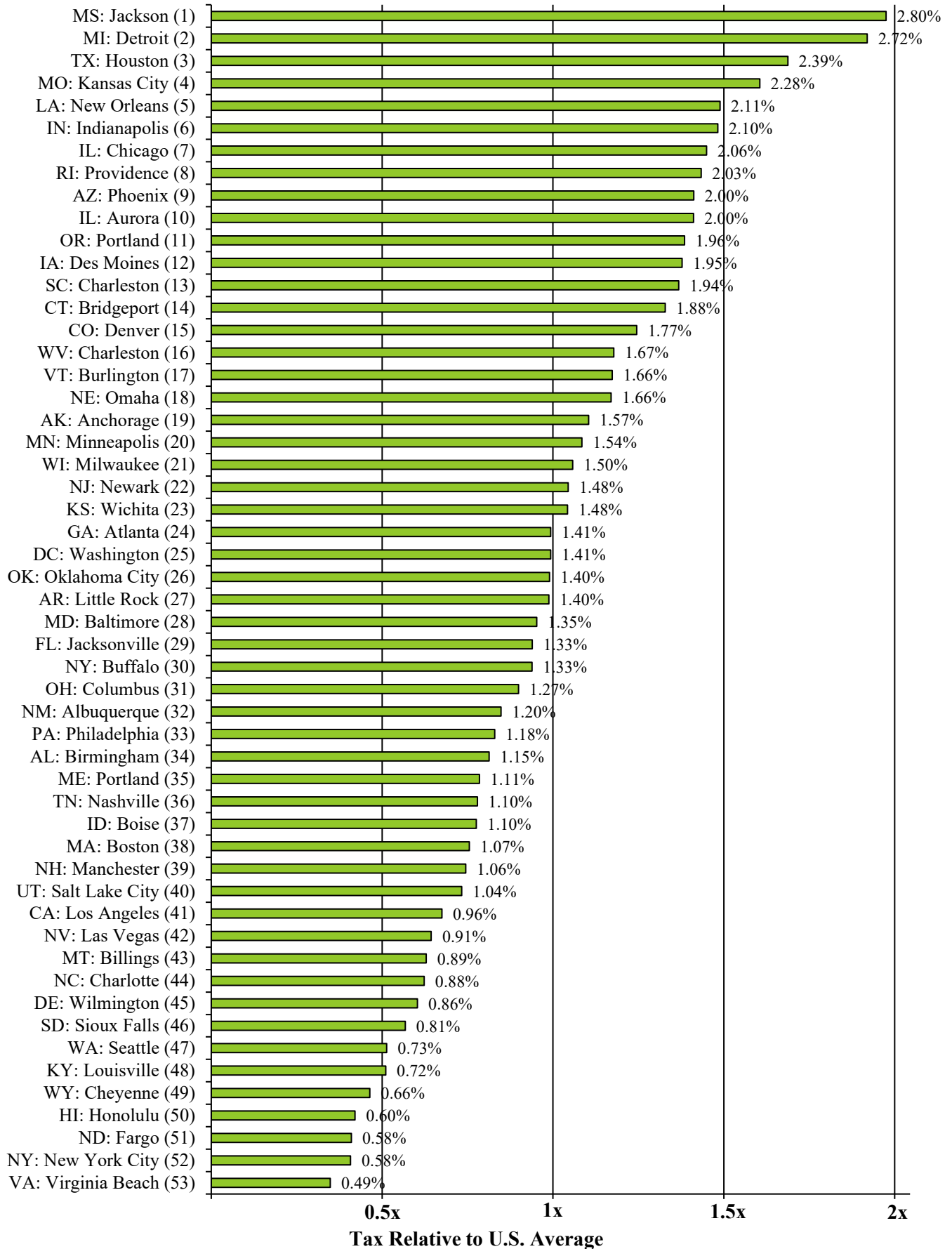
Some readers may want to use findings on effective tax rates from one specific table to reach conclusions on property taxes throughout an entire state. The small differences in tax rates across cities in California and Texas (Appendix Table 4c) show that the largest city in each state can serve as a proxy for property tax rates throughout an entire state. However, the large differences between the two or three largest cities in Tennessee, Arizona, and Colorado show that caution is needed when extrapolating findings for 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 multiple top ten rankings in both an urban and rural setting under both sets of assumptions – suggesting that these states are most likely to have the highest industrial property taxes. Delaware, Hawaii, Kentucky, North Dakota, Virginia, and Wyoming are the six states that most often have bottom ten rankings in both urban and rural settings.

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<sup>29</sup> 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 (2018)**  
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 on comparing property taxes calculated with fixed property values for guidance (page 22).

The average effective tax rate on apartment properties for the 53 cities in Figure 5 is 1.680 percent. A property worth \$600,000 with \$30,000 in personal property would thus owe \$10,584 in property taxes (1.680% x \$630,000 total parcel value).

Tax rates vary widely across the 53 cities. The top two cities of Detroit and Aurora (IL) have effective tax rates that are more than 2 times higher than the average for these cities. The next two cities (Bridgeport, CT; and Des Moines, IA) have effective tax rates that are 90 percent higher than the average for these cities. Conversely, there are six cities where tax rates on apartments are less than half the average, with the lowest rates in Honolulu, Cheyenne, Denver, Salt Lake City, and Washington (DC).

Some cities had significant changes in their effective tax rates from 2017 to 2018. Outside of declines attributable to changes in city selection or data sources<sup>30</sup>, the cities where property tax rates on apartment properties declined by at least 15% were Denver, Bridgeport (CT), and Charleston (SC). A reduction in the assessment ratio for apartment properties drove down the effective tax rate for apartments in Denver; while growing underassessment of apartment properties drove the decline in Bridgeport and Charleston. However, while these changes led to a 13-place decline in Charleston's ranking (from 25<sup>th</sup> highest to 38<sup>th</sup> highest), they had no real effect on either Denver's already-low ranking (which fell to 51<sup>st</sup> highest), or Bridgeport's already high ranking, (which rose to 3<sup>rd</sup> highest. In fact, when excluding Tennessee because of the change in cities and New York City because of the discovery of sales ratio data, the only city outside of Charleston whose ranking fell more than two places was Boise (ID, which fell from 28<sup>th</sup> to 31<sup>st</sup> highest).

The effective tax rate on apartments increased by 24% between 2017 and 2018 in Chicago as the underassessment of apartment properties declined, moving the city's ranking up 17 places, from 39<sup>th</sup> to 22<sup>nd</sup> highest. Two other cities had notable increases in the effective tax rankings for apartments: Anchorage rose from 32<sup>nd</sup> to 26<sup>th</sup> and Kansas City rose from 30<sup>th</sup> to 24<sup>th</sup>.

**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. There is considerable overlap between the two groups of cities, but some significant differences as well. In Table 5b, California has eight cities, Texas has seven cities, Arizona has three cities, and five states (CO, FL, NC, OK, and TN) have two cities each. There are 21 states without any cities in the top 50 shown in Table 5b.

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<sup>30</sup> Changes in city selection and data source render year-on-year changes for Tennessee and New York City irrelevant. See footnote 18 on page 14 and the text box on page 23 for further details.

The average effective tax rates for apartment properties is about 3 percent lower for the 50 largest cities shown in Table 5b than the cities shown in Table 5a. In some states, tax rates do not vary too much across the largest cities. For example, consider tax rates for apartment properties worth \$600,000 in the two largest states:

- For California's eight cities, the highest tax rate is in Oakland (24<sup>th</sup> highest) and the lowest is in Sacramento (39<sup>th</sup> highest). There is a clustering effect as California accounts for 6 of the 7 cities ranked between 33<sup>rd</sup> and 39<sup>th</sup>.
- For Texas's seven cities, the highest tax rate is in El Paso (2<sup>nd</sup> highest) and the lowest is in Austin (13<sup>th</sup>). Texas accounts for five of the seven cities ranked between 2<sup>nd</sup> and 8<sup>th</sup>.

However, in some states there are considerable differences in effective tax rates between different cities. Consider these notable differences in rankings and effective tax rates between the cities in these states:

- In Tennessee: Memphis has the 4<sup>th</sup> highest tax rate (2.864%), while Nashville has the 32<sup>nd</sup> highest (1.247%).
- In Oklahoma: Tulsa has the 20<sup>th</sup> highest tax rate (1.504%), while Oklahoma City has the 30<sup>th</sup> highest (1.263%).
- In Arizona: Phoenix and Tucson have the 25<sup>th</sup> and 31<sup>st</sup> highest rates (1.356% and 1.256%, respectively), while Mesa has the 44<sup>th</sup> highest (0.933%).

**Appendix Table 5c** provides 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 that are located in nonmetropolitan counties.

On average, apartment tax rates are about 3 percent lower for the 50 rural communities than the largest cities in each state. For the \$600,000-valued apartment property, the average effective tax rate is 1.634% for the rural cities versus 1.680% for the large cities shown in Appendix Table 5a. For 26 states, the effective tax rate on a \$600,000-valued apartment property is lower in the selected rural municipality than in the state's largest city.<sup>31</sup>

The state where the tax rate in the largest city is the lowest vis-à-vis the rate for the rural municipality is Delaware, where the tax rate on a \$600,000-valued apartment property in Georgetown is about 40% of the rate in Wilmington (0.56% vs. 1.37%). Other states where the tax rate in the rural municipality is significantly lower than the largest city include Oregon (53% lower), Arkansas (46% lower) and Alabama (43% 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 Massachusetts, where the tax rate on an apartment property worth \$600,000 in Adams is nearly 130 percent higher than the rate in Boston (2.07% vs. 0.91%). Other states where the tax rate in the rural municipality is significantly higher than in the largest city include Pennsylvania (118% higher), South Carolina (108% higher), Hawaii (75% higher), and Kansas (64% higher).

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<sup>31</sup> 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.

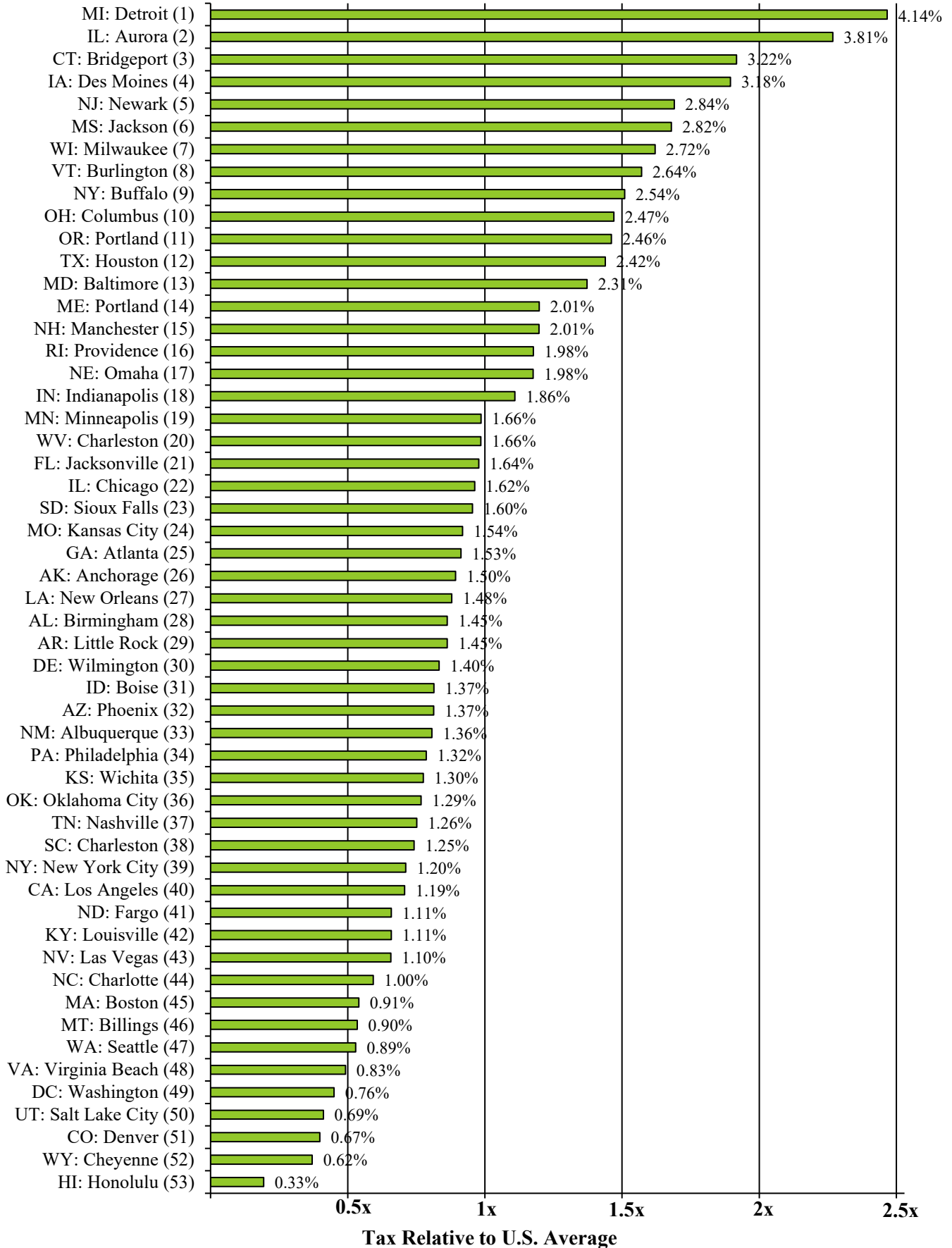
Variation in apartment tax rates across the 50 rural municipalities is very similar to variation across the largest cities in each state.

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 and Texas (Appendix Table 5b) 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, Oklahoma, and Arizona show that caution is needed when extrapolating findings for 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, six states (Illinois, Iowa, Michigan, New Jersey, New York, and Vermont) have top ten 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, and Wyoming are the five states that have bottom ten rankings in both urban and rural settings.

**Figure 5: Apartment Property Taxes for Largest City in Each State (2018)**

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



## Classification and Preferential Treatment of Homestead Properties

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 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. There are four main features of property tax systems that 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.<sup>32</sup>

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.<sup>33</sup>

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 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.

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<sup>32</sup> 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](https://www.lincolninst.edu/subcenters/significant-features-property-tax/Report_Property_Tax_Classification.aspx)).

<sup>33</sup> 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).

## 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.<sup>34</sup> 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 1.657, which means that on average commercial properties experience an effective tax rate that is 66% higher than homesteads.

The commercial-homestead classification ratio varies widely across the 53 cities. The top four cities of Boston, Honolulu, Denver, and Charleston (SC) all have classification ratios greater than 3.0. Over a quarter of all cities (15 of 53) have classification ratios above 2.0, meaning that commercial properties face an effective tax rate that is at least double that for homesteads.

There are five cities where the classification ratio is below one, meaning that their classification system favors commercial properties over homesteads: Las Vegas, Baltimore, Bridgeport, Cheyenne (WY), and Virginia Beach. The property tax systems in these cities 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, 16 have a higher assessment ratio for commercial properties, 14 have a higher nominal tax rate on commercial properties, 29 have exemptions or credits that favor homesteads over commercial properties, and five offer homesteads parcel-specific assessment limits not available to commercial properties. Property tax systems often combine these features – in 20 of these cities homeowners benefit from at least two of these four features (in Albuquerque, Minneapolis, and New York City, homeowners benefit from three of the four). In 11 cities preferential treatment for homeowners is delivered through exemptions or credits alone, while in 9 cities preferences are delivered exclusively through differences in assessment ratios or nominal tax rates.

On average, tax disparities between commercial and homestead properties rose somewhat in 2018: increasing to 1.662 from 1.640 in 2017. The commercial-homestead classification ratio declined in 21 cities<sup>35</sup>, with the largest drops in Boise, ID (-0.179); Minneapolis (-0.143); Atlanta (-0.079); Baltimore (-0.079); and Sioux Falls (-0.075). Relative changes in sales ratios for commercial versus homestead properties tend to have the biggest impact on short-term changes in classification ratios. However, policy decisions that change the underlying property tax structure can sometimes come into play – for example, policymakers' decision in Minnesota to reduce the property tax levy the state imposes on business properties and to exempt a portion of value from the levy plays a large role in Minneapolis' lower classification ratio. From a rankings

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<sup>34</sup> See the methodology section for more detail on how these calculations are performed.

<sup>35</sup> Excluding Tennessee and New York City, changes in city selection and data source render year-on-year changes irrelevant. See footnote 18 on page 14 and the text box on page 23 for further details.



perspective, Baltimore fell 11 places, from 39<sup>th</sup> to 50<sup>th</sup> highest, and Sioux Falls (SD) fell 8 places (from 32<sup>nd</sup> to 40<sup>th</sup> highest).

The classification ratio increased in 23 cities, with the largest rises in Honolulu (0.413), Denver (0.386); Wilmington, DE (0.312); Boston (0.188); and Buffalo (0.159).<sup>36</sup> Here also, the increases are largely driven by sales ratio changes, although the decrease in the assessment ratio for Colorado homesteads and the increase in Boston's homestead exemption result in the higher classification ratios for Denver and Boston, respectively.

**Figure 6c** shows the longer-term picture, with trends in the commercial-homestead classification ratio going back to 1998. The 1.662 figure for 2018 is 1% higher than the 1.640 from last year's report, but still 1% lower than the 1.678 we reported in 2016 and the 1.680 reported in 2002. There was an even slightly smaller increase, on a proportional basis, from 2017 to 2018 when looking solely at locations where residential and commercial properties are treated differently in statute. For cities with this "statutory classification,"<sup>37</sup> the average rose from 1.854 to 1.876.

### **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.<sup>38</sup> 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 that commercial properties do, with apartments facing an effective tax rate that is 31% higher than homesteads on average. In nearly all 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): Burlington (VT), Cheyenne (WY), Detroit, and Houston.

Charleston (SC) is an outlier in the apartment-homestead classification ratio, with an effective tax rate on apartments that is nearly three times higher than the median valued home. There are six other cities with classification ratios above or near 2.0: New York (NY), Indianapolis, Birmingham, Charleston (WV), Jacksonville, and Boston. On the other hand, there are seven cities with a classification ratio below 1.0, with the lowest ratios in Salt Lake City, Bridgeport (CT), and Virginia Beach. The preference given to apartments in these cities is not the result of statutory provisions, but is simply the result of greater underassessment 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 homesteads. However, the preferences given to homesteads relative to apartments are caused more by homestead exemptions and credits than by differences in assessment ratios or nominal tax rates. In total, 35 of the 53 cities have statutory preferences for

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<sup>36</sup> The relatively large increases for Jacksonville, Florida and Chicago, Illinois are not listed since they are largely driven by a methodological change outlined in the methodology section.

<sup>37</sup> 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.

<sup>38</sup> See the methodology section for more detail on how these calculations are performed.

homesteads relative to apartments, but only 13 offer more than one preference. Six 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 fell about 2% in 2018; declining to 1.308 from 1.332 in 2017. The decline is in very large part the result of our discovery this year of reliable sales ratio data for New York City (discussed in the text box on page 23) whereby the apartment-homestead classification ratio fell from 4.800 to 2.550. Otherwise, the apartment-homestead classification ratio declined in 22 cities<sup>39</sup>, with the largest drops in Boise, ID (-0.179); Charleston, WV (-0.106); Des Moines, IA (-0.097); Atlanta (-0.079); and Baltimore (also -0.079). The classification ratio increased in 18 cities, with the largest rises in Chicago (0.324); Buffalo (0.159); Jackson, MS (0.126); Indianapolis (0.072); and Burlington, VT (0.071).<sup>40</sup> As with the commercial-homestead ratios, relative changes in sales ratio have the biggest impact in year-to-year changes in the apartment-homestead ratios. However, policymakers' decisions influenced some changes in the apartment-homestead classification ratios; in Fargo, the same factors affecting changes in the commercial-homestead classification ratio come into play.

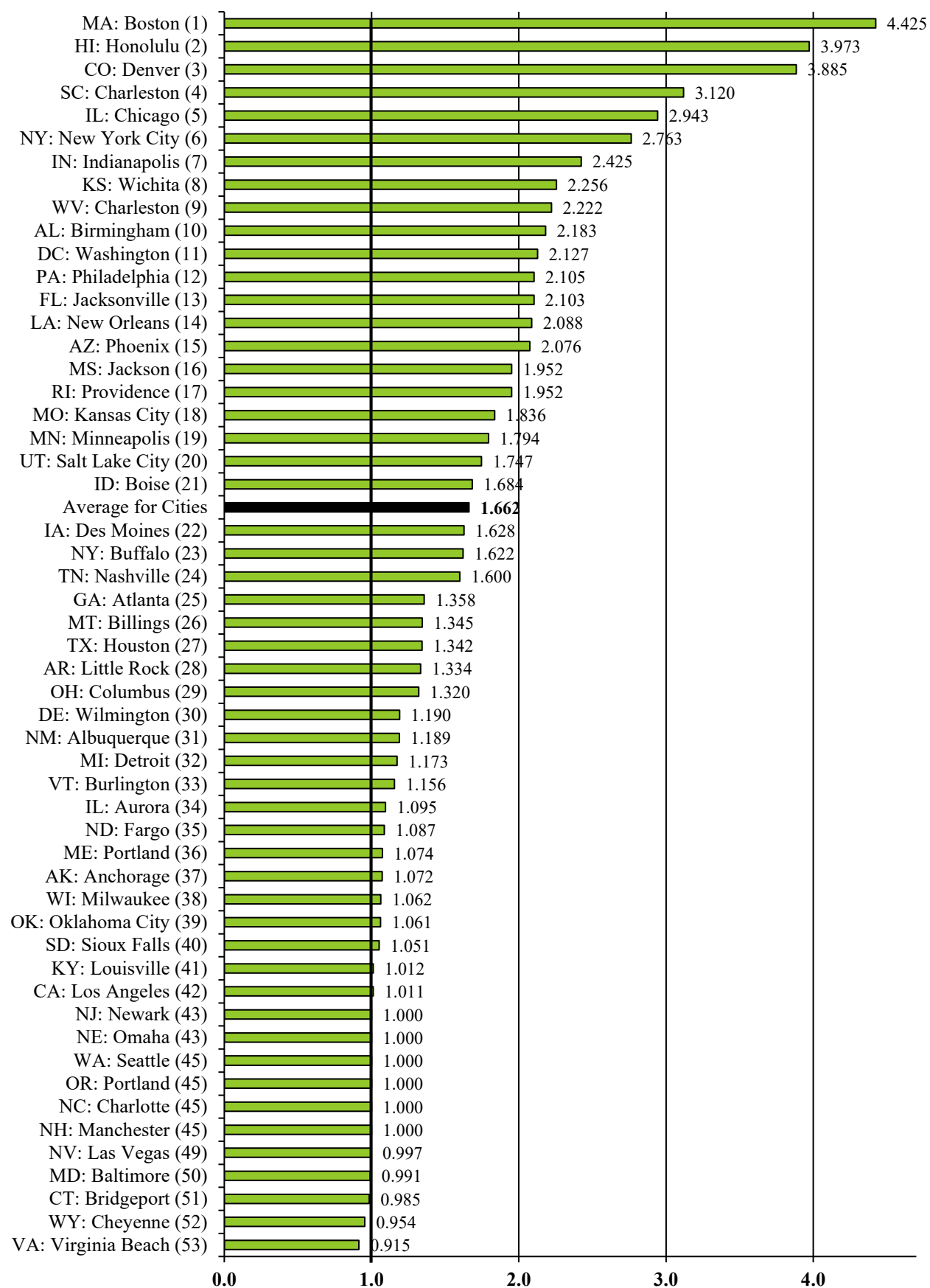
**Figure 6d** provides information on how the apartment-homestead classification ratio has changed since 1998.

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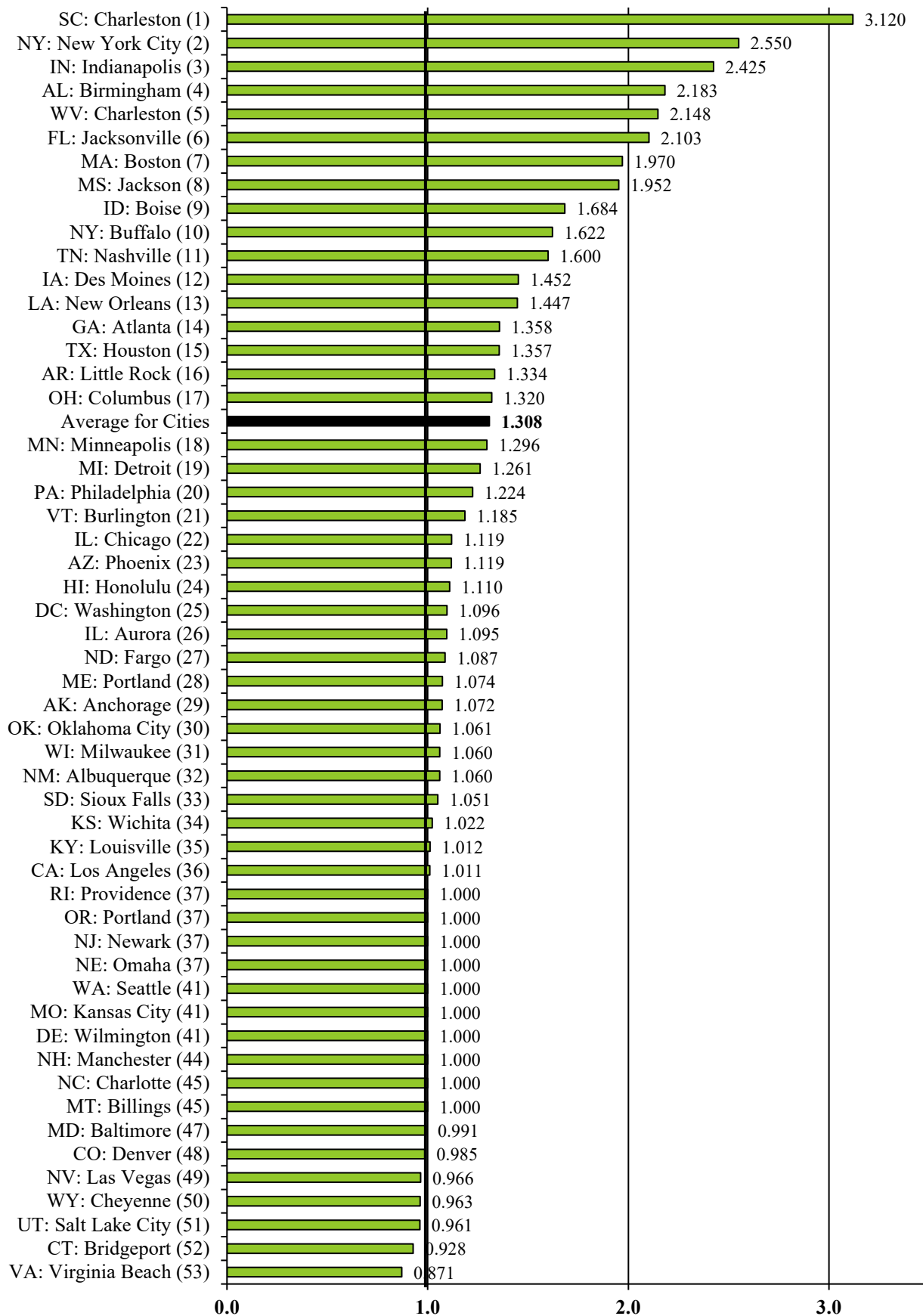
<sup>39</sup> Excluding both New York City for reasons discussed in the text and also Tennessee, where the largest city in the state changed between 2017 and 2018. In both cases, these changes make year-on-year comparisons misleading.

<sup>40</sup> The relatively large increases for Jacksonville, Florida and Little Rock, Arkansas are not listed since they are largely driven by a methodological change outlined in the methodology section. The change for Chicago, Illinois is also affected by this change but would still have the largest year-on-year increase in the apartment-homestead classification ratio without it.

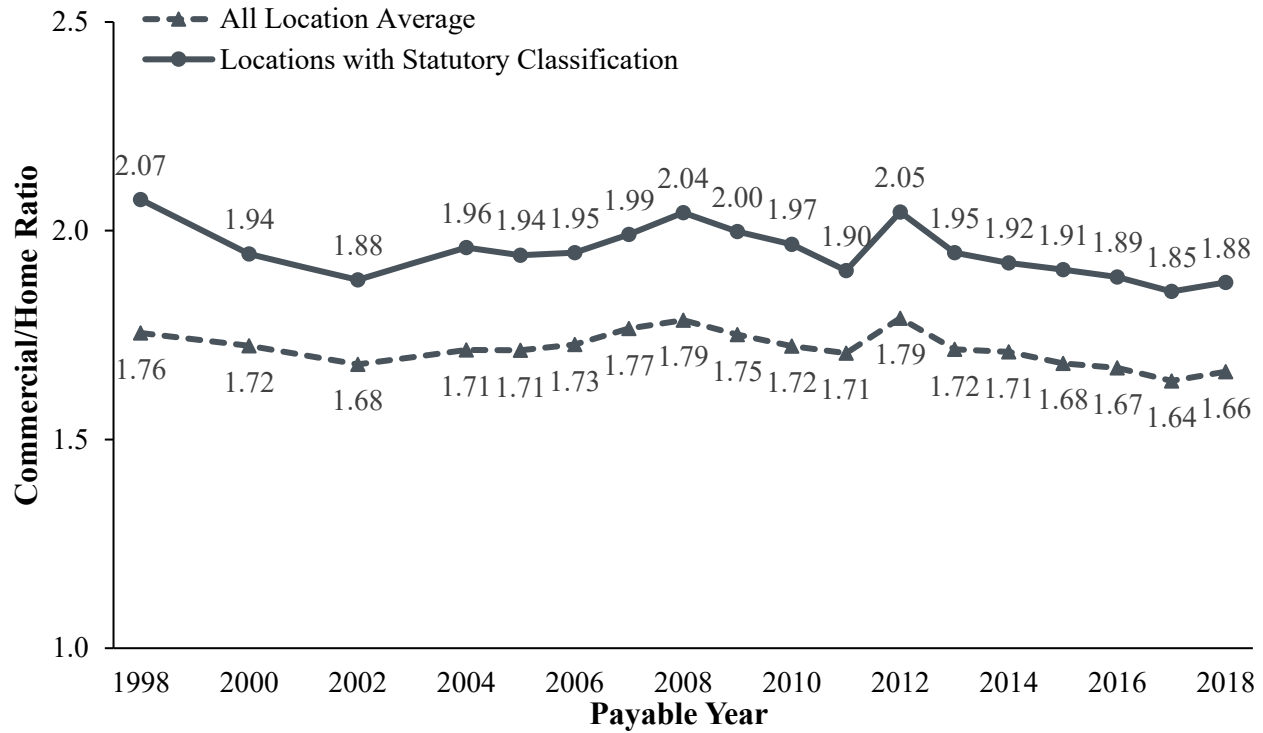
**Figure 6a: Commercial-Homestead Classification Ratio for Largest City in Each State (2018)**



**Figure 6b: Apartment-Homestead Classification Ratio for Largest City in Each State (2018)**



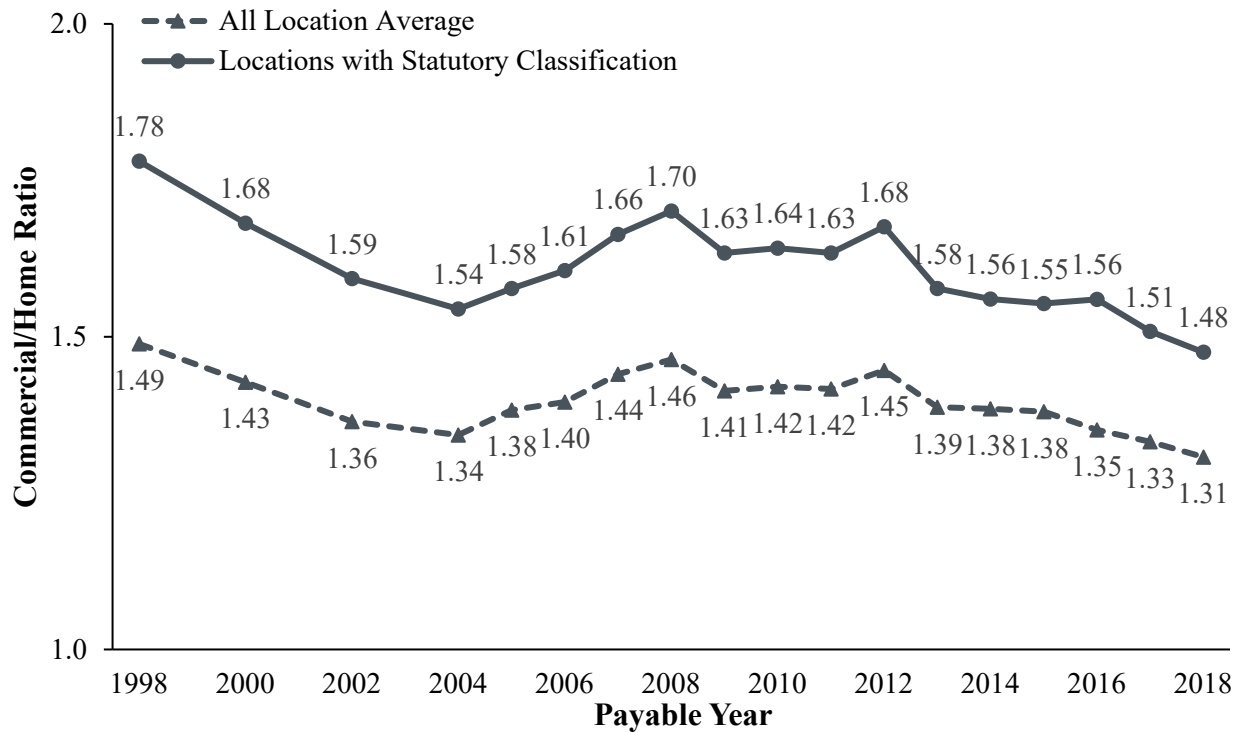
**Figure 6c: Commercial-Homestead Classification Ratio for Largest City in Each State (1998 – 2018)**



**Note: 1.0 denotes unclassified property tax**

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 – 2018)**



**Note: 1.0 denotes unclassified property tax**

## 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.<sup>41</sup>

There are many different types of property tax limits, including constraints on tax rates, tax levies, and assessed values.<sup>42</sup> This report accounts for the impact of limits on tax rates and levies implicitly, because of how these laws impact cities' 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 her home and appreciation of the home's *market value* relative to the allowable growth of its *assessed value*.<sup>43</sup>

This report estimates the amount of tax relief provided by assessment limits for the average homeowner 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).<sup>44</sup> 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 29 cities modeled. The impact of assessment limits varies widely across cities. The largest effect is in New York City, which has an assessment limit that has capped growth in assessed values for residential properties since 1981, even when a property is sold. Because most homes in New York were built prior to 1981, the average home in New York City has been subject to assessment limits for 37 years. However, effective tax rates on newly built homes are far higher,

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<sup>41</sup> Paquin, Bethany P. 2015. "Chronicle of the 161-Year History of State-Imposed Property Tax Limitations." Cambridge, MA: Lincoln Institute of Land Policy.

<sup>42</sup> The Lincoln Institute of Land Policy maintains a comprehensive database of property tax limits on its website: [https://www.lincolninst.edu/subcenters/significant-features-property-tax/Report\\_Tax\\_Limits.aspx](https://www.lincolninst.edu/subcenters/significant-features-property-tax/Report_Tax_Limits.aspx).

<sup>43</sup> Haveman, Mark and Terri A. Sexton. 2008. *Property Tax Assessment Limits: Lessons from Thirty Years of Experience*. Cambridge, MA: Lincoln Institute of Land Policy.

<sup>44</sup> Unlike 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 67 years in New York City and 65 years in Portland) or the period during which assessment limits have been in place (since 1981 in New York City and 1996 in Portland).

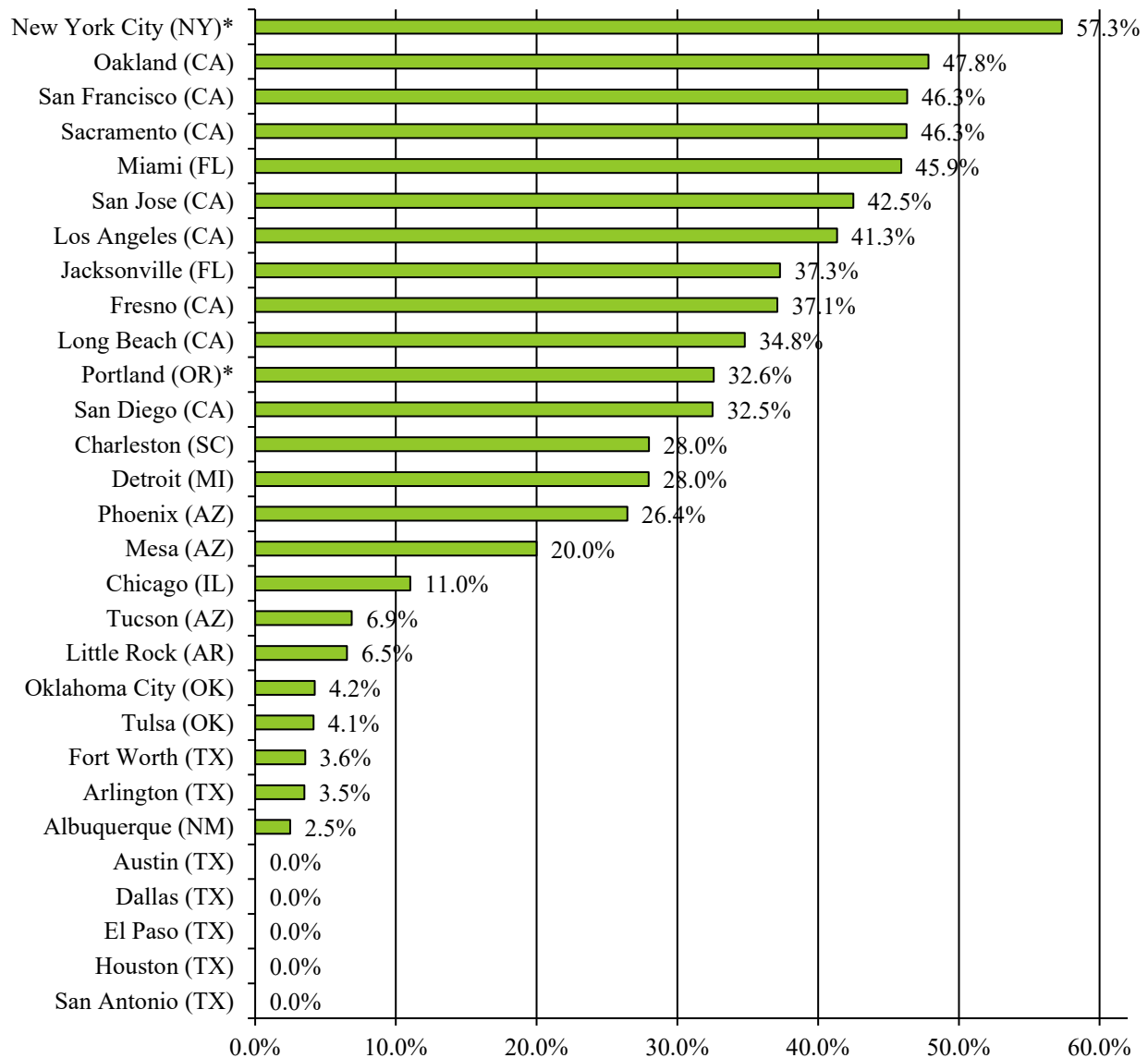
because they do not benefit from the assessment limit. In fact, the owner of a median valued home in New York City (\$569,700) built prior to 1981 would face less than half the effective tax rate than the owner of a newly built median valued home despite them having identical values. Assessment limits also have large impacts in Oakland, San Francisco, Sacramento, Miami, and San Jose, where effective tax rates are 42-48% lower for homes that have been owned for the average duration in each city than for newly purchased homes. In contrast, in five cities (all located in Texas) assessment limits have no impact on taxes for the average homeowner, because growth in market values is less than allowable growth under the assessment limit.

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 11 cities, the difference in tax bills is at least \$1,000.

Accounting for assessment limits can lead to major differences in city's 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). New York City has the 30<sup>th</sup> highest effective tax rate for new homeowners, but drops to 50<sup>th</sup> highest once adjusting for assessment limits. Other cities with large changes include Los Angeles (27<sup>th</sup> to 46<sup>th</sup>); Jacksonville (26<sup>th</sup> to 41<sup>st</sup>); Phoenix (24<sup>th</sup> to 37<sup>th</sup>); and Portland, OR (6<sup>th</sup> to 15<sup>th</sup>).

**Figure 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 Home)



Notes: See Methodology section for details on calculation.

\* 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 48 on page 50 for details on the methodology for these two cities).



## Methodology

This study updates the *50-State Property Tax Comparison Study: Payable Year 2017*. 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 fifty 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:

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

#### Component 1: True Market Value (TMV)

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-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. Omission of 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 that assessments are equal to market value. Sales ratios of less than 100% indicate that assessments are less than market value; sales ratios of over 100% indicate that 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 ( $\$150,000 \times .93$ ) 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 of 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 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 error that properties can be subject to.

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 that 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 a selected class of 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 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 2018 tax rate” as the rate used to calculate the property taxes with a lien date in 2018, 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 located in. This study uses the rate that is 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 are used to 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 have the virtue of allowing 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 of 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”<sup>45</sup> on the U.S. Department rural-urban measurement continuum (controlling for geographical relationships to urban areas)

In five states (Connecticut, Delaware, Hawaii, New Jersey, and Rhode Island), there were no counties coded 6 or 7 on the USDA's continuum. In the case of 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* for 2017, as appropriate. We intend this comparison to show how differences in local real estate markets affect residential property taxes.

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<sup>45</sup> Counties coded “6” are nonmetro counties with urban population 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.

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 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. It is likely that this figure is similar to 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 fifty states (cabin properties, for example) or require more complex work to develop 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<sup>46</sup>, 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.

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<sup>46</sup> Note that the study no longer includes the \$70,000 “low-valued” home.

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 with regard to 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 the permission of the Minnesota Department of Revenue's Research Division, we have borrowed the methodology they use to determine shares of real and personal business property in their biennial *Tax Incidence Study*.<sup>47</sup> Using that methodology, we have 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 |                |              |             | Total               |
|------------------------------|--------------------|----------------|--------------|-------------|---------------------|
|                              | Real               | Mach. & Equip. | Inventories  | Fixtures    |                     |
| Homestead                    | \$150,000          | \$0            | \$0          | \$0         | <b>\$150,000</b>    |
|                              | \$300,000          | \$0            | \$0          | \$0         | <b>\$300,000</b>    |
| Apartments                   | \$600,000          | \$0            | \$0          | \$30,000    | <b>\$630,000</b>    |
| Commercial                   | \$100,000          | \$0            | \$0          | \$20,000    | <b>\$120,000</b>    |
|                              | \$1,000,000        | \$0            | \$0          | \$200,000   | <b>\$1,200,000</b>  |
|                              | \$25,000,000       | \$0            | \$0          | \$5,000,000 | <b>\$30,000,000</b> |
| Industrial<br>(50% Personal) | \$100,000          | \$50,000       | \$40,000     | \$10,000    | <b>\$200,000</b>    |
|                              | \$1,000,000        | \$500,000      | \$400,000    | \$100,000   | <b>\$2,000,000</b>  |
|                              | \$25,000,000       | \$12,500,000   | \$10,000,000 | \$2,500,000 | <b>\$50,000,000</b> |
| Industrial<br>(60% Personal) | \$100,000          | \$75,000       | \$60,000     | \$15,000    | <b>\$250,000</b>    |
|                              | \$1,000,000        | \$750,000      | \$600,000    | \$150,000   | <b>\$2,500,000</b>  |
|                              | \$25,000,000       | \$18,750,000   | \$15,000,000 | \$3,750,000 | <b>\$62,500,000</b> |

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 following table summarizes the assumed true market values and assessed value of personal property used for each property class.

<sup>47</sup> *Tax Incidence Studies* are available on the website of the Minnesota Department of Revenue: [http://www.revenue.state.mn.us/research\\_stats/Pages/Tax\\_Incidence\\_Studies.aspx](http://www.revenue.state.mn.us/research_stats/Pages/Tax_Incidence_Studies.aspx).

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 that provisions have which 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 each individual city where assessment limitation provisions are in effect. 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.<sup>48</sup> Therefore, if the model returns no excluded value, then we assume that 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 where there is considerably more detailed information on the methodology underlying this analysis.<sup>49</sup>

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<sup>48</sup> 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 average home was built 67 years ago in New York City and 65 years ago in Portland, and thus 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 \$609,500 in New York City and \$427,500 in Portland).

<sup>49</sup> 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.

## **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 designed to offer perspective on the level of 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 that commercial property is taxed at twice the rate as homes are. 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 else do not apply equally to all classes of property; such as California’s Proposition 13 limit which restrict 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 across properties in the same property tax systems.

However, there are six property tax systems – Arkansas; Florida; Cook County, Illinois; New Mexico; New York, New York; and Texas – where assessment limitations either affect homesteads only, or are applied differently to different types of property. For cities located in these jurisdictions, for the payable 2018 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 other types of property.



**Appendix Table 1a: Factors Correlated with Homestead Property Tax Rates in Large U.S. Cities**  
(Effective Tax Rate for Median Valued Home, with Assessment Limits)

| State       | City             | Tax Rate    |          | Property Tax Reliance |                    | Median Home Value |                    | Local Gov't Spending |                    | Classification Ratio   |                        |                    |
|-------------|------------------|-------------|----------|-----------------------|--------------------|-------------------|--------------------|----------------------|--------------------|------------------------|------------------------|--------------------|
|             |                  | Rank (1-73) | Tax Rate | Rank (1-73)           | Impact on Tax Rate | Rank (1-73)       | Impact on Tax Rate | Rank (1-73)          | Impact on Tax Rate | Commercial Rank (1-73) | Apartments Rank (1-73) | Impact on Tax Rate |
| Alabama     | Birmingham       | 64          | 0.66     | 71                    | -0.55              | 72                | 0.80               | 29                   | 0.02               | 13                     | 4                      | -0.48              |
| Alaska      | Anchorage        | 28          | 1.42     | 7                     | 0.73               | 18                | -0.31              | 40                   | -0.05              | 48                     | 39                     | 0.18               |
| Arizona     | Mesa             | 63          | 0.66     | 46                    | -0.20              | 37                | -0.01              | 65                   | -0.23              | 11                     | 28                     | -0.12              |
| Arizona     | Phoenix          | 47          | 0.94     | 43                    | -0.16              | 33                | -0.03              | 58                   | -0.18              | 20                     | 32                     | -0.06              |
| Arizona     | Tucson           | 39          | 1.08     | 36                    | -0.03              | 60                | 0.34               | 64                   | -0.23              | 19                     | 30                     | -0.07              |
| Arkansas    | Little Rock      | 41          | 1.05     | 67                    | -0.50              | 50                | 0.23               | 56                   | -0.17              | 33                     | 18                     | 0.02               |
| California  | Fresno           | 56          | 0.76     | 49                    | -0.22              | 32                | -0.04              | 35                   | 0.01               | 53                     | 45                     | 0.20               |
| California  | Long Beach       | 55          | 0.78     | 59                    | -0.39              | 10                | -0.79              | 6                    | 0.33               | 55                     | 48                     | 0.21               |
| California  | Los Angeles      | 62          | 0.69     | 53                    | -0.26              | 6                 | -0.91              | 5                    | 0.43               | 58                     | 51                     | 0.21               |
| California  | Oakland          | 61          | 0.71     | 56                    | -0.33              | 4                 | -0.96              | 4                    | 0.62               | 59                     | 52                     | 0.21               |
| California  | Sacramento       | 67          | 0.59     | 62                    | -0.44              | 15                | -0.35              | 11                   | 0.24               | 54                     | 47                     | 0.21               |
| California  | San Diego        | 54          | 0.78     | 31                    | 0.05               | 9                 | -0.85              | 22                   | 0.07               | 56                     | 49                     | 0.21               |
| California  | San Francisco    | 66          | 0.62     | 55                    | -0.29              | 1                 | -1.37              | 2                    | 1.04               | 61                     | 54                     | 0.21               |
| California  | San Jose         | 59          | 0.73     | 40                    | -0.07              | 2                 | -1.15              | 15                   | 0.14               | 60                     | 53                     | 0.21               |
| Colorado    | Colorado Springs | 70          | 0.49     | 52                    | -0.26              | 24                | -0.15              | 46                   | -0.10              | 3                      | 68                     | -0.42              |
| Colorado    | Denver           | 68          | 0.56     | 69                    | -0.55              | 13                | -0.49              | 12                   | 0.24               | 4                      | 67                     | -0.42              |
| Connecticut | Bridgeport       | 2           | 3.44     | 2                     | 1.17               | 46                | 0.19               | 32                   | 0.01               | 71                     | 72                     | 0.25               |
| DC          | Washington       | 60          | 0.73     | 64                    | -0.45              | 8                 | -0.86              | 1                    | 1.60               | 15                     | 35                     | -0.07              |
| Delaware    | Wilmington       | 27          | 1.44     | 33                    | -0.01              | 48                | 0.20               | 19                   | 0.11               | 36                     | 55                     | 0.18               |
| Florida     | Jacksonville     | 52          | 0.79     | 39                    | -0.06              | 47                | 0.20               | 41                   | -0.06              | 17                     | 7                      | -0.43              |

#### 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 71<sup>st</sup> highest property tax reliance (3<sup>rd</sup> lowest), which is predicted to decrease the city’s tax rate on a median valued home by 0.55 percentage points relative to 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 0.55 percentage points higher, which at 1.21% would be 32<sup>nd</sup> highest. Birmingham also has the 72<sup>nd</sup> highest median home value (2<sup>nd</sup> lowest), which is expected to increase their tax rate by 0.80 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 above average in Birmingham (29<sup>th</sup> highest), which is expected to increase 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 13<sup>th</sup> highest for commercial properties and 4<sup>th</sup> highest for apartments. The city’s classification ratios are predicted to decrease the property tax rate on a median valued home by 0.48 percentage points compared to a city with the average classification ratio.

| State          | City          | Tax Rate    |          | Property Tax Reliance |                    | Median Home Value |                    | Local Gov't Spending |                    | Classification Ratio |            |        |
|----------------|---------------|-------------|----------|-----------------------|--------------------|-------------------|--------------------|----------------------|--------------------|----------------------|------------|--------|
|                |               | Rank (1-73) | Tax Rate | Rank (1-73)           | Impact on Tax Rate | Rank (1-73)       | Impact on Tax Rate | Rank (1-73)          | Impact on Tax Rate | Commercial           | Apartments | Impact |
| Florida        | Miami         | 50          | 0.87     | 32                    | 0.00               | 17                | -0.32              | 25                   | 0.05               | 14                   | 5          | -0.46  |
| Georgia        | Atlanta       | 38          | 1.10     | 29                    | 0.08               | 20                | -0.25              | 10                   | 0.28               | 30                   | 16         | 0.01   |
| Hawaii         | Honolulu*     | 72          | 0.31     | 13                    | 0.35               | 3                 | -0.98              | 73                   | -0.38              | 2                    | 34         | -0.48  |
| Idaho          | Boise         | 51          | 0.85     | 11                    | 0.36               | 29                | -0.07              | 72                   | -0.35              | 25                   | 10         | -0.18  |
| Illinois       | Aurora        | 1           | 3.65     | 4                     | 0.88               | 45                | 0.19               | 57                   | -0.18              | 45                   | 36         | 0.16   |
| Illinois       | Chicago       | 26          | 1.45     | 38                    | -0.04              | 25                | -0.12              | 9                    | 0.30               | 6                    | 31         | -0.26  |
| Indiana        | Indianapolis  | 42          | 1.05     | 48                    | -0.21              | 63                | 0.41               | 34                   | 0.01               | 8                    | 3          | -0.62  |
| Iowa           | Des Moines    | 9           | 2.30     | 15                    | 0.32               | 65                | 0.43               | 47                   | -0.10              | 26                   | 14         | -0.09  |
| Kansas         | Wichita       | 33          | 1.18     | 28                    | 0.09               | 64                | 0.43               | 63                   | -0.22              | 10                   | 46         | -0.07  |
| Kentucky       | Louisville    | 34          | 1.15     | 47                    | -0.20              | 54                | 0.28               | 67                   | -0.24              | 57                   | 50         | 0.21   |
| Louisiana      | New Orleans   | 44          | 0.98     | 58                    | -0.36              | 34                | -0.02              | 43                   | -0.08              | 18                   | 15         | -0.19  |
| Maine          | Portland      | 18          | 1.86     | 9                     | 0.69               | 22                | -0.23              | 48                   | -0.10              | 47                   | 38         | 0.18   |
| Maryland       | Baltimore     | 10          | 2.16     | 30                    | 0.08               | 57                | 0.31               | 18                   | 0.11               | 70                   | 66         | 0.22   |
| Massachusetts  | Boston        | 71          | 0.48     | 3                     | 1.11               | 11                | -0.76              | 36                   | 0.01               | 1                    | 8          | -0.90  |
| Michigan       | Detroit       | 7           | 2.36     | 60                    | -0.39              | 73                | 1.27               | 27                   | 0.02               | 38                   | 23         | 0.08   |
| Minnesota      | Minneapolis   | 31          | 1.33     | 37                    | -0.04              | 26                | -0.10              | 21                   | 0.11               | 9                    | 22         | -0.19  |
| Mississippi    | Jackson       | 29          | 1.41     | 8                     | 0.69               | 70                | 0.74               | 70                   | -0.29              | 21                   | 9          | -0.34  |
| Missouri       | Kansas City   | 24          | 1.58     | 68                    | -0.52              | 58                | 0.32               | 26                   | 0.02               | 23                   | 55         | 0.03   |
| Montana        | Billings      | 46          | 0.94     | 19                    | 0.22               | 36                | -0.01              | 69                   | -0.28              | 31                   | 55         | 0.14   |
| Nebraska       | Omaha         | 15          | 2.00     | 24                    | 0.16               | 56                | 0.30               | 37                   | 0.01               | 62                   | 55         | 0.22   |
| Nevada         | Las Vegas     | 35          | 1.14     | 57                    | -0.34              | 28                | -0.08              | 49                   | -0.12              | 69                   | 69         | 0.23   |
| New Hampshire  | Manchester    | 13          | 2.11     | 6                     | 0.76               | 35                | -0.02              | 52                   | -0.16              | 62                   | 55         | 0.22   |
| New Jersey     | Newark*       | 3           | 2.96     | 1                     | 1.20               | 31                | -0.05              | 44                   | -0.09              | 62                   | 55         | 0.22   |
| New Mexico     | Albuquerque   | 32          | 1.24     | 42                    | -0.15              | 42                | 0.11               | 71                   | -0.29              | 37                   | 43         | 0.15   |
| New York       | Buffalo       | 23          | 1.64     | 70                    | -0.55              | 71                | 0.75               | 17                   | 0.11               | 27                   | 11         | -0.15  |
| New York       | New York City | 69          | 0.49     | 51                    | -0.23              | 7                 | -0.86              | 3                    | 0.81               | 7                    | 2          | -0.74  |
| North Carolina | Charlotte     | 43          | 0.98     | 66                    | -0.48              | 39                | 0.03               | 14                   | 0.19               | 62                   | 55         | 0.22   |
| North Carolina | Raleigh       | 45          | 0.97     | 17                    | 0.26               | 30                | -0.06              | 61                   | -0.20              | 62                   | 55         | 0.22   |
| North Dakota   | Fargo         | 40          | 1.07     | 44                    | -0.18              | 40                | 0.04               | 59                   | -0.19              | 46                   | 37         | 0.17   |
| Ohio           | Columbus      | 16          | 1.97     | 45                    | -0.19              | 59                | 0.33               | 33                   | 0.01               | 34                   | 20         | 0.03   |

\*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: U.S. Census Bureau, 2016 Census of Government Finances).

|                |                | Tax Rate       |             | Property Tax Reliance |                       | Median Home Value |                       | Local Gov't Spending |                       | Classification Ratio |            |        |
|----------------|----------------|----------------|-------------|-----------------------|-----------------------|-------------------|-----------------------|----------------------|-----------------------|----------------------|------------|--------|
| State          | City           | Rank<br>(1-73) | Tax<br>Rate | Rank<br>(1-73)        | Impact on<br>Tax Rate | Rank<br>(1-73)    | Impact on<br>Tax Rate | Rank<br>(1-73)       | Impact on<br>Tax Rate | Commercial           | Apartments | Impact |
| Oklahoma       | Oklahoma City  | 36             | 1.13        | 54                    | -0.28                 | 55                | 0.29                  | 68                   | -0.25                 | 51                   | 41         | 0.18   |
| Oklahoma       | Tulsa          | 30             | 1.35        | 50                    | -0.23                 | 62                | 0.40                  | 66                   | -0.23                 | 49                   | 40         | 0.18   |
| Oregon         | Portland       | 22             | 1.66        | 25                    | 0.15                  | 12                | -0.56                 | 28                   | 0.02                  | 62                   | 55         | 0.22   |
| Pennsylvania   | Philadelphia   | 37             | 1.12        | 72                    | -0.67                 | 53                | 0.25                  | 13                   | 0.20                  | 16                   | 25         | -0.11  |
| Rhode Island   | Providence     | 20             | 1.80        | 5                     | 0.88                  | 41                | 0.08                  | 39                   | -0.05                 | 22                   | 55         | 0.01   |
| South Carolina | Charleston     | 73             | 0.27        | 34                    | -0.01                 | 14                | -0.37                 | 45                   | -0.09                 | 5                    | 1          | -1.03  |
| South Dakota   | Sioux Falls    | 25             | 1.53        | 26                    | 0.13                  | 43                | 0.12                  | 62                   | -0.21                 | 52                   | 44         | 0.19   |
| Tennessee      | Memphis        | 19             | 1.81        | 41                    | -0.08                 | 69                | 0.70                  | 16                   | 0.11                  | 28                   | 12         | -0.13  |
| Tennessee      | Nashville      | 53             | 0.79        | 23                    | 0.18                  | 27                | -0.09                 | 30                   | 0.02                  | 28                   | 12         | -0.13  |
| Texas          | Arlington      | 14             | 2.06        | 12                    | 0.35                  | 52                | 0.24                  | 60                   | -0.20                 | 44                   | 19         | 0.07   |
| Texas          | Austin         | 17             | 1.88        | 10                    | 0.44                  | 16                | -0.34                 | 24                   | 0.06                  | 43                   | 26         | 0.12   |
| Texas          | Dallas         | 12             | 2.16        | 27                    | 0.10                  | 44                | 0.13                  | 31                   | 0.02                  | 35                   | 24         | 0.08   |
| Texas          | El Paso        | 4              | 2.64        | 18                    | 0.24                  | 66                | 0.48                  | 53                   | -0.17                 | 42                   | 33         | 0.15   |
| Texas          | Fort Worth     | 11             | 2.16        | 14                    | 0.34                  | 51                | 0.23                  | 50                   | -0.13                 | 40                   | 21         | 0.07   |
| Texas          | Houston        | 21             | 1.78        | 16                    | 0.29                  | 49                | 0.21                  | 42                   | -0.07                 | 32                   | 17         | 0.01   |
| Texas          | San Antonio    | 6              | 2.44        | 22                    | 0.18                  | 61                | 0.35                  | 23                   | 0.06                  | 39                   | 29         | 0.12   |
| Utah           | Salt Lake City | 58             | 0.73        | 35                    | -0.02                 | 19                | -0.28                 | 54                   | -0.17                 | 24                   | 71         | 0.07   |
| Vermont        | Burlington     | 8              | 2.34        | 65                    | -0.46                 | 21                | -0.24                 | 20                   | 0.11                  | 41                   | 27         | 0.12   |
| Virginia       | Virginia Beach | 48             | 0.90        | 20                    | 0.22                  | 23                | -0.20                 | 55                   | -0.17                 | 73                   | 73         | 0.28   |
| Washington     | Seattle        | 49             | 0.89        | 63                    | -0.44                 | 5                 | -0.95                 | 8                    | 0.30                  | 62                   | 55         | 0.22   |
| West Virginia  | Charleston     | 57             | 0.75        | 61                    | -0.40                 | 68                | 0.59                  | 51                   | -0.14                 | 12                   | 6          | -0.47  |
| Wisconsin      | Milwaukee      | 5              | 2.57        | 21                    | 0.19                  | 67                | 0.51                  | 38                   | -0.01                 | 50                   | 42         | 0.18   |
| Wyoming        | Cheyenne       | 65             | 0.64        | 73                    | -0.84                 | 38                | 0.02                  | 7                    | 0.31                  | 72                   | 70         | 0.24   |

**Appendix Table 1b: Factors Correlated with Commercial Property Tax Rates in Large U.S. Cities**  
(Effective Tax Rate for \$1-Million Valued Commercial Property, with \$200k in Fixtures)

| State       | City             | Tax Rate    |          | Property Tax Reliance |                    | Median Home Value |                    | Local Gov't Spending |                    | Classification Ratio* |                    |
|-------------|------------------|-------------|----------|-----------------------|--------------------|-------------------|--------------------|----------------------|--------------------|-----------------------|--------------------|
|             |                  | Rank (1-73) | Tax Rate | Rank (1-73)           | Impact on Tax Rate | Rank (1-73)       | Impact on Tax Rate | Rank (1-73)          | Impact on Tax Rate | Rank (1-73)           | Impact on Tax Rate |
| Alabama     | Birmingham       | 46          | 1.45     | 71                    | -0.55              | 72                | 0.99               | 29                   | 0.04               | 13                    | 0.23               |
| Alaska      | Anchorage        | 43          | 1.52     | 7                     | 0.73               | 18                | -0.39              | 40                   | -0.08              | 48                    | -0.17              |
| Arizona     | Mesa             | 42          | 1.61     | 46                    | -0.20              | 37                | -0.01              | 65                   | -0.36              | 11                    | 0.25               |
| Arizona     | Phoenix          | 24          | 2.29     | 43                    | -0.16              | 33                | -0.04              | 58                   | -0.28              | 20                    | 0.19               |
| Arizona     | Tucson           | 29          | 2.10     | 36                    | -0.03              | 60                | 0.42               | 64                   | -0.35              | 19                    | 0.19               |
| Arkansas    | Little Rock      | 48          | 1.40     | 67                    | -0.50              | 50                | 0.29               | 56                   | -0.27              | 32                    | -0.08              |
| California  | Fresno           | 57          | 1.24     | 49                    | -0.22              | 32                | -0.06              | 35                   | 0.01               | 53                    | -0.19              |
| California  | Long Beach       | 59          | 1.21     | 59                    | -0.39              | 10                | -0.97              | 6                    | 0.51               | 55                    | -0.19              |
| California  | Los Angeles      | 60          | 1.20     | 53                    | -0.26              | 6                 | -1.13              | 5                    | 0.67               | 58                    | -0.20              |
| California  | Oakland          | 49          | 1.37     | 56                    | -0.33              | 4                 | -1.20              | 4                    | 0.96               | 59                    | -0.20              |
| California  | Sacramento       | 66          | 1.13     | 62                    | -0.44              | 15                | -0.44              | 11                   | 0.38               | 54                    | -0.19              |
| California  | San Diego        | 61          | 1.17     | 31                    | 0.05               | 9                 | -1.05              | 22                   | 0.11               | 56                    | -0.19              |
| California  | San Francisco    | 62          | 1.16     | 55                    | -0.29              | 1                 | -1.70              | 2                    | 1.61               | 61                    | -0.20              |
| California  | San Jose         | 56          | 1.28     | 40                    | -0.07              | 2                 | -1.43              | 15                   | 0.22               | 60                    | -0.20              |
| Colorado    | Colorado Springs | 34          | 1.93     | 52                    | -0.26              | 24                | -0.19              | 46                   | -0.15              | 2                     | 0.85               |
| Colorado    | Denver           | 26          | 2.20     | 69                    | -0.54              | 13                | -0.61              | 12                   | 0.37               | 3                     | 0.84               |
| Connecticut | Bridgeport       | 4           | 3.46     | 2                     | 1.17               | 46                | 0.24               | 32                   | 0.02               | 71                    | -0.20              |
| DC          | Washington       | 55          | 1.29     | 64                    | -0.45              | 8                 | -1.07              | 1                    | 2.46               | 15                    | 0.21               |
| Delaware    | Wilmington       | 47          | 1.43     | 33                    | -0.01              | 48                | 0.24               | 19                   | 0.16               | 36                    | -0.13              |
| Florida     | Jacksonville     | 41          | 1.64     | 39                    | -0.06              | 47                | 0.24               | 41                   | -0.09              | 17                    | 0.20               |

\*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" 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 71<sup>st</sup> highest property tax reliance (3<sup>rd</sup> lowest), which is predicted to decrease the city's commercial property tax rate by 0.55 percentage points relative to 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 0.55 percentage points higher. Birmingham also has the 72<sup>nd</sup> highest median home value (2<sup>nd</sup> lowest), which is expected to increase their tax rate by 0.99 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 above average in Birmingham (29<sup>th</sup> highest), and thus is expected to increase the city's tax rate by 0.04 percentage points relative to a city with average spending. Finally, Birmingham has the 13<sup>th</sup> highest commercial-homestead classification ratio, which is predicted to increase the commercial property tax rate by 0.23 percentage points compared to a city with the average classification ratio.

| State          | City          | Tax Rate       |             | Property Tax Reliance |                       | Median Home Value |                       | Local Gov't Spending |                       | Classification Ratio* |             |
|----------------|---------------|----------------|-------------|-----------------------|-----------------------|-------------------|-----------------------|----------------------|-----------------------|-----------------------|-------------|
|                |               | Rank<br>(1-73) | Tax<br>Rate | Rank<br>(1-73)        | Impact on<br>Tax Rate | Rank<br>(1-73)    | Impact on<br>Tax Rate | Rank<br>(1-73)       | Impact on<br>Tax Rate | Rank<br>(1-73)        | Tax<br>Rate |
| Florida        | Miami         | 35             | 1.85        | 32                    | 0.00                  | 17                | -0.39                 | 25                   | 0.08                  | 14                    | 0.22        |
| Georgia        | Atlanta       | 40             | 1.66        | 29                    | 0.08                  | 20                | -0.31                 | 10                   | 0.43                  | 34                    | -0.09       |
| Hawaii         | Honolulu**    | 71             | 0.91        | 13                    | 0.35                  | 3                 | -1.21                 | 73                   | -0.58                 | 4                     | 0.72        |
| Idaho          | Boise         | 51             | 1.32        | 11                    | 0.36                  | 29                | -0.09                 | 72                   | -0.54                 | 25                    | 0.05        |
| Illinois       | Aurora        | 5              | 3.34        | 4                     | 0.88                  | 45                | 0.24                  | 57                   | -0.28                 | 45                    | -0.16       |
| Illinois       | Chicago       | 3              | 3.55        | 38                    | -0.04                 | 25                | -0.15                 | 9                    | 0.46                  | 6                     | 0.50        |
| Indiana        | Indianapolis  | 17             | 2.58        | 48                    | -0.21                 | 63                | 0.51                  | 34                   | 0.02                  | 8                     | 0.32        |
| Iowa           | Des Moines    | 6              | 3.12        | 15                    | 0.32                  | 65                | 0.54                  | 47                   | -0.15                 | 26                    | 0.03        |
| Kansas         | Wichita       | 14             | 2.71        | 28                    | 0.09                  | 64                | 0.53                  | 63                   | -0.34                 | 10                    | 0.25        |
| Kentucky       | Louisville    | 54             | 1.29        | 47                    | -0.20                 | 54                | 0.35                  | 67                   | -0.37                 | 57                    | -0.19       |
| Louisiana      | New Orleans   | 30             | 2.06        | 58                    | -0.36                 | 34                | -0.02                 | 43                   | -0.12                 | 18                    | 0.19        |
| Maine          | Portland      | 31             | 2.04        | 9                     | 0.69                  | 22                | -0.29                 | 48                   | -0.16                 | 47                    | -0.17       |
| Maryland       | Baltimore     | 13             | 2.72        | 30                    | 0.08                  | 57                | 0.39                  | 18                   | 0.17                  | 70                    | -0.20       |
| Massachusetts  | Boston        | 37             | 1.79        | 3                     | 1.11                  | 11                | -0.94                 | 36                   | 0.01                  | 1                     | 1.04        |
| Michigan       | Detroit       | 2              | 3.83        | 60                    | -0.39                 | 73                | 1.58                  | 27                   | 0.04                  | 38                    | -0.14       |
| Minnesota      | Minneapolis   | 16             | 2.61        | 37                    | -0.04                 | 26                | -0.12                 | 21                   | 0.16                  | 9                     | 0.29        |
| Mississippi    | Jackson       | 9              | 2.84        | 8                     | 0.69                  | 70                | 0.92                  | 70                   | -0.44                 | 23                    | 0.09        |
| Missouri       | Kansas City   | 8              | 2.87        | 68                    | -0.52                 | 58                | 0.40                  | 26                   | 0.04                  | 22                    | 0.10        |
| Montana        | Billings      | 63             | 1.14        | 19                    | 0.22                  | 36                | -0.02                 | 69                   | -0.43                 | 30                    | -0.07       |
| Nebraska       | Omaha         | 32             | 2.02        | 24                    | 0.16                  | 56                | 0.37                  | 37                   | 0.01                  | 62                    | -0.20       |
| Nevada         | Las Vegas     | 64             | 1.14        | 57                    | -0.34                 | 28                | -0.10                 | 49                   | -0.19                 | 69                    | -0.20       |
| New Hampshire  | Manchester    | 38             | 1.76        | 6                     | 0.76                  | 35                | -0.02                 | 52                   | -0.25                 | 62                    | -0.20       |
| New Jersey     | Newark**      | 19             | 2.47        | 1                     | 1.20                  | 31                | -0.06                 | 44                   | -0.13                 | 62                    | -0.20       |
| New Mexico     | Albuquerque   | 45             | 1.48        | 42                    | -0.15                 | 42                | 0.13                  | 71                   | -0.45                 | 37                    | -0.13       |
| New York       | Buffalo       | 25             | 2.22        | 70                    | -0.55                 | 71                | 0.93                  | 17                   | 0.17                  | 27                    | 0.03        |
| New York       | New York City | 65             | 1.14        | 51                    | -0.23                 | 7                 | -1.07                 | 3                    | 1.26                  | 7                     | 0.44        |
| North Carolina | Charlotte     | 67             | 1.04        | 66                    | -0.48                 | 39                | 0.03                  | 14                   | 0.29                  | 62                    | -0.20       |
| North Carolina | Raleigh       | 68             | 0.99        | 17                    | 0.26                  | 30                | -0.08                 | 61                   | -0.31                 | 62                    | -0.20       |
| North Dakota   | Fargo         | 69             | 0.97        | 44                    | -0.18                 | 40                | 0.05                  | 59                   | -0.29                 | 46                    | -0.17       |
| Ohio           | Columbus      | 27             | 2.16        | 45                    | -0.19                 | 59                | 0.41                  | 33                   | 0.02                  | 33                    | -0.08       |

\*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: U.S. Census Bureau, 2016 Census of Government Finances).

| State          | City           | Tax Rate       |             | Property Tax Reliance |                       | Median Home Value |                       | Local Gov't Spending |                       | Classification Ratio* |             |
|----------------|----------------|----------------|-------------|-----------------------|-----------------------|-------------------|-----------------------|----------------------|-----------------------|-----------------------|-------------|
|                |                | Rank<br>(1-73) | Tax<br>Rate | Rank<br>(1-73)        | Impact on<br>Tax Rate | Rank<br>(1-73)    | Impact on<br>Tax Rate | Rank<br>(1-73)       | Impact on<br>Tax Rate | Rank<br>(1-73)        | Tax<br>Rate |
| Oklahoma       | Oklahoma City  | 52             | 1.30        | 54                    | -0.28                 | 55                | 0.36                  | 68                   | -0.38                 | 51                    | -0.18       |
| Oklahoma       | Tulsa          | 44             | 1.49        | 50                    | -0.22                 | 62                | 0.49                  | 66                   | -0.36                 | 49                    | -0.17       |
| Oregon         | Portland       | 20             | 2.46        | 25                    | 0.15                  | 12                | -0.69                 | 28                   | 0.04                  | 62                    | -0.20       |
| Pennsylvania   | Philadelphia   | 33             | 1.96        | 72                    | -0.67                 | 53                | 0.31                  | 13                   | 0.31                  | 16                    | 0.20        |
| Rhode Island   | Providence     | 1              | 3.85        | 5                     | 0.88                  | 41                | 0.10                  | 39                   | -0.08                 | 21                    | 0.14        |
| South Carolina | Charleston     | 36             | 1.81        | 34                    | -0.01                 | 14                | -0.46                 | 45                   | -0.14                 | 5                     | 0.57        |
| South Dakota   | Sioux Falls    | 50             | 1.34        | 26                    | 0.13                  | 43                | 0.15                  | 62                   | -0.32                 | 52                    | -0.18       |
| Tennessee      | Memphis        | 11             | 2.78        | 41                    | -0.08                 | 69                | 0.86                  | 16                   | 0.18                  | 28                    | 0.02        |
| Tennessee      | Nashville      | 58             | 1.21        | 23                    | 0.18                  | 27                | -0.11                 | 30                   | 0.04                  | 28                    | 0.02        |
| Texas          | Arlington      | 23             | 2.36        | 12                    | 0.35                  | 52                | 0.30                  | 60                   | -0.30                 | 44                    | -0.16       |
| Texas          | Austin         | 28             | 2.11        | 10                    | 0.44                  | 16                | -0.43                 | 24                   | 0.09                  | 43                    | -0.16       |
| Texas          | Dallas         | 15             | 2.67        | 27                    | 0.10                  | 44                | 0.16                  | 31                   | 0.03                  | 35                    | -0.12       |
| Texas          | El Paso        | 7              | 3.00        | 18                    | 0.24                  | 66                | 0.59                  | 53                   | -0.26                 | 42                    | -0.15       |
| Texas          | Fort Worth     | 18             | 2.56        | 14                    | 0.34                  | 51                | 0.29                  | 50                   | -0.20                 | 40                    | -0.14       |
| Texas          | Houston        | 22             | 2.39        | 16                    | 0.29                  | 49                | 0.26                  | 42                   | -0.11                 | 31                    | -0.08       |
| Texas          | San Antonio    | 10             | 2.84        | 22                    | 0.18                  | 61                | 0.43                  | 23                   | 0.09                  | 39                    | -0.14       |
| Utah           | Salt Lake City | 53             | 1.29        | 35                    | -0.02                 | 19                | -0.34                 | 54                   | -0.26                 | 24                    | 0.07        |
| Vermont        | Burlington     | 21             | 2.42        | 65                    | -0.46                 | 21                | -0.29                 | 20                   | 0.16                  | 41                    | -0.14       |
| Virginia       | Virginia Beach | 70             | 0.96        | 20                    | 0.22                  | 23                | -0.25                 | 55                   | -0.26                 | 73                    | -0.23       |
| Washington     | Seattle        | 72             | 0.90        | 63                    | -0.44                 | 5                 | -1.17                 | 8                    | 0.47                  | 62                    | -0.20       |
| West Virginia  | Charleston     | 39             | 1.67        | 61                    | -0.40                 | 68                | 0.73                  | 51                   | -0.22                 | 12                    | 0.24        |
| Wisconsin      | Milwaukee      | 12             | 2.73        | 21                    | 0.19                  | 67                | 0.64                  | 38                   | -0.02                 | 50                    | -0.18       |
| Wyoming        | Cheyenne       | 73             | 0.63        | 73                    | -0.84                 | 38                | 0.02                  | 7                    | 0.47                  | 72                    | -0.22       |

\*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                  | 1.354   | 0.706    | Effective tax rate on median valued home, with assessment limits<br>Source: <i>50-State Property Tax Comparison Study</i> (Appendix Tables 2b, 2e)  |
| Median Home Value                             | -0.723***<br>(0.070) | -0.855***<br>(0.101) | 264,999 | 187,518  | Median home value in city<br>Source: 2017 American Community Survey (U.S. Census Bureau)  |
| Business Classification Ratio                 | -0.377***<br>(0.094) | -0.222***<br>(0.063) | 1.551   | 0.757    | Commercial-homestead classification ratio, with taxes on personal property excluded for commercial properties<br>Source: <i>50-State Property Tax Comparison Study</i>                        |
| Apartments Classification Ratio               | -0.500***<br>(0.166) | -0.366***<br>(0.134) | 1.263   | 0.421    | Apartment-homestead classification ratio, with taxes on personal property excluded for apartments<br>Source: <i>50-State Property Tax Comparison Study</i>                                    |
| Property Tax Reliance                         | 0.835***<br>(0.115)  | 0.0311***<br>(0.005) | 40.7    | 13.7     | Property taxes as a percent of own source revenue for the fiscally standardized city (FiSC)<br>Source: Lincoln Institute of Land Policy. FiSC database (2016).                                |
| Local Gov't Spending Per Capita (1000s)       | 0.665***<br>(0.135)  | 0.112***<br>(0.029)  | 6.274   | 2.051    | Direct expenditures per capita for the fiscally standardized city (FiSC)<br>Source: Lincoln Institute of Land Policy. FiSC database (2016).   |
| State and Federal Aid as % Local Gov't Budget | -0.0433<br>(0.121)   | 0.000629<br>(0.006)  | 34.7    | 10.4     | Intergovernmental revenue as a percent of general revenue for the fiscally standardized city (FiSC)<br>Source: Lincoln Institute of Land Policy. FiSC database (2016).                        |
| Local as % State-Local Spending               | -0.126<br>(0.305)    | 0.00366<br>(0.010)   | 49.4    | 7.9      | Local government direct expenditures as a percent of state and local direct expenditures (State-level variable)<br>Source: 2016 Survey of State and Local Gov't Finances (U.S. Census Bureau) |
| Constant                                      | -0.428<br>(1.349)    | 10.52***<br>(1.109)  |         |          |   |
| N   | 69                   | 69                   |         |          |   |
| R-sq  | 0.731                | 0.681                |         |          |   |
| adj. R-sq                                     | 0.7                  | 0.644                |         |          |   |
| F   | 34.36                | 21.83                |         |          |   |

\* 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                  | 1.942   | 0.777    | Effective tax rate on \$1-Million Commercial Property<br>Source: <i>50-State Property Tax Comparison Study</i> (Appendix Tables 3a, 3b)   |
| Median Home Value                             | -0.521***<br>(0.066) | -1.062***<br>(0.162) | 264,999 | 187,518  | Median home value in city<br>Source: 2017 American Community Survey (U.S. Census Bureau)  |
| Business Classification Ratio                 | 0.451***<br>(0.086)  | 0.361***<br>(0.111)  | 1.551   | 0.757    | Commercial-homestead classification ratio, with taxes on personal property excluded for commercial properties<br>Source: <i>50-State Property Tax Comparison Study</i>                        |
| Apartments Classification Ratio               | -0.335***<br>(0.118) | -0.400**<br>(0.162)  | 1.263   | 0.421    | Apartment-homestead classification ratio, with taxes on personal property excluded for apartments<br>Source: <i>50-State Property Tax Comparison Study</i>                                    |
| Property Tax Reliance                         | 0.725***<br>(0.116)  | 0.0311***<br>(0.006) | 40.7    | 13.7     | Property taxes as a percent of own source revenue for the fiscally standardized city (FiSC)<br>Source: Lincoln Institute of Land Policy. FiSC database (2016).                                |
| Local Gov't Spending Per Capita (1000s)       | 0.695***<br>(0.137)  | 0.173***<br>(0.040)  | 6.274   | 2.051    | Direct expenditures per capita for the fiscally standardized city (FiSC)<br>Source: Lincoln Institute of Land Policy. FiSC database (2016).   |
| State and Federal Aid as % Local Gov't Budget | 0.0777<br>(0.097)    | 0.00553<br>(0.006)   | 34.7    | 10.4     | Intergovernmental revenue as a percent of general revenue for the fiscally standardized city (FiSC)<br>Source: Lincoln Institute of Land Policy. FiSC database (2016).                        |
| Local as % State-Local Spending               | 0.0625<br>(0.276)    | 0.00836<br>(0.011)   | 49.4    | 7.9      | Local government direct expenditures as a percent of state and local direct expenditures (State-level variable)<br>Source: 2016 Survey of State and Local Gov't Finances (U.S. Census Bureau) |
| Constant                                      | -2.924**<br>(1.250)  | 12.00***<br>(2.015)  |         |          |   |
| N   | 69                   | 69                   |         |          |   |
| R-sq  | 0.643                | 0.601                |         |          |   |
| adj. R-sq                                     | 0.602                | 0.555                |         |          |   |
| F   | 26.16                | 13.67                |         |          |   |

\* 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**

| State          | City          | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|---------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
|                |               | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Alabama        | Birmingham    | 0.658%        | 48   | -               | 578           | 53   | -               | 87,800            |
| Alaska         | Anchorage     | 1.422%        | 21   | 3 ↑             | 4,549         | 11   | -               | 320,000           |
| Arizona        | Phoenix       | 1.272%        | 24   | 3 ↑             | 2,939         | 24   | -               | 231,000           |
| Arkansas       | Little Rock   | 1.123%        | 33   | 1 ↑             | 1,908         | 41   | -               | 169,900           |
| California     | Los Angeles   | 1.183%        | 27   | 4 ↑             | 7,655         | 2    | 1 ↑             | 647,000           |
| Colorado       | Denver        | 0.564%        | 50   | 1 ↓             | 2,227         | 34   | 5 ↓             | 395,100           |
| Connecticut    | Bridgeport    | 3.440%        | 2    | 1 ↓             | 6,109         | 7    | 2 ↓             | 177,600           |
| DC             | Washington    | 0.725%        | 47   | -               | 4,404         | 12   | -               | 607,200           |
| Delaware       | Wilmington    | 1.437%        | 20   | 2 ↑             | 2,541         | 28   | 5 ↑             | 176,800           |
| Florida        | Jacksonville  | 1.266%        | 26   | -               | 2,241         | 33   | 5 ↑             | 177,000           |
| Georgia        | Atlanta       | 1.099%        | 35   | 1 ↑             | 3,290         | 17   | 4 ↑             | 299,400           |
| Hawaii         | Honolulu      | 0.308%        | 53   | -               | 2,146         | 36   | 1 ↑             | 696,800           |
| Idaho          | Boise         | 0.852%        | 43   | 1 ↑             | 2,062         | 39   | 1 ↑             | 242,000           |
| Illinois       | Aurora*       | 3.655%        | 1    | 1 ↑             | 6,494         | 6    | 1 ↑             | 177,700           |
| Illinois       | Chicago       | 1.628%        | 17   | 1 ↑             | 4,165         | 13   | -               | 255,900           |
| Indiana        | Indianapolis  | 1.047%        | 37   | 2 ↑             | 1,441         | 48   | 3 ↑             | 137,600           |
| Iowa           | Des Moines    | 2.302%        | 8    | -               | 3,091         | 20   | -               | 134,300           |
| Kansas         | Wichita       | 1.180%        | 28   | -               | 1,595         | 46   | 2 ↑             | 135,100           |
| Kentucky       | Louisville    | 1.149%        | 31   | 2 ↓             | 1,845         | 44   | 1 ↓             | 160,500           |
| Louisiana      | New Orleans   | 0.976%        | 39   | 1 ↑             | 2,223         | 35   | 3 ↓             | 227,800           |
| Maine          | Portland      | 1.863%        | 13   | 1 ↑             | 5,426         | 9    | 1 ↓             | 291,200           |
| Maryland       | Baltimore     | 2.161%        | 9    | 1 ↑             | 3,336         | 15   | 1 ↓             | 154,400           |
| Massachusetts  | Boston        | 0.484%        | 51   | -               | 2,617         | 26   | -               | 540,600           |
| Michigan       | Detroit       | 3.277%        | 3    | -               | 1,645         | 45   | 1 ↑             | 50,200            |
| Minnesota      | Minneapolis   | 1.331%        | 23   | -               | 3,333         | 16   | 1 ↓             | 250,400           |
| Mississippi    | Jackson       | 1.414%        | 22   | 3 ↓             | 1,321         | 50   | 1 ↓             | 93,400            |
| Missouri       | Kansas City   | 1.576%        | 18   | 3 ↑             | 2,410         | 30   | 1 ↑             | 152,900           |
| Montana        | Billings      | 0.943%        | 40   | 1 ↑             | 2,133         | 37   | 1 ↓             | 226,100           |
| Nebraska       | Omaha         | 2.000%        | 11   | 1 ↑             | 3,141         | 18   | 1 ↓             | 157,100           |
| Nevada         | Las Vegas     | 1.141%        | 32   | 1 ↑             | 2,801         | 25   | -               | 245,500           |
| New Hampshire  | Manchester    | 2.112%        | 10   | 1 ↓             | 4,793         | 10   | -               | 226,900           |
| New Jersey     | Newark        | 2.963%        | 4    | -               | 6,964         | 4    | 2 ↓             | 235,000           |
| New Mexico     | Albuquerque   | 1.267%        | 25   | -               | 2,494         | 29   | 1 ↓             | 196,900           |
| New York       | Buffalo*      | 1.642%        | 16   | 3 ↓             | 1,522         | 47   | 2 ↓             | 92,700            |
| New York       | New York City | 1.159%        | 30   | -               | 7,063         | 3    | 3 ↑             | 609,500           |
| <b>AVERAGE</b> |               | <b>1.443%</b> |      |                 | <b>3,246</b>  |      |                 | <b>254,385</b>    |

|                |                | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|----------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
| State          | City           | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| North Carolina | Charlotte      | 0.980%        | 38   | -               | 2,112         | 38   | 4 ↓             | 215,500           |
| North Dakota   | Fargo          | 1.070%        | 36   | 1 ↑             | 2,282         | 31   | 4 ↑             | 213,300           |
| Ohio           | Columbus       | 1.966%        | 12   | 1 ↓             | 2,976         | 22   | -               | 151,400           |
| Oklahoma       | Oklahoma City  | 1.176%        | 29   | 3 ↑             | 1,861         | 42   | 3 ↓             | 158,200           |
| Oregon         | Portland       | 2.455%        | 6    | -               | 10,497        | 1    | -               | 427,500           |
| Pennsylvania   | Philadelphia   | 1.118%        | 34   | 1 ↑             | 1,858         | 43   | 1 ↑             | 166,200           |
| Rhode Island   | Providence     | 1.797%        | 14   | 3 ↑             | 3,654         | 14   | 2 ↑             | 203,300           |
| South Carolina | Charleston     | 0.372%        | 52   | -               | 1,283         | 51   | 4 ↓             | 344,600           |
| South Dakota   | Sioux Falls    | 1.532%        | 19   | 1 ↑             | 2,970         | 23   | -               | 193,900           |
| Tennessee      | Nashville**    | 0.789%        | 44   | 29 ↓            | 1,947         | 40   | 2 ↑             | 246,800           |
| Texas          | Houston        | 1.778%        | 15   | 1 ↑             | 3,086         | 21   | 2 ↓             | 173,600           |
| Utah           | Salt Lake City | 0.731%        | 46   | 1 ↓             | 2,251         | 32   | 2 ↓             | 307,900           |
| Vermont        | Burlington     | 2.338%        | 7    | -               | 6,870         | 5    | 1 ↓             | 293,800           |
| Virginia       | Virginia Beach | 0.905%        | 41   | 1 ↑             | 2,554         | 27   | -               | 282,300           |
| Washington     | Seattle        | 0.885%        | 42   | 1 ↑             | 5,960         | 8    | 1 ↑             | 673,100           |
| West Virginia  | Charleston     | 0.752%        | 45   | 1 ↑             | 841           | 52   | -               | 111,900           |
| Wisconsin      | Milwaukee      | 2.567%        | 5    | -               | 3,140         | 19   | 1 ↓             | 122,300           |
| Wyoming        | Cheyenne       | 0.644%        | 49   | 1 ↑             | 1,401         | 49   | 1 ↑             | 217,500           |
| <b>AVERAGE</b> |                | <b>1.443%</b> |      |                 | <b>3,246</b>  |      |                 | <b>254,385</b>    |

\* 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 the rest of the state.

\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

Source for median home values: *2017 American Community Survey*, 1-year data

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

| State          | City          | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|---------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
|                |               | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Alabama        | Birmingham    | 0.658%        | 47   | 1 ↓             | 578           | 53   | -               | 87,800            |
| Alaska         | Anchorage     | 1.422%        | 21   | 3 ↑             | 4,549         | 9    | -               | 320,000           |
| Arizona        | Phoenix       | 0.936%        | 37   | 1 ↓             | 2,162         | 34   | 2 ↓             | 231,000           |
| Arkansas       | Little Rock   | 1.050%        | 32   | -               | 1,783         | 42   | -               | 169,900           |
| California     | Los Angeles   | 0.694%        | 46   | 1 ↑             | 4,490         | 10   | 1 ↑             | 647,000           |
| Colorado       | Denver        | 0.564%        | 49   | 1 ↓             | 2,227         | 32   | 4 ↓             | 395,100           |
| Connecticut    | Bridgeport    | 3.440%        | 2    | 1 ↓             | 6,109         | 5    | 2 ↓             | 177,600           |
| DC             | Washington    | 0.725%        | 45   | -               | 4,404         | 11   | 1 ↓             | 607,200           |
| Delaware       | Wilmington    | 1.437%        | 20   | 2 ↑             | 2,541         | 27   | 6 ↑             | 176,800           |
| Florida        | Jacksonville  | 0.794%        | 41   | -               | 1,405         | 47   | 2 ↑             | 177,000           |
| Georgia        | Atlanta       | 1.099%        | 30   | 1 ↑             | 3,290         | 16   | 5 ↑             | 299,400           |
| Hawaii         | Honolulu      | 0.308%        | 52   | 1 ↑             | 2,146         | 35   | 2 ↑             | 696,800           |
| Idaho          | Boise         | 0.852%        | 40   | 2 ↑             | 2,062         | 38   | -               | 242,000           |
| Illinois       | Aurora*       | 3.655%        | 1    | 1 ↑             | 6,494         | 4    | -               | 177,700           |
| Illinois       | Chicago       | 1.448%        | 19   | 1 ↑             | 3,706         | 12   | -               | 255,900           |
| Indiana        | Indianapolis  | 1.047%        | 33   | 2 ↑             | 1,441         | 46   | 2 ↑             | 137,600           |
| Iowa           | Des Moines    | 2.302%        | 7    | -               | 3,091         | 19   | 1 ↑             | 134,300           |
| Kansas         | Wichita       | 1.180%        | 25   | 1 ↑             | 1,595         | 44   | 1 ↑             | 135,100           |
| Kentucky       | Louisville    | 1.149%        | 26   | 1 ↑             | 1,845         | 41   | 1 ↓             | 160,500           |
| Louisiana      | New Orleans   | 0.976%        | 35   | 2 ↑             | 2,223         | 33   | 2 ↓             | 227,800           |
| Maine          | Portland      | 1.863%        | 12   | 1 ↑             | 5,426         | 7    | 1 ↓             | 291,200           |
| Maryland       | Baltimore     | 2.161%        | 8    | 1 ↑             | 3,336         | 14   | 1 ↓             | 154,400           |
| Massachusetts  | Boston        | 0.484%        | 51   | -               | 2,617         | 25   | -               | 540,600           |
| Michigan       | Detroit       | 2.361%        | 5    | 1 ↓             | 1,185         | 50   | 1 ↑             | 50,200            |
| Minnesota      | Minneapolis   | 1.331%        | 23   | -               | 3,333         | 15   | 1 ↓             | 250,400           |
| Mississippi    | Jackson       | 1.414%        | 22   | 4 ↓             | 1,321         | 49   | 3 ↓             | 93,400            |
| Missouri       | Kansas City   | 1.576%        | 17   | 4 ↑             | 2,410         | 29   | 1 ↑             | 152,900           |
| Montana        | Billings      | 0.943%        | 36   | 2 ↑             | 2,133         | 36   | -               | 226,100           |
| Nebraska       | Omaha         | 2.000%        | 10   | 1 ↑             | 3,141         | 17   | -               | 157,100           |
| Nevada         | Las Vegas     | 1.141%        | 27   | 1 ↑             | 2,801         | 24   | -               | 245,500           |
| New Hampshire  | Manchester    | 2.112%        | 9    | 1 ↓             | 4,793         | 8    | -               | 226,900           |
| New Jersey     | Newark        | 2.963%        | 3    | -               | 6,964         | 2    | 1 ↓             | 235,000           |
| New Mexico     | Albuquerque   | 1.235%        | 24   | 1 ↑             | 2,432         | 28   | 1 ↓             | 196,900           |
| New York       | Buffalo*      | 1.642%        | 16   | 4 ↓             | 1,522         | 45   | 1 ↓             | 92,700            |
| New York       | New York City | 0.495%        | 50   | -               | 3,015         | 21   | 6 ↓             | 609,500           |
| <b>AVERAGE</b> |               | <b>1.365%</b> |      |                 | <b>2,986</b>  |      |                 | <b>254,385</b>    |

|                |                | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|----------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
| State          | City           | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| North Carolina | Charlotte      | 0.980%        | 34   | -               | 2,112         | 37   | 3 ↓             | 215,500           |
| North Dakota   | Fargo          | 1.070%        | 31   | 2 ↑             | 2,282         | 30   | 5 ↑             | 213,300           |
| Ohio           | Columbus       | 1.966%        | 11   | 1 ↓             | 2,976         | 22   | -               | 151,400           |
| Oklahoma       | Oklahoma City  | 1.126%        | 28   | 1 ↑             | 1,782         | 43   | 2 ↓             | 158,200           |
| Oregon         | Portland       | 1.656%        | 15   | 2 ↑             | 7,077         | 1    | 4 ↑             | 427,500           |
| Pennsylvania   | Philadelphia   | 1.118%        | 29   | 1 ↑             | 1,858         | 40   | 3 ↑             | 166,200           |
| Rhode Island   | Providence     | 1.797%        | 13   | 3 ↑             | 3,654         | 13   | 3 ↑             | 203,300           |
| South Carolina | Charleston     | 0.268%        | 53   | 1 ↓             | 924           | 51   | 1 ↓             | 344,600           |
| South Dakota   | Sioux Falls    | 1.532%        | 18   | 1 ↑             | 2,970         | 23   | -               | 193,900           |
| Tennessee      | Nashville**    | 0.789%        | 42   | 28 ↓            | 1,947         | 39   | -               | 246,800           |
| Texas          | Houston        | 1.778%        | 14   | 1 ↑             | 3,086         | 20   | 1 ↓             | 173,600           |
| Utah           | Salt Lake City | 0.731%        | 44   | 1 ↓             | 2,251         | 31   | 2 ↓             | 307,900           |
| Vermont        | Burlington     | 2.338%        | 6    | -               | 6,870         | 3    | 1 ↓             | 293,800           |
| Virginia       | Virginia Beach | 0.905%        | 38   | 1 ↑             | 2,554         | 26   | -               | 282,300           |
| Washington     | Seattle        | 0.885%        | 39   | 1 ↑             | 5,960         | 6    | 1 ↑             | 673,100           |
| West Virginia  | Charleston     | 0.752%        | 43   | 1 ↑             | 841           | 52   | -               | 111,900           |
| Wisconsin      | Milwaukee      | 2.567%        | 4    | 1 ↑             | 3,140         | 18   | -               | 122,300           |
| Wyoming        | Cheyenne       | 0.644%        | 48   | 1 ↑             | 1,401         | 48   | 1 ↓             | 217,500           |
| <b>AVERAGE</b> |                | <b>1.365%</b> |      |                 | <b>2,986</b>  |      |                 | <b>254,385</b>    |

\* 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 the rest of the state.

\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

Source for median home values: 2017 American Community Survey, 1-year data

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

| State          | City          | \$150,000 Property Value |              |      |                 | \$300,000 Property Value |              |      |                 | Tax Rate Varies with Property Value |
|----------------|---------------|--------------------------|--------------|------|-----------------|--------------------------|--------------|------|-----------------|-------------------------------------|
|                |               | Tax Rate                 | Tax Bill     | Rank | Change from '17 | Tax Rate                 | Tax Bill     | Rank | Change from '17 |                                     |
| Alabama        | Birmingham    | 0.683%                   | 1,025        | 47   | -               | 0.701%                   | 2,102        | 47   | -               | X                                   |
| Alaska         | Anchorage     | 1.372%                   | 2,058        | 22   | 1 ↑             | 1.415%                   | 4,245        | 23   | 2 ↑             | X                                   |
| Arizona        | Phoenix       | 1.272%                   | 1,908        | 23   | 2 ↑             | 1.272%                   | 3,817        | 26   | 1 ↑             |                                     |
| Arkansas       | Little Rock   | 1.096%                   | 1,644        | 32   | 1 ↑             | 1.212%                   | 3,637        | 28   | 2 ↑             | X                                   |
| California     | Los Angeles   | 1.140%                   | 1,710        | 31   | 1 ↑             | 1.168%                   | 3,504        | 31   | 2 ↑             | X                                   |
| Colorado       | Denver        | 0.564%                   | 846          | 49   | 1 ↓             | 0.564%                   | 1,691        | 50   | 2 ↓             |                                     |
| Connecticut    | Bridgeport    | 3.440%                   | 5,160        | 2    | 1 ↓             | 3.440%                   | 10,320       | 2    | -               |                                     |
| DC             | Washington    | 0.412%                   | 618          | 50   | 1 ↑             | 0.620%                   | 1,860        | 49   | 1 ↑             | X                                   |
| Delaware       | Wilmington    | 1.437%                   | 2,156        | 20   | 2 ↑             | 1.437%                   | 4,311        | 21   | 2 ↑             |                                     |
| Florida        | Jacksonville  | 1.194%                   | 1,790        | 26   | -               | 1.432%                   | 4,295        | 22   | -               | X                                   |
| Georgia        | Atlanta       | 0.698%                   | 1,048        | 46   | -               | 1.100%                   | 3,299        | 35   | -               | X                                   |
| Hawaii         | Honolulu      | 0.162%                   | 242          | 52   | -               | 0.255%                   | 765          | 52   | -               | X                                   |
| Idaho          | Boise         | 0.742%                   | 1,113        | 44   | -               | 0.974%                   | 2,923        | 40   | 1 ↑             | X                                   |
| Illinois       | Aurora*       | 3.590%                   | 5,386        | 1    | 1 ↑             | 3.796%                   | 11,389       | 1    | -               | X                                   |
| Illinois       | Chicago       | 1.427%                   | 2,141        | 21   | 1 ↓             | 1.669%                   | 5,008        | 17   | 2 ↑             | X                                   |
| Indiana        | Indianapolis  | 1.050%                   | 1,574        | 35   | 3 ↑             | 1.062%                   | 3,185        | 38   | 1 ↑             | X                                   |
| Iowa           | Des Moines    | 2.320%                   | 3,480        | 7    | -               | 2.397%                   | 7,192        | 7    | -               | X                                   |
| Kansas         | Wichita       | 1.184%                   | 1,776        | 27   | 1 ↑             | 1.199%                   | 3,598        | 30   | 1 ↓             | X                                   |
| Kentucky       | Louisville    | 1.149%                   | 1,724        | 29   | -               | 1.149%                   | 3,448        | 32   | -               |                                     |
| Louisiana      | New Orleans   | 0.750%                   | 1,124        | 43   | -               | 1.081%                   | 3,244        | 36   | 1 ↑             | X                                   |
| Maine          | Portland      | 1.734%                   | 2,601        | 16   | -               | 1.867%                   | 5,602        | 13   | 1 ↑             | X                                   |
| Maryland       | Baltimore     | 2.161%                   | 3,241        | 8    | 2 ↑             | 2.161%                   | 6,483        | 9    | 1 ↑             |                                     |
| Massachusetts  | Boston        | 0.095%                   | 143          | 53   | -               | 0.108%                   | 323          | 53   | -               | X                                   |
| Michigan       | Detroit       | 3.277%                   | 4,916        | 3    | -               | 3.277%                   | 9,832        | 3    | -               |                                     |
| Minnesota      | Minneapolis   | 1.199%                   | 1,798        | 25   | 2 ↑             | 1.364%                   | 4,091        | 24   | -               | X                                   |
| Mississippi    | Jackson       | 1.535%                   | 2,303        | 18   | 1 ↓             | 1.635%                   | 4,905        | 18   | 1 ↓             | X                                   |
| Missouri       | Kansas City   | 1.576%                   | 2,364        | 17   | 4 ↑             | 1.576%                   | 4,728        | 19   | 2 ↑             |                                     |
| Montana        | Billings      | 0.943%                   | 1,415        | 38   | 1 ↑             | 0.943%                   | 2,830        | 41   | 1 ↑             |                                     |
| Nebraska       | Omaha         | 2.000%                   | 2,999        | 11   | 1 ↑             | 2.000%                   | 5,999        | 11   | 2 ↑             |                                     |
| Nevada         | Las Vegas     | 1.141%                   | 1,711        | 30   | 1 ↑             | 1.141%                   | 3,422        | 33   | 3 ↑             |                                     |
| New Hampshire  | Manchester    | 2.112%                   | 3,168        | 9    | 1 ↓             | 2.112%                   | 6,337        | 10   | 2 ↓             |                                     |
| New Jersey     | Newark        | 2.963%                   | 4,445        | 4    | -               | 2.963%                   | 8,890        | 4    | -               |                                     |
| New Mexico     | Albuquerque   | 1.254%                   | 1,880        | 24   | -               | 1.281%                   | 3,844        | 25   | 1 ↑             | X                                   |
| New York       | Buffalo*      | 1.764%                   | 2,646        | 14   | 1 ↓             | 1.863%                   | 5,589        | 14   | 3 ↓             | X                                   |
| New York       | New York City | 0.999%                   | 1,498        | 36   | 2 ↓             | 1.105%                   | 3,315        | 34   | -               | X                                   |
| <b>AVERAGE</b> |               | <b>1.397%</b>            | <b>2,095</b> |      |                 | <b>1.459%</b>            | <b>4,378</b> |      |                 | <b>N = 27</b>                       |

|                |                | \$150,000 Property Value |              |      |                    | \$300,000 Property Value |              |      |                    | Tax Rate<br>Varies with<br>Property Value |
|----------------|----------------|--------------------------|--------------|------|--------------------|--------------------------|--------------|------|--------------------|---|
| State          | City           | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 |   |
| North Carolina | Charlotte      | 0.980%                   | 1,470        | 37   | -                  | 0.980%                   | 2,941        | 39   | 1 ↑                | X   |
| North Dakota   | Fargo          | 1.070%                   | 1,605        | 34   | 2 ↑                | 1.070%                   | 3,209        | 37   | 1 ↑                |   |
| Ohio           | Columbus       | 1.966%                   | 2,948        | 12   | 1 ↓                | 1.966%                   | 5,897        | 12   | -                  |   |
| Oklahoma       | Oklahoma City  | 1.172%                   | 1,758        | 28   | 2 ↑                | 1.210%                   | 3,630        | 29   | 2 ↑                |   |
| Oregon         | Portland       | 2.455%                   | 3,683        | 6    | -                  | 2.455%                   | 7,366        | 6    | -                  |   |
| Pennsylvania   | Philadelphia   | 1.091%                   | 1,636        | 33   | 2 ↑                | 1.229%                   | 3,688        | 27   | 1 ↑                | X   |
| Rhode Island   | Providence     | 1.797%                   | 2,696        | 13   | 5 ↑                | 1.797%                   | 5,392        | 16   | 2 ↑                |   |
| South Carolina | Charleston     | 0.372%                   | 559          | 51   | 1 ↓                | 0.372%                   | 1,117        | 51   | -                  |   |
| South Dakota   | Sioux Falls    | 1.532%                   | 2,298        | 19   | -                  | 1.532%                   | 4,596        | 20   | -                  |   |
| Tennessee      | Nashville**    | 0.789%                   | 1,183        | 41   | 27 ↓               | 0.789%                   | 2,366        | 44   | 28 ↓               |   |
| Texas          | Houston        | 1.750%                   | 2,626        | 15   | -                  | 1.851%                   | 5,553        | 15   | -                  | X   |
| Utah           | Salt Lake City | 0.731%                   | 1,097        | 45   | 3 ↓                | 0.731%                   | 2,193        | 46   | 1 ↓                |   |
| Vermont        | Burlington     | 2.106%                   | 3,158        | 10   | 1 ↓                | 2.167%                   | 6,500        | 8    | 1 ↑                |   |
| Virginia       | Virginia Beach | 0.905%                   | 1,357        | 39   | 1 ↑                | 0.905%                   | 2,714        | 42   | 1 ↑                |   |
| Washington     | Seattle        | 0.885%                   | 1,328        | 40   | 1 ↑                | 0.885%                   | 2,656        | 43   | 1 ↑                |   |
| West Virginia  | Charleston     | 0.752%                   | 1,128        | 42   | 3 ↑                | 0.752%                   | 2,256        | 45   | 1 ↑                | X   |
| Wisconsin      | Milwaukee      | 2.598%                   | 3,897        | 5    | -                  | 2.666%                   | 7,998        | 5    | -                  |   |
| Wyoming        | Cheyenne       | 0.644%                   | 966          | 48   | 1 ↑                | 0.644%                   | 1,932        | 48   | 1 ↑                |   |
| <b>AVERAGE</b> |                | <b>1.397%</b>            | <b>2,095</b> |      |                    | <b>1.459%</b>            | <b>4,378</b> |      |                    | <b>N = 27</b>                             |

\* 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 the rest of the state.

\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

**Appendix Table 2d: Homestead Property Taxes for the Largest Fifty U.S. Cities: Median Valued Homes**

| State          | City             | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|------------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
|                |                  | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Arizona        | Mesa             | 0.831%        | 45   | 1 ↓             | 1,867         | 41   | 2 ↑             | 224,700           |
| Arizona        | Phoenix          | 1.272%        | 21   | 3 ↑             | 2,939         | 27   | 1 ↑             | 231,000           |
| Arizona        | Tucson           | 1.163%        | 30   | 5 ↓             | 1,749         | 46   | 2 ↓             | 150,400           |
| California     | Fresno           | 1.207%        | 25   | 1 ↑             | 2,831         | 28   | 1 ↓             | 234,500           |
| California     | Long Beach       | 1.192%        | 26   | 1 ↑             | 6,648         | 8    | -               | 557,700           |
| California     | Los Angeles      | 1.183%        | 27   | 4 ↑             | 7,655         | 5    | -               | 647,000           |
| California     | Oakland          | 1.353%        | 19   | 1 ↑             | 9,289         | 4    | -               | 686,700           |
| California     | Sacramento       | 1.106%        | 37   | 1 ↓             | 3,715         | 16   | 1 ↓             | 335,900           |
| California     | San Diego        | 1.161%        | 31   | 3 ↑             | 6,969         | 7    | -               | 600,300           |
| California     | San Francisco    | 1.156%        | 33   | -               | 12,759        | 1    | -               | 1,104,100         |
| California     | San Jose         | 1.270%        | 22   | 1 ↓             | 10,857        | 2    | -               | 854,700           |
| Colorado       | Colorado Springs | 0.488%        | 49   | 1 ↑             | 1,296         | 50   | -               | 265,400           |
| Colorado       | Denver           | 0.564%        | 48   | -               | 2,227         | 36   | 2 ↓             | 395,100           |
| DC             | Washington       | 0.725%        | 47   | -               | 4,404         | 12   | -               | 607,200           |
| Florida        | Jacksonville     | 1.266%        | 24   | 1 ↓             | 2,241         | 35   | 3 ↑             | 177,000           |
| Florida        | Miami            | 1.602%        | 16   | -               | 5,160         | 11   | -               | 322,100           |
| Georgia        | Atlanta          | 1.099%        | 38   | -               | 3,290         | 22   | 3 ↑             | 299,400           |
| Illinois       | Chicago          | 1.628%        | 15   | -               | 4,165         | 13   | -               | 255,900           |
| Indiana        | Indianapolis     | 1.047%        | 39   | 1 ↑             | 1,441         | 49   | -               | 137,600           |
| Kansas         | Wichita          | 1.180%        | 28   | -               | 1,595         | 48   | -               | 135,100           |
| Kentucky       | Louisville       | 1.149%        | 34   | 5 ↓             | 1,845         | 44   | 2 ↓             | 160,500           |
| Louisiana      | New Orleans      | 0.976%        | 41   | -               | 2,223         | 37   | 1 ↓             | 227,800           |
| Maryland       | Baltimore        | 2.161%        | 7    | 1 ↑             | 3,336         | 20   | -               | 154,400           |
| Massachusetts  | Boston           | 0.484%        | 50   | 1 ↓             | 2,617         | 30   | -               | 540,600           |
| Michigan       | Detroit          | 3.277%        | 1    | -               | 1,645         | 47   | -               | 50,200            |
| Minnesota      | Minneapolis      | 1.331%        | 20   | 1 ↓             | 3,333         | 21   | -               | 250,400           |
| Missouri       | Kansas City      | 1.576%        | 17   | -               | 2,410         | 33   | 2 ↑             | 152,900           |
| Nebraska       | Omaha            | 2.000%        | 10   | 1 ↑             | 3,141         | 23   | 1 ↓             | 157,100           |
| Nevada         | Las Vegas        | 1.141%        | 35   | -               | 2,801         | 29   | -               | 245,500           |
| New Mexico     | Albuquerque      | 1.267%        | 23   | 1 ↓             | 2,494         | 32   | -               | 196,900           |
| New York       | New York City    | 1.159%        | 32   | 2 ↓             | 7,063         | 6    | -               | 609,500           |
| North Carolina | Charlotte        | 0.980%        | 40   | 1 ↓             | 2,112         | 38   | 1 ↓             | 215,500           |
| North Carolina | Raleigh          | 0.972%        | 42   | -               | 2,331         | 34   | 1 ↓             | 239,700           |
| Ohio           | Columbus         | 1.966%        | 11   | 1 ↓             | 2,976         | 26   | -               | 151,400           |
| Oklahoma       | Oklahoma City    | 1.176%        | 11   | 1 ↓             | 1,861         | 42   | 3 ↓             | 158,200           |
| <b>AVERAGE</b> |                  | <b>1.426%</b> |      |                 | <b>3,856</b>  |      |                 | <b>303,980</b>    |

|                |                | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|----------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
| State          | City           | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Oklahoma       | Tulsa          | 1.412%        | 18   | -               | 1,973         | 39   | 1 ↑             | 139,700           |
| Oregon         | Portland       | 2.455%        | 4    | -               | 10,497        | 3    | -               | 427,500           |
| Pennsylvania   | Philadelphia   | 1.118%        | 36   | 1 ↑             | 1,858         | 43   | 2 ↑             | 166,200           |
| Tennessee      | Memphis        | 1.811%        | 13   | -               | 1,788         | 45   | 4 ↓             | 98,700            |
| Tennessee      | Nashville      | 0.789%        | 46   | -               | 1,947         | 40   | 6 ↑             | 246,800           |
| Texas          | Arlington      | 2.137%        | 9    | 2 ↓             | 3,587         | 18   | 2 ↓             | 167,800           |
| Texas          | Austin         | 1.884%        | 12   | -               | 6,267         | 9    | -               | 332,700           |
| Texas          | Dallas         | 2.155%        | 8    | 1 ↑             | 4,108         | 14   | 5 ↑             | 190,600           |
| Texas          | El Paso        | 2.640%        | 2    | -               | 3,372         | 19   | 2 ↓             | 127,700           |
| Texas          | Fort Worth     | 2.237%        | 6    | -               | 3,789         | 15   | 1 ↓             | 169,400           |
| Texas          | Houston        | 1.778%        | 14   | -               | 3,086         | 25   | 1 ↓             | 173,600           |
| Texas          | San Antonio    | 2.438%        | 5    | -               | 3,613         | 17   | 1 ↑             | 148,200           |
| Virginia       | Virginia Beach | 0.905%        | 43   | -               | 2,554         | 31   | -               | 282,300           |
| Washington     | Seattle        | 0.885%        | 44   | 1 ↑             | 5,960         | 10   | -               | 673,100           |
| Wisconsin      | Milwaukee      | 2.567%        | 3    | -               | 3,140         | 24   | 1 ↓             | 122,300           |
| <b>AVERAGE</b> |                | <b>1.426%</b> |      |                 | <b>3,856</b>  |      |                 | <b>303,980</b>    |

Source for median home values: 2017 American Community Survey, 1-year data



**Appendix Table 2e: Homestead Property Taxes for the Largest Fifty U.S. Cities: Median Valued Homes, with Assessment Limits**

| State          | City             | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|------------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
|                |                  | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Arizona        | Mesa             | 0.665%        | 44   | 1 ↓             | 1,494         | 46   | 1 ↓             | 224,700           |
| Arizona        | Phoenix          | 0.936%        | 31   | 2 ↓             | 2,162         | 34   | -               | 231,000           |
| Arizona        | Tucson           | 1.083%        | 26   | 6 ↓             | 1,629         | 44   | 2 ↓             | 150,400           |
| California     | Fresno           | 0.759%        | 39   | 3 ↓             | 1,780         | 43   | 6 ↓             | 234,500           |
| California     | Long Beach       | 0.777%        | 38   | 3 ↑             | 4,335         | 10   | -               | 557,700           |
| California     | Los Angeles      | 0.694%        | 43   | 1 ↑             | 4,490         | 8    | 1 ↑             | 647,000           |
| California     | Oakland          | 0.706%        | 42   | 2 ↓             | 4,845         | 6    | -               | 686,700           |
| California     | Sacramento       | 0.594%        | 46   | -               | 1,995         | 36   | -               | 335,900           |
| California     | San Diego        | 0.784%        | 37   | 2 ↓             | 4,703         | 7    | -               | 600,300           |
| California     | San Francisco    | 0.620%        | 45   | 2 ↑             | 6,849         | 2    | 1 ↓             | 1,104,100         |
| California     | San Jose         | 0.730%        | 40   | 2 ↓             | 6,242         | 4    | 2 ↓             | 854,700           |
| Colorado       | Colorado Springs | 0.488%        | 49   | 1 ↑             | 1,296         | 49   | 1 ↑             | 265,400           |
| Colorado       | Denver           | 0.564%        | 47   | 2 ↓             | 2,227         | 32   | 1 ↓             | 395,100           |
| DC             | Washington       | 0.725%        | 41   | 1 ↑             | 4,404         | 9    | 1 ↓             | 607,200           |
| Florida        | Jacksonville     | 0.794%        | 35   | 2 ↑             | 1,405         | 48   | -               | 177,000           |
| Florida        | Miami            | 0.867%        | 34   | 2 ↓             | 2,792         | 26   | 1 ↑             | 322,100           |
| Georgia        | Atlanta          | 1.099%        | 25   | 1 ↑             | 3,290         | 19   | 4 ↑             | 299,400           |
| Illinois       | Chicago          | 1.448%        | 16   | 1 ↓             | 3,706         | 12   | 1 ↓             | 255,900           |
| Indiana        | Indianapolis     | 1.047%        | 27   | 1 ↑             | 1,441         | 47   | -               | 137,600           |
| Kansas         | Wichita          | 1.180%        | 20   | 1 ↑             | 1,595         | 45   | 1 ↑             | 135,100           |
| Kentucky       | Louisville       | 1.149%        | 21   | 1 ↑             | 1,845         | 40   | 1 ↓             | 160,500           |
| Louisiana      | New Orleans      | 0.976%        | 29   | 1 ↑             | 2,223         | 33   | -               | 227,800           |
| Maryland       | Baltimore        | 2.161%        | 5    | 2 ↑             | 3,336         | 17   | 1 ↓             | 154,400           |
| Massachusetts  | Boston           | 0.484%        | 50   | 1 ↓             | 2,617         | 27   | 1 ↓             | 540,600           |
| Michigan       | Detroit          | 2.361%        | 4    | 3 ↓             | 1,185         | 50   | 1 ↓             | 50,200            |
| Minnesota      | Minneapolis      | 1.331%        | 18   | -               | 3,333         | 18   | 1 ↓             | 250,400           |
| Missouri       | Kansas City      | 1.576%        | 15   | 1 ↑             | 2,410         | 30   | 2 ↑             | 152,900           |
| Nebraska       | Omaha            | 2.000%        | 9    | 1 ↑             | 3,141         | 20   | -               | 157,100           |
| Nevada         | Las Vegas        | 1.141%        | 22   | 1 ↑             | 2,801         | 25   | -               | 245,500           |
| New Mexico     | Albuquerque      | 1.235%        | 19   | -               | 2,432         | 29   | -               | 196,900           |
| New York       | New York City    | 0.495%        | 48   | -               | 3,015         | 23   | 4 ↓             | 609,500           |
| North Carolina | Charlotte        | 0.980%        | 28   | 1 ↓             | 2,112         | 35   | -               | 215,500           |
| North Carolina | Raleigh          | 0.972%        | 30   | 1 ↑             | 2,331         | 31   | 1 ↓             | 239,700           |
| Ohio           | Columbus         | 1.966%        | 10   | 1 ↓             | 2,976         | 24   | -               | 151,400           |
| Oklahoma       | Oklahoma City    | 1.126%        | 23   | 1 ↑             | 1,782         | 42   | 1 ↓             | 158,200           |
| <b>AVERAGE</b> |                  | <b>1.254%</b> |      |                 | <b>3,080</b>  |      |                 | <b>303,980</b>    |

|                |                | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|----------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
| State          | City           | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Oklahoma       | Tulsa          | 1.354%        | 17   | -               | 1,891         | 38   | 2 ↑             | 139,700           |
| Oregon         | Portland       | 1.656%        | 14   | -               | 7,077         | 1    | 2 ↑             | 427,500           |
| Pennsylvania   | Philadelphia   | 1.118%        | 24   | 1 ↑             | 1,858         | 39   | 4 ↑             | 166,200           |
| Tennessee      | Memphis        | 1.811%        | 12   | -               | 1,788         | 41   | 3 ↓             | 98,700            |
| Tennessee      | Nashville      | 0.789%        | 36   | 3 ↑             | 1,947         | 37   | 7 ↑             | 246,800           |
| Texas          | Arlington      | 2.062%        | 8    | 2 ↓             | 3,461         | 15   | 2 ↓             | 167,800           |
| Texas          | Austin         | 1.884%        | 11   | -               | 6,267         | 3    | 1 ↑             | 332,700           |
| Texas          | Dallas         | 2.155%        | 7    | 1 ↑             | 4,108         | 11   | 7 ↑             | 190,600           |
| Texas          | El Paso        | 2.640%        | 1    | 1 ↑             | 3,372         | 16   | 2 ↓             | 127,700           |
| Texas          | Fort Worth     | 2.158%        | 6    | 1 ↓             | 3,655         | 13   | 1 ↓             | 169,400           |
| Texas          | Houston        | 1.778%        | 13   | -               | 3,086         | 22   | -               | 173,600           |
| Texas          | San Antonio    | 2.438%        | 3    | 1 ↑             | 3,613         | 14   | 1 ↑             | 148,200           |
| Virginia       | Virginia Beach | 0.905%        | 32   | 1 ↑             | 2,554         | 28   | -               | 282,300           |
| Washington     | Seattle        | 0.885%        | 33   | 1 ↑             | 5,960         | 5    | -               | 673,100           |
| Wisconsin      | Milwaukee      | 2.567%        | 2    | 1 ↑             | 3,140         | 21   | -               | 122,300           |
| <b>AVERAGE</b> |                | <b>1.254%</b> |      |                 | <b>3,080</b>  |      |                 | <b>303,980</b>    |

Source for median home values: 2017 American Community Survey, 1-year data

**Appendix Table 2f: Homestead Property Taxes for the Largest Fifty U.S. Cities: Homes worth \$150,000 and \$300,000**

| State          | City             | \$150,000 Property Value |              |      |                 | \$300,000 Property Value |              |      |                 | Tax Rate Varies with Property Value |
|----------------|------------------|--------------------------|--------------|------|-----------------|--------------------------|--------------|------|-----------------|-------------------------------------|
|                |                  | Tax Rate                 | Tax Bill     | Rank | Change from '17 | Tax Rate                 | Tax Bill     | Rank | Change from '17 |                                     |
| Arizona        | Mesa             | 0.831%                   | 1,246        | 43   | 1 ↓             | 0.831%                   | 2,492        | 45   | 1 ↓             |                                     |
| Arizona        | Phoenix          | 1.272%                   | 1,908        | 20   | 1 ↑             | 1.272%                   | 3,817        | 23   | 1 ↑             |                                     |
| Arizona        | Tucson           | 1.163%                   | 1,745        | 28   | 3 ↓             | 1.163%                   | 3,489        | 31   | 5 ↓             |                                     |
| California     | Fresno           | 1.186%                   | 1,779        | 25   | 2 ↑             | 1.215%                   | 3,646        | 26   | 1 ↑             | X                                   |
| California     | Long Beach       | 1.151%                   | 1,726        | 29   | 1 ↑             | 1.179%                   | 3,537        | 29   | 1 ↑             | X                                   |
| California     | Los Angeles      | 1.140%                   | 1,710        | 32   | -               | 1.168%                   | 3,504        | 30   | 2 ↑             | X                                   |
| California     | Oakland          | 1.303%                   | 1,954        | 18   | 1 ↑             | 1.335%                   | 4,004        | 21   | -               | X                                   |
| California     | Sacramento       | 1.077%                   | 1,615        | 36   | 1 ↑             | 1.103%                   | 3,309        | 37   | 2 ↑             | X                                   |
| California     | San Diego        | 1.120%                   | 1,680        | 33   | 1 ↑             | 1.147%                   | 3,442        | 33   | 3 ↑             | X                                   |
| California     | San Francisco    | 1.109%                   | 1,663        | 34   | 1 ↓             | 1.136%                   | 3,408        | 35   | 1 ↓             | X                                   |
| California     | San Jose         | 1.221%                   | 1,832        | 22   | -               | 1.251%                   | 3,753        | 24   | 1 ↓             | X                                   |
| Colorado       | Colorado Springs | 0.488%                   | 733          | 48   | -               | 0.488%                   | 1,465        | 49   | -               |                                     |
| Colorado       | Denver           | 0.564%                   | 846          | 47   | -               | 0.564%                   | 1,691        | 48   | 1 ↓             |                                     |
| DC             | Washington       | 0.412%                   | 618          | 49   | -               | 0.620%                   | 1,860        | 47   | 1 ↑             | X                                   |
| Florida        | Jacksonville     | 1.194%                   | 1,790        | 24   | 1 ↓             | 1.432%                   | 4,295        | 19   | 1 ↓             | X                                   |
| Florida        | Miami            | 1.301%                   | 1,952        | 19   | 1 ↓             | 1.583%                   | 4,748        | 16   | -               | X                                   |
| Georgia        | Atlanta          | 0.698%                   | 1,048        | 46   | -               | 1.100%                   | 3,299        | 38   | 3 ↓             | X                                   |
| Illinois       | Chicago          | 1.427%                   | 2,141        | 16   | 1 ↓             | 1.669%                   | 5,008        | 15   | -               | X                                   |
| Indiana        | Indianapolis     | 1.050%                   | 1,574        | 37   | 2 ↑             | 1.062%                   | 3,185        | 40   | -               | X                                   |
| Kansas         | Wichita          | 1.184%                   | 1,776        | 26   | -               | 1.199%                   | 3,598        | 28   | -               | X                                   |
| Kentucky       | Louisville       | 1.149%                   | 1,724        | 30   | 2 ↓             | 1.149%                   | 3,448        | 32   | 1 ↓             |                                     |
| Louisiana      | New Orleans      | 0.750%                   | 1,124        | 45   | -               | 1.081%                   | 3,244        | 39   | 1 ↓             | X                                   |
| Maryland       | Baltimore        | 2.161%                   | 3,241        | 7    | 1 ↑             | 2.161%                   | 6,483        | 9    | -               |                                     |
| Massachusetts  | Boston           | 0.095%                   | 143          | 50   | -               | 0.108%                   | 323          | 50   | -               | X                                   |
| Michigan       | Detroit          | 3.277%                   | 4,916        | 1    | -               | 3.277%                   | 9,832        | 1    | -               |                                     |
| Minnesota      | Minneapolis      | 1.199%                   | 1,798        | 23   | 1 ↑             | 1.364%                   | 4,091        | 20   | -               | X                                   |
| Missouri       | Kansas City      | 1.576%                   | 2,364        | 15   | 1 ↑             | 1.576%                   | 4,728        | 17   | -               |                                     |
| Nebraska       | Omaha            | 2.000%                   | 2,999        | 10   | 1 ↑             | 2.000%                   | 5,999        | 10   | 1 ↑             |                                     |
| Nevada         | Las Vegas        | 1.141%                   | 1,711        | 31   | -               | 1.141%                   | 3,422        | 34   | 3 ↑             |                                     |
| New Mexico     | Albuquerque      | 1.254%                   | 1,880        | 21   | 1 ↓             | 1.281%                   | 3,844        | 22   | -               | X                                   |
| New York       | New York City    | 0.999%                   | 1,498        | 38   | 3 ↓             | 1.105%                   | 3,315        | 36   | 3 ↓             | X                                   |
| North Carolina | Charlotte        | 0.980%                   | 1,470        | 39   | 1 ↓             | 0.980%                   | 2,941        | 41   | -               |                                     |
| North Carolina | Raleigh          | 0.972%                   | 1,459        | 40   | -               | 0.972%                   | 2,917        | 42   | -               |                                     |
| Ohio           | Columbus         | 1.966%                   | 2,948        | 11   | 1 ↓             | 1.966%                   | 5,897        | 11   | 1 ↓             |                                     |
| Oklahoma       | Oklahoma City    | 1.172%                   | 1,758        | 27   | 2 ↑             | 1.210%                   | 3,630        | 27   | 2 ↑             | X                                   |
| <b>AVERAGE</b> |                  | <b>1.372%</b>            | <b>2,059</b> |      |                 | <b>1.440%</b>            | <b>4,319</b> |      |                 | <b>N = 31</b>                       |

|                |                | \$150,000 Property Value |              |      |                    | \$300,000 Property Value |              |      |                    | Tax Rate<br>Varies with<br>Property Value |
|----------------|----------------|--------------------------|--------------|------|--------------------|--------------------------|--------------|------|--------------------|---|
| State          | City           | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 |   |
| Oklahoma       | Tulsa          | 1.419%                   | 2,129        | 17   | -                  | 1.465%                   | 4,395        | 18   | 1 ↑                | X   |
| Oregon         | Portland       | 2.455%                   | 3,683        | 4    | -                  | 2.455%                   | 7,366        | 5    | -                  | X   |
| Pennsylvania   | Philadelphia   | 1.091%                   | 1,636        | 35   | 1 ↑                | 1.229%                   | 3,688        | 25   | -                  |   |
| Tennessee      | Memphis        | 1.811%                   | 2,717        | 12   | -                  | 1.811%                   | 5,434        | 14   | -                  |   |
| Tennessee      | Nashville      | 0.789%                   | 1,183        | 44   | -                  | 0.789%                   | 2,366        | 46   | -                  |   |
| Texas          | Arlington      | 2.113%                   | 3,170        | 8    | 1 ↓                | 2.227%                   | 6,682        | 7    | -                  | X   |
| Texas          | Austin         | 1.773%                   | 2,659        | 13   | -                  | 1.874%                   | 5,621        | 12   | -                  | X   |
| Texas          | Dallas         | 2.108%                   | 3,162        | 9    | -                  | 2.219%                   | 6,656        | 8    | -                  | X   |
| Texas          | El Paso        | 2.686%                   | 4,029        | 2    | -                  | 2.817%                   | 8,450        | 2    | -                  | X   |
| Texas          | Fort Worth     | 2.211%                   | 3,317        | 6    | -                  | 2.324%                   | 6,972        | 6    | -                  | X   |
| Texas          | Houston        | 1.750%                   | 2,626        | 14   | -                  | 1.851%                   | 5,553        | 13   | -                  | X   |
| Texas          | San Antonio    | 2.441%                   | 3,661        | 5    | -                  | 2.572%                   | 7,715        | 4    | -                  | X   |
| Virginia       | Virginia Beach | 0.905%                   | 1,357        | 41   | -                  | 0.905%                   | 2,714        | 43   | -                  | X   |
| Washington     | Seattle        | 0.885%                   | 1,328        | 42   | 1 ↑                | 0.885%                   | 2,656        | 44   | 1 ↑                |   |
| Wisconsin      | Milwaukee      | 2.598%                   | 3,897        | 3    | -                  | 2.666%                   | 7,998        | 3    | -                  |   |
| <b>AVERAGE</b> |                | <b>1.372%</b>            | <b>2,059</b> |      |                    | <b>1.440%</b>            | <b>4,319</b> |      |                    | <b>N = 31</b>                             |

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

| State          | City              | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|-------------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
|                |                   | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Alabama        | Monroeville       | 0.370%        | 48   | 1 ↓             | 401           | 49   | -               | 108,400           |
| Alaska         | Ketchikan         | 1.097%        | 28   | -               | 2,600         | 12   | 1 ↑             | 237,000           |
| Arizona        | Safford           | 0.810%        | 36   | 4 ↑             | 1,107         | 31   | 2 ↑             | 136,600           |
| Arkansas       | Pocahontas        | 0.255%        | 49   | -               | 197           | 50   | -               | 77,100            |
| California     | Yreka             | 1.006%        | 32   | -               | 1,492         | 24   | 1 ↓             | 148,300           |
| Colorado       | Walsenburg        | 0.537%        | 45   | 1 ↓             | 501           | 46   | 1 ↑             | 93,300            |
| Connecticut    | Litchfield        | 1.995%        | 13   | 1 ↓             | 6,696         | 1    | -               | 335,600           |
| Delaware       | Georgetown        | 0.584%        | 44   | 1 ↓             | 1,178         | 30   | -               | 201,800           |
| Florida        | Moore Haven       | 0.709%        | 39   | 6 ↓             | 456           | 48   | 6 ↓             | 64,400            |
| Georgia        | Fitzgerald        | 1.463%        | 19   | 1 ↓             | 1,261         | 28   | 1 ↓             | 86,200            |
| Hawaii         | Kauai             | 0.204%        | 50   | -               | 1,015         | 34   | 2 ↑             | 497,700           |
| Idaho          | Saint Anthony     | 0.674%        | 41   | 5 ↓             | 761           | 39   | 2 ↓             | 112,900           |
| Illinois       | Galena            | 2.205%        | 6    | 2 ↑             | 3,332         | 6    | -               | 151,100           |
| Indiana        | North Vernon      | 0.889%        | 33   | 1 ↑             | 765           | 38   | 1 ↑             | 86,100            |
| Iowa           | Hampton           | 1.849%        | 15   | 2 ↑             | 1,505         | 23   | 2 ↑             | 81,400            |
| Kansas         | Iola              | 1.945%        | 14   | 4 ↓             | 1,558         | 21   | 1 ↓             | 80,100            |
| Kentucky       | Morehead          | 1.052%        | 31   | 4 ↓             | 1,794         | 18   | 1 ↓             | 170,500           |
| Louisiana      | Natchitoches      | 0.443%        | 47   | 1 ↑             | 669           | 42   | 6 ↑             | 150,800           |
| Maine          | Rockland          | 2.027%        | 12   | 2 ↑             | 3,328         | 7    | 1 ↑             | 164,200           |
| Maryland       | Denton            | 1.774%        | 17   | 2 ↑             | 3,235         | 9    | -               | 182,300           |
| Massachusetts  | Adams             | 2.177%        | 7    | 2 ↑             | 3,265         | 8    | 1 ↓             | 150,000           |
| Michigan       | Manistique        | 2.092%        | 9    | 2 ↑             | 1,308         | 27   | 1 ↑             | 62,500            |
| Minnesota      | Glencoe           | 1.239%        | 22   | -               | 1,584         | 20   | 1 ↑             | 127,800           |
| Mississippi    | Philadelphia      | 1.077%        | 30   | -               | 993           | 35   | -               | 92,200            |
| Missouri       | Boonville         | 1.107%        | 27   | 2 ↓             | 1,244         | 29   | -               | 112,400           |
| Montana        | Glasgow           | 1.090%        | 29   | 2 ↑             | 1,535         | 22   | 3 ↓             | 140,800           |
| Nebraska       | Sidney            | 2.086%        | 10   | 3 ↓             | 2,627         | 11   | 1 ↓             | 125,900           |
| Nevada         | Fallon            | 1.266%        | 21   | -               | 1,798         | 17   | 1 ↑             | 142,000           |
| New Hampshire  | Lancaster         | 2.919%        | 1    | 2 ↑             | 4,184         | 5    | 1 ↓             | 143,300           |
| New Jersey     | Maurice River Twp | 2.772%        | 3    | 1 ↑             | 4,668         | 4    | 1 ↑             | 168,400           |
| New Mexico     | Santa Rosa        | 0.872%        | 34   | 3 ↑             | 753           | 40   | -               | 86,400            |
| New York       | Warsaw            | 2.917%        | 2    | 1 ↓             | 3,083         | 10   | 1 ↑             | 105,700           |
| North Carolina | Edenton           | 1.135%        | 25   | 1 ↑             | 1,434         | 25   | 6 ↑             | 126,400           |
| North Dakota   | Devils Lake       | 1.132%        | 26   | 3 ↑             | 1,093         | 33   | 1 ↑             | 96,600            |
| Ohio           | Bryan             | 1.581%        | 18   | 2 ↑             | 1,402         | 26   | 2 ↓             | 88,700            |
| <b>AVERAGE</b> |                   | <b>1.342%</b> |      |                 | <b>1,852</b>  |      |                 | <b>137,562</b>    |

|                |               | Tax Rate (%)  |      |                 | Tax Bill (\$) |      |                 | Median Home Value |
|----------------|---------------|---------------|------|-----------------|---------------|------|-----------------|-------------------|
| State          | City          | Rate          | Rank | Change from '17 | Rate          | Rank | Change from '17 |                   |
| Oklahoma       | Mangum        | 0.758%        | 37   | 1 ↑             | 491           | 47   | 4 ↓             | 64,700            |
| Oregon         | Tillamook     | 1.162%        | 24   | -               | 2,052         | 15   | -               | 176,600           |
| Pennsylvania   | Ridgway       | 2.731%        | 4    | 2 ↓             | 1,975         | 16   | -               | 72,300            |
| Rhode Island   | Hopkinton     | 2.033%        | 11   | 2 ↑             | 5,203         | 3    | -               | 255,900           |
| South Carolina | Mullins       | 0.814%        | 35   | -               | 559           | 45   | 1 ↓             | 68,700            |
| South Dakota   | Vermillion    | 1.841%        | 16   | 1 ↓             | 2,506         | 14   | 2 ↓             | 136,100           |
| Tennessee      | Savannah      | 0.673%        | 42   | -               | 601           | 43   | 2 ↑             | 89,300            |
| Texas          | Fort Stockton | 1.167%        | 23   | 7 ↓             | 973           | 37   | 15 ↓            | 83,300            |
| Utah           | Richfield     | 0.699%        | 40   | 1 ↓             | 1,099         | 32   | -               | 157,300           |
| Vermont        | Hartford      | 2.584%        | 5    | -               | 5,876         | 2    | -               | 227,400           |
| Virginia       | Wise          | 0.589%        | 43   | 2 ↑             | 689           | 41   | -               | 117,100           |
| Washington     | Okanogan      | 1.343%        | 20   | 3 ↑             | 1,649         | 19   | 7 ↑             | 122,800           |
| West Virginia  | Elkins        | 0.523%        | 46   | -               | 595           | 44   | 2 ↑             | 113,900           |
| Wisconsin      | Rice Lake     | 2.118%        | 8    | 2 ↓             | 2,541         | 13   | 1 ↑             | 120,000           |
| Wyoming        | Worland       | 0.710%        | 38   | 3 ↑             | 978           | 36   | 2 ↑             | 137,800           |
| <b>AVERAGE</b> |               | <b>1.342%</b> |      |                 | <b>1,852</b>  |      |                 | <b>137,562</b>    |

Source for median home values: 2017 American Community Survey, 5-year data

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

| State          | City              | \$150,000 Property Value |              |      |                    | \$300,000 Property Value |              |      |                    | Tax Rate<br>Varies with<br>Property Value |
|----------------|-------------------|--------------------------|--------------|------|--------------------|--------------------------|--------------|------|--------------------|---|
|                |                   | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 |   |
| Alabama        | Monroeville       | 0.381%                   | 571          | 49   | 1 ↓                | 0.395%                   | 1,186        | 49   | -                  | X   |
| Alaska         | Ketchikan         | 1.097%                   | 1,646        | 30   | -                  | 1.097%                   | 3,291        | 30   | 1 ↑                |   |
| Arizona        | Safford           | 0.810%                   | 1,215        | 38   | 2 ↑                | 0.810%                   | 2,431        | 39   | 1 ↑                |   |
| Arkansas       | Pocahontas        | 0.476%                   | 714          | 47   | -                  | 0.592%                   | 1,777        | 44   | 1 ↑                | X   |
| California     | Yreka             | 1.007%                   | 1,510        | 33   | -                  | 1.031%                   | 3,093        | 33   | 1 ↑                | X   |
| Colorado       | Walsenburg        | 0.537%                   | 805          | 45   | 1 ↓                | 0.537%                   | 1,610        | 47   | 1 ↓                |   |
| Connecticut    | Litchfield        | 1.995%                   | 2,993        | 13   | 1 ↓                | 1.995%                   | 5,986        | 13   | -                  |   |
| Delaware       | Georgetown        | 0.584%                   | 876          | 44   | 1 ↓                | 0.584%                   | 1,752        | 46   | 3 ↓                |   |
| Florida        | Moore Haven       | 1.571%                   | 2,357        | 19   | -                  | 1.896%                   | 5,688        | 15   | 1 ↑                | X   |
| Georgia        | Fitzgerald        | 1.566%                   | 2,349        | 20   | 2 ↓                | 1.636%                   | 4,907        | 19   | -                  | X   |
| Hawaii         | Kauai             | 0.050%                   | 75           | 50   | -                  | 0.139%                   | 418          | 50   | -                  | X   |
| Idaho          | St. Anthony       | 0.674%                   | 1,011        | 41   | 4 ↓                | 0.814%                   | 2,441        | 38   | 8 ↓                | X   |
| Illinois       | Galena            | 2.203%                   | 3,305        | 6    | 2 ↑                | 2.353%                   | 7,060        | 5    | -                  | X   |
| Indiana        | North Vernon      | 0.957%                   | 1,436        | 34   | -                  | 0.957%                   | 2,871        | 34   | 1 ↑                |   |
| Iowa           | Hampton           | 1.952%                   | 2,928        | 15   | 2 ↑                | 2.013%                   | 6,040        | 12   | 6 ↑                | X   |
| Kansas         | Iola              | 1.972%                   | 2,958        | 14   | 4 ↓                | 1.988%                   | 5,963        | 14   | 5 ↓                | X   |
| Kentucky       | Morehead          | 1.052%                   | 1,578        | 32   | 3 ↓                | 1.052%                   | 3,156        | 32   | 3 ↓                |   |
| Louisiana      | Natchitoches      | 0.441%                   | 662          | 48   | 1 ↑                | 0.663%                   | 1,988        | 43   | 1 ↑                | X   |
| Maine          | Rockland          | 2.000%                   | 3,000        | 12   | 2 ↑                | 2.154%                   | 6,462        | 8    | 3 ↑                | X   |
| Maryland       | Denton            | 1.774%                   | 2,662        | 17   | 3 ↑                | 1.774%                   | 5,323        | 17   | 3 ↑                |   |
| Massachusetts  | Adams             | 2.177%                   | 3,265        | 7    | 2 ↑                | 2.177%                   | 6,530        | 7    | 1 ↑                |   |
| Michigan       | Manistique        | 2.092%                   | 3,138        | 9    | 2 ↑                | 2.092%                   | 6,276        | 9    | 3 ↑                |   |
| Minnesota      | Glencoe           | 1.303%                   | 1,955        | 23   | 1 ↓                | 1.487%                   | 4,462        | 21   | 1 ↑                | X   |
| Mississippi    | Philadelphia      | 1.203%                   | 1,804        | 25   | 1 ↓                | 1.303%                   | 3,908        | 24   | 1 ↓                | X   |
| Missouri       | Boonville         | 1.107%                   | 1,660        | 29   | 2 ↓                | 1.107%                   | 3,320        | 29   | 2 ↓                |   |
| Montana        | Glasgow           | 1.090%                   | 1,636        | 31   | 1 ↑                | 1.090%                   | 3,271        | 31   | 2 ↑                |   |
| Nebraska       | Sidney            | 2.086%                   | 3,130        | 10   | 3 ↓                | 2.086%                   | 6,259        | 10   | 3 ↓                |   |
| Nevada         | Fallon            | 1.266%                   | 1,900        | 24   | 1 ↓                | 1.266%                   | 3,799        | 25   | 1 ↓                |   |
| New Hampshire  | Lancaster         | 2.919%                   | 4,379        | 2    | 1 ↑                | 2.919%                   | 8,758        | 3    | -                  |   |
| New Jersey     | Maurice River Twp | 2.772%                   | 4,158        | 4    | -                  | 2.772%                   | 8,315        | 4    | -                  |   |
| New Mexico     | Santa Rosa        | 0.900%                   | 1,350        | 35   | 1 ↑                | 0.919%                   | 2,756        | 35   | 1 ↑                | X   |
| New York       | Warsaw            | 3.091%                   | 4,637        | 1    | -                  | 3.299%                   | 9,897        | 1    | -                  | X   |
| North Carolina | Edenton           | 1.135%                   | 1,702        | 27   | 1 ↑                | 1.135%                   | 3,404        | 27   | 1 ↑                |   |
| North Dakota   | Devils Lake       | 1.132%                   | 1,698        | 28   | 3 ↑                | 1.132%                   | 3,395        | 28   | 4 ↑                |   |
| Ohio           | Bryan             | 1.581%                   | 2,371        | 18   | 3 ↑                | 1.581%                   | 4,742        | 20   | 1 ↑                |   |
| <b>AVERAGE</b> |                   | <b>1.377%</b>            | <b>2,065</b> |      |                    | <b>1.409%</b>            | <b>4,226</b> |      |                    | <b>N = 21</b>                             |

|                |               | \$150,000 Property Value |              |      |                    | \$300,000 Property Value |              |      |                    | Tax Rate<br>Varies with<br>Property Value |
|----------------|---------------|--------------------------|--------------|------|--------------------|--------------------------|--------------|------|--------------------|---|
| State          | City          | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 | Tax Rate                 | Tax Bill     | Rank | Change<br>from '17 |   |
| Oklahoma       | Mangum        | 0.822%                   | 1,233        | 36   | 2 ↑                | 0.846%                   | 2,539        | 36   | 1 ↑                | X   |
| Oregon         | Tillamook     | 1.162%                   | 1,743        | 26   | -                  | 1.162%                   | 3,486        | 26   | -                  |   |
| Pennsylvania   | Ridgway       | 2.864%                   | 4,297        | 3    | 1 ↓                | 2.926%                   | 8,778        | 2    | -                  | X   |
| Rhode Island   | Hopkinton     | 2.033%                   | 3,050        | 11   | 2 ↑                | 2.033%                   | 6,099        | 11   | 4 ↑                |   |
| South Carolina | Mullins       | 0.814%                   | 1,221        | 37   | 2 ↓                | 0.814%                   | 2,443        | 37   | 1 ↑                |   |
| South Dakota   | Vermillion    | 1.841%                   | 2,762        | 16   | 1 ↓                | 1.841%                   | 5,524        | 16   | 1 ↑                |   |
| Tennessee      | Savannah      | 0.673%                   | 1,009        | 42   | -                  | 0.673%                   | 2,018        | 42   | -                  | X   |
| Texas          | Fort Stockton | 1.335%                   | 2,002        | 22   | 6 ↓                | 1.439%                   | 4,318        | 22   | 8 ↓                |   |
| Utah           | Richfield     | 0.699%                   | 1,048        | 40   | 1 ↓                | 0.699%                   | 2,096        | 41   | 2 ↓                | X   |
| Vermont        | Hartford      | 2.325%                   | 3,488        | 5    | 1 ↑                | 1.765%                   | 5,295        | 18   | 8 ↓                |   |
| Virginia       | Wise          | 0.589%                   | 883          | 43   | 2 ↑                | 0.589%                   | 1,766        | 45   | 2 ↑                | X   |
| Washington     | Okanogan      | 1.343%                   | 2,014        | 21   | 4 ↑                | 1.343%                   | 4,028        | 23   | 2 ↑                |   |
| West Virginia  | Elkins        | 0.523%                   | 784          | 46   | -                  | 0.523%                   | 1,568        | 48   | -                  |   |
| Wisconsin      | Rice Lake     | 2.151%                   | 3,227        | 8    | 3 ↓                | 2.219%                   | 6,657        | 6    | -                  |   |
| Wyoming        | Worland       | 0.710%                   | 1,065        | 39   | 2 ↑                | 0.710%                   | 2,130        | 40   | 1 ↑                |   |
| <b>AVERAGE</b> |               | <b>1.377%</b>            | <b>2,065</b> |      |                    | <b>1.409%</b>            | <b>4,226</b> |      |                    | <b>N = 21</b>                             |



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

|                |                 | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|-----------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|--|
| State          | City            | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |  |
| Alabama        | Birmingham      | 1.439%                                | 1,727        | 31 (3 ↑)  | 1.439%                                  | 17,270        | 34 (2 ↑)  | 1.439%                                   | 431,738        | 36 (3 ↑)  |  |  |
| Alaska         | Anchorage       | 1.270%                                | 1,524        | 40 (2 ↑)  | 1.516%                                  | 18,194        | 31 (6 ↑)  | 1.542%                                   | 462,726        | 31 (6 ↑)  | X  | X  |
| Arizona        | Phoenix         | 2.201%                                | 2,641        | 18 (5 ↑)  | 2.287%                                  | 27,443        | 18 (4 ↑)  | 2.708%                                   | 812,471        | 12 (4 ↑)  | X  | X  |
| Arkansas       | Little Rock     | 1.400%                                | 1,680        | 33 (3 ↑)  | 1.400%                                  | 16,803        | 36 (3 ↑)  | 1.400%                                   | 420,074        | 38 (2 ↑)  |  |  |
| California     | Los Angeles     | 1.196%                                | 1,435        | 42 (1 ↑)  | 1.196%                                  | 14,353        | 44 ( - )  | 1.196%                                   | 358,814        | 45 ( - )  |  |  |
| Colorado       | Denver          | 2.198%                                | 2,637        | 19 ( - )  | 2.198%                                  | 26,373        | 20 (1 ↑)  | 2.198%                                   | 659,322        | 20 (2 ↑)  |  |  |
| Connecticut    | Bridgeport      | 3.457%                                | 4,149        | 4 (1 ↓)   | 3.457%                                  | 41,490        | 4 (1 ↓)   | 3.457%                                   | 1,037,244      | 4 (1 ↓)   |  |  |
| DC             | Washington      | 1.286%                                | 1,543        | 39 ( - )  | 1.286%                                  | 15,428        | 42 ( - )  | 1.963%                                   | 588,788        | 26 (2 ↑)  | X  | X  |
| Delaware       | Wilmington      | 1.426%                                | 1,711        | 32 (15 ↑) | 1.426%                                  | 17,108        | 35 (13 ↑) | 1.426%                                   | 427,709        | 37 (11 ↑) |  | X  |
| Florida        | Jacksonville    | 1.391%                                | 1,670        | 34 (1 ↑)  | 1.644%                                  | 19,724        | 29 (2 ↑)  | 1.678%                                   | 503,493        | 29 (3 ↑)  | X  | X  |
| Georgia        | Atlanta         | 1.520%                                | 1,824        | 28 (3 ↑)  | 1.520%                                  | 18,237        | 30 (3 ↑)  | 1.520%                                   | 455,918        | 32 (2 ↑)  |  |  |
| Hawaii         | Honolulu        | 1.020%                                | 1,224        | 49 (2 ↑)  | 1.020%                                  | 12,239        | 49 (2 ↑)  | 1.020%                                   | 305,970        | 49 (2 ↑)  |  | X  |
| Idaho          | Boise           | 1.196%                                | 1,435        | 43 (3 ↓)  | 1.323%                                  | 15,878        | 38 ( - )  | 1.446%                                   | 433,690        | 35 ( - )  | X  | X  |
| Illinois       | Aurora*         | 3.335%                                | 4,002        | 5 (1 ↑)   | 3.335%                                  | 40,021        | 5 (1 ↑)   | 3.335%                                   | 1,000,526      | 6 ( - )   |  | X  |
| Illinois       | Chicago         | 3.552%                                | 4,262        | 3 (1 ↑)   | 3.552%                                  | 42,623        | 3 (1 ↑)   | 3.552%                                   | 1,065,585      | 3 (1 ↑)   |  | X  |
| Indiana        | Indianapolis    | 2.576%                                | 3,091        | 11 (3 ↑)  | 2.576%                                  | 30,908        | 13 (3 ↑)  | 2.576%                                   | 772,693        | 14 (3 ↑)  |  |  |
| Iowa           | Des Moines      | 2.395%                                | 2,874        | 15 (5 ↑)  | 3.122%                                  | 37,465        | 6 (1 ↑)   | 3.376%                                   | 1,012,710      | 5 (2 ↑)   | X  | X  |
| Kansas         | Wichita         | 2.708%                                | 3,250        | 9 (3 ↑)   | 2.708%                                  | 32,497        | 11 (3 ↑)  | 2.708%                                   | 812,433        | 13 (1 ↑)  |  |  |
| Kentucky       | Louisville      | 1.287%                                | 1,544        | 38 (3 ↑)  | 1.287%                                  | 15,439        | 41 (2 ↑)  | 1.287%                                   | 385,968        | 42 (1 ↑)  |  |  |
| Louisiana      | New Orleans     | 2.063%                                | 2,475        | 21 (4 ↑)  | 2.063%                                  | 24,751        | 22 (4 ↑)  | 2.063%                                   | 618,783        | 23 (4 ↑)  |  |  |
| Maine          | Portland        | 2.042%                                | 2,450        | 22 (2 ↑)  | 2.042%                                  | 24,503        | 23 (2 ↑)  | 2.042%                                   | 612,580        | 24 (2 ↑)  |  |  |
| Maryland       | Baltimore       | 2.717%                                | 3,260        | 8 (1 ↑)   | 2.717%                                  | 32,604        | 10 (1 ↑)  | 2.717%                                   | 815,112        | 11 ( - )  |  |  |
| Massachusetts  | Boston          | 1.785%                                | 2,142        | 24 (4 ↑)  | 1.785%                                  | 21,420        | 26 (3 ↑)  | 1.785%                                   | 535,500        | 27 (3 ↑)  |  | X  |
| Michigan       | Detroit         | 3.829%                                | 4,594        | 2 (1 ↓)   | 3.829%                                  | 45,943        | 2 (1 ↓)   | 3.829%                                   | 1,148,575      | 2 (1 ↓)   |  | X  |
| Minnesota      | Minneapolis     | 1.622%                                | 1,947        | 27 (6 ↓)  | 2.606%                                  | 31,273        | 12 (4 ↓)  | 2.753%                                   | 826,023        | 9 (1 ↓)   | X  | X  |
| Mississippi    | Jackson         | 2.774%                                | 3,329        | 7 ( - )   | 2.774%                                  | 33,292        | 8 (1 ↑)   | 2.774%                                   | 832,296        | 8 (1 ↑)   |  |  |
| Missouri       | Kansas City     | 2.872%                                | 3,447        | 6 (4 ↑)   | 2.872%                                  | 34,465        | 7 (5 ↑)   | 2.872%                                   | 861,635        | 7 (5 ↑)   |  | X  |
| Montana        | Billings        | 1.057%                                | 1,269        | 47 (1 ↑)  | 1.143%                                  | 13,718        | 45 (1 ↑)  | 1.226%                                   | 367,735        | 43 (1 ↑)  | X  | X  |
| Nebraska       | Omaha           | 1.853%                                | 2,223        | 23 (3 ↑)  | 2.021%                                  | 24,246        | 24 ( - )  | 2.038%                                   | 611,524        | 25 ( - )  | X  | X  |
| Nevada         | Las Vegas       | 1.139%                                | 1,367        | 45 ( - )  | 1.139%                                  | 13,670        | 46 (1 ↓)  | 1.139%                                   | 341,752        | 46 ( - )  |  |  |
| New Hampshire  | Manchester      | 1.760%                                | 2,112        | 25 (2 ↑)  | 1.760%                                  | 21,123        | 27 (1 ↑)  | 1.760%                                   | 528,064        | 28 (1 ↑)  |  | X  |
| New Jersey     | Newark          | 2.469%                                | 2,963        | 12 (1 ↑)  | 2.469%                                  | 29,633        | 14 (1 ↑)  | 2.469%                                   | 740,816        | 15 ( - )  |  | X  |
| New Mexico     | Albuquerque     | 1.484%                                | 1,781        | 29 (3 ↑)  | 1.484%                                  | 17,807        | 32 (2 ↑)  | 1.484%                                   | 445,187        | 33 (3 ↑)  |  |  |
| New York       | Buffalo*        | 2.219%                                | 2,663        | 17 ( - )  | 2.219%                                  | 26,628        | 19 ( - )  | 2.219%                                   | 665,712        | 19 (1 ↑)  |  | X  |
| New York       | New York City** | 1.139%                                | 1,367        | 46 (44 ↓) | 1.139%                                  | 13,668        | 47 (45 ↓) | 1.139%                                   | 341,705        | 47 (45 ↓) |  | X  |
| <b>AVERAGE</b> |                 | <b>1.878%</b>                         | <b>2,253</b> |           | <b>1.945%</b>                           | <b>23,335</b> |           | <b>1.981%</b>                            | <b>594,407</b> |           | <b>N = 11</b>                                | <b>N = 26</b>                                |

|                |                | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|----------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|--|
| State          | City           | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |  |
| North Carolina | Charlotte      | 1.036%                                | 1,243        | 48 (2 ↓)  | 1.036%                                  | 12,426        | 48 (1 ↓)  | 1.036%                                   | 310,658        | 48 (1 ↓)  |  |  |
| North Dakota   | Fargo          | 0.969%                                | 1,162        | 50 (1 ↓)  | 0.969%                                  | 11,625        | 50 (1 ↓)  | 0.969%                                   | 290,620        | 50 (1 ↓)  |  | X  |
| Ohio           | Columbus       | 2.162%                                | 2,594        | 20 (2 ↑)  | 2.162%                                  | 25,943        | 21 (2 ↑)  | 2.162%                                   | 648,565        | 21 (2 ↑)  |  | X  |
| Oklahoma       | Oklahoma City  | 1.300%                                | 1,560        | 36 (2 ↑)  | 1.300%                                  | 15,598        | 39 (2 ↑)  | 1.300%                                   | 389,950        | 40 (2 ↑)  |  |  |
| Oregon         | Portland       | 2.455%                                | 2,946        | 13 (2 ↑)  | 2.455%                                  | 29,465        | 15 (2 ↑)  | 2.455%                                   | 736,614        | 16 (2 ↑)  |  |  |
| Pennsylvania   | Philadelphia   | 1.140%                                | 1,368        | 44 ( - )  | 1.960%                                  | 23,521        | 25 (2 ↑)  | 2.118%                                   | 635,548        | 22 (2 ↑)  | X  | X  |
| Rhode Island   | Providence     | 3.854%                                | 4,625        | 1 (4 ↑)   | 3.854%                                  | 46,245        | 1 (4 ↑)   | 3.854%                                   | 1,156,130      | 1 (4 ↑)   |  |  |
| South Carolina | Charleston     | 1.454%                                | 1,745        | 30 (1 ↓)  | 1.454%                                  | 17,452        | 33 (3 ↓)  | 1.454%                                   | 436,294        | 34 (3 ↓)  |  |  |
| South Dakota   | Sioux Falls    | 1.342%                                | 1,610        | 35 (2 ↓)  | 1.342%                                  | 16,101        | 37 (2 ↓)  | 1.342%                                   | 402,515        | 39 (1 ↓)  |  | X  |
| Tennessee      | Nashville***   | 1.209%                                | 1,451        | 41 (33 ↓) | 1.209%                                  | 14,513        | 43 (33 ↓) | 1.209%                                   | 362,825        | 44 (34 ↓) |  | X  |
| Texas          | Houston        | 2.388%                                | 2,866        | 16 ( - )  | 2.388%                                  | 28,660        | 17 (1 ↑)  | 2.388%                                   | 716,508        | 18 (1 ↑)  |  |  |
| Utah           | Salt Lake City | 1.287%                                | 1,544        | 37 ( - )  | 1.287%                                  | 15,440        | 40 ( - )  | 1.287%                                   | 386,004        | 41 ( - )  |  |  |
| Vermont        | Burlington     | 2.419%                                | 2,903        | 14 (4 ↑)  | 2.419%                                  | 29,030        | 16 (4 ↑)  | 2.419%                                   | 725,761        | 17 (4 ↑)  |  | X  |
| Virginia       | Virginia Beach | 0.956%                                | 1,147        | 51 (1 ↓)  | 0.956%                                  | 11,474        | 51 (1 ↓)  | 0.956%                                   | 286,841        | 51 (1 ↓)  |  |  |
| Washington     | Seattle        | 0.896%                                | 1,076        | 52 ( - )  | 0.896%                                  | 10,757        | 52 ( - )  | 0.896%                                   | 268,933        | 52 ( - )  |  |  |
| West Virginia  | Charleston     | 1.671%                                | 2,005        | 26 (4 ↑)  | 1.671%                                  | 20,049        | 28 (4 ↑)  | 1.671%                                   | 501,228        | 30 (3 ↑)  |  |  |
| Wisconsin      | Milwaukee      | 2.672%                                | 3,207        | 10 (1 ↑)  | 2.728%                                  | 32,735        | 9 (4 ↑)   | 2.734%                                   | 820,144        | 10 (3 ↑)  | X  |  |
| Wyoming        | Cheyenne       | 0.625%                                | 750          | 53 ( - )  | 0.625%                                  | 7,502         | 53 ( - )  | 0.625%                                   | 187,559        | 53 ( - )  |  |  |
| <b>AVERAGE</b> |                | <b>1.878%</b>                         | <b>2,253</b> |           | <b>1.945%</b>                           | <b>23,335</b> |           | <b>1.981%</b>                            | <b>594,407</b> |           | <b>N = 11</b>                                | <b>N = 26</b>                                |

\* 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 the rest of the state.

\*\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

\*\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

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 Fifty U.S. Cities**

|                |                  | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|------------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|--|
| State          | City             | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |  |
| Arizona        | Mesa             | 1.554%                                | 1,865        | 26 (3 ↑)  | 1.614%                                  | 19,370        | 29 (1 ↑)  | 1.908%                                   | 572,450        | 27 (1 ↑)  | X  | X  |
| Arizona        | Phoenix          | 2.201%                                | 2,641        | 16 (6 ↑)  | 2.287%                                  | 27,443        | 17 (3 ↑)  | 2.708%                                   | 812,471        | 10 (4 ↑)  | X  | X  |
| Arizona        | Tucson           | 2.018%                                | 2,421        | 21 (2 ↓)  | 2.096%                                  | 25,146        | 21 (3 ↓)  | 2.475%                                   | 742,388        | 15 (3 ↓)  | X  | X  |
| California     | Fresno           | 1.244%                                | 1,493        | 37 (1 ↑)  | 1.244%                                  | 14,931        | 38 (1 ↑)  | 1.244%                                   | 373,280        | 38 (1 ↑)  |  |  |
| California     | Long Beach       | 1.207%                                | 1,449        | 39 ( - )  | 1.207%                                  | 14,487        | 40 ( - )  | 1.207%                                   | 362,168        | 40 ( - )  |  |  |
| California     | Los Angeles      | 1.196%                                | 1,435        | 40 (1 ↑)  | 1.196%                                  | 14,353        | 41 (1 ↑)  | 1.196%                                   | 358,814        | 41 (1 ↑)  |  |  |
| California     | Oakland          | 1.367%                                | 1,640        | 32 (1 ↑)  | 1.367%                                  | 16,399        | 33 (1 ↑)  | 1.367%                                   | 409,980        | 34 (1 ↑)  |  |  |
| California     | Sacramento       | 1.130%                                | 1,355        | 46 ( - )  | 1.130%                                  | 13,554        | 46 ( - )  | 1.130%                                   | 338,850        | 46 ( - )  |  |  |
| California     | San Diego        | 1.175%                                | 1,410        | 41 (2 ↑)  | 1.175%                                  | 14,095        | 42 (2 ↑)  | 1.175%                                   | 352,383        | 42 (2 ↑)  |  |  |
| California     | San Francisco    | 1.163%                                | 1,396        | 42 ( - )  | 1.163%                                  | 13,956        | 43 ( - )  | 1.163%                                   | 348,900        | 43 ( - )  |  |  |
| California     | San Jose         | 1.281%                                | 1,537        | 36 (2 ↓)  | 1.281%                                  | 15,370        | 37 (2 ↓)  | 1.281%                                   | 384,240        | 37 (1 ↓)  |  |  |
| Colorado       | Colorado Springs | 1.930%                                | 2,316        | 22 (4 ↑)  | 1.930%                                  | 23,156        | 25 (4 ↑)  | 1.930%                                   | 578,902        | 26 (5 ↑)  |  |  |
| Colorado       | Denver           | 2.198%                                | 2,637        | 17 ( - )  | 2.198%                                  | 26,373        | 18 (1 ↑)  | 2.198%                                   | 659,322        | 19 (1 ↑)  |  |  |
| DC             | Washington       | 1.286%                                | 1,543        | 35 (1 ↑)  | 1.286%                                  | 15,428        | 36 (1 ↑)  | 1.963%                                   | 588,788        | 25 (1 ↑)  | X  | X  |
| Florida        | Jacksonville     | 1.391%                                | 1,670        | 31 (1 ↑)  | 1.644%                                  | 19,724        | 28 ( - )  | 1.678%                                   | 503,493        | 30 ( - )  | X  | X  |
| Florida        | Miami            | 1.553%                                | 1,864        | 27 (1 ↑)  | 1.847%                                  | 22,159        | 26 ( - )  | 1.887%                                   | 566,028        | 28 (1 ↓)  | X  | X  |
| Georgia        | Atlanta          | 1.520%                                | 1,824        | 28 (1 ↓)  | 1.520%                                  | 18,237        | 30 (1 ↑)  | 1.520%                                   | 455,918        | 31 (1 ↑)  |  |  |
| Illinois       | Chicago          | 3.552%                                | 4,262        | 2 (1 ↑)   | 3.552%                                  | 42,623        | 2 (1 ↑)   | 3.552%                                   | 1,065,585      | 2 (1 ↑)   |  | X  |
| Indiana        | Indianapolis     | 2.576%                                | 3,091        | 11 (3 ↑)  | 2.576%                                  | 30,908        | 12 (3 ↑)  | 2.576%                                   | 772,693        | 13 (4 ↑)  |  |  |
| Kansas         | Wichita          | 2.708%                                | 3,250        | 8 (3 ↑)   | 2.708%                                  | 32,497        | 9 (3 ↑)   | 2.708%                                   | 812,433        | 11 (2 ↑)  |  |  |
| Kentucky       | Louisville       | 1.287%                                | 1,544        | 34 (3 ↑)  | 1.287%                                  | 15,439        | 35 (3 ↑)  | 1.287%                                   | 385,968        | 36 (2 ↑)  |  |  |
| Louisiana      | New Orleans      | 2.063%                                | 2,475        | 20 (3 ↑)  | 2.063%                                  | 24,751        | 22 (2 ↑)  | 2.063%                                   | 618,783        | 23 (2 ↑)  |  |  |
| Maryland       | Baltimore        | 2.717%                                | 3,260        | 7 ( - )   | 2.717%                                  | 32,604        | 8 ( - )   | 2.717%                                   | 815,112        | 9 (1 ↓)   |  |  |
| Massachusetts  | Boston           | 1.785%                                | 2,142        | 24 (1 ↑)  | 1.785%                                  | 21,420        | 27 ( - )  | 1.785%                                   | 535,500        | 29 ( - )  |  | X  |
| Michigan       | Detroit          | 3.829%                                | 4,594        | 1 ( - )   | 3.829%                                  | 45,943        | 1 ( - )   | 3.829%                                   | 1,148,575      | 1 ( - )   |  | X  |
| Minnesota      | Minneapolis      | 1.622%                                | 1,947        | 25 (7 ↓)  | 2.606%                                  | 31,273        | 11 (6 ↓)  | 2.753%                                   | 826,023        | 7 (2 ↓)   | X  | X  |
| Missouri       | Kansas City      | 2.872%                                | 3,447        | 4 (4 ↑)   | 2.872%                                  | 34,465        | 4 (5 ↑)   | 2.872%                                   | 861,635        | 4 (5 ↑)   |  | X  |
| Nebraska       | Omaha            | 1.853%                                | 2,223        | 23 (1 ↑)  | 2.021%                                  | 24,246        | 23 ( - )  | 2.038%                                   | 611,524        | 24 ( - )  | X  | X  |
| Nevada         | Las Vegas        | 1.139%                                | 1,367        | 44 (1 ↑)  | 1.139%                                  | 13,670        | 44 (1 ↑)  | 1.139%                                   | 341,752        | 44 (1 ↑)  |  |  |
| New Mexico     | Albuquerque      | 1.484%                                | 1,781        | 30 ( - )  | 1.484%                                  | 17,807        | 32 ( - )  | 1.484%                                   | 445,187        | 33 ( - )  |  |  |
| New York       | New York City*   | 1.139%                                | 1,367        | 45 (43 ↓) | 1.139%                                  | 13,668        | 45 (43 ↓) | 1.139%                                   | 341,705        | 45 (43 ↓) |  | X  |
| North Carolina | Charlotte        | 1.036%                                | 1,243        | 47 ( - )  | 1.036%                                  | 12,426        | 47 ( - )  | 1.036%                                   | 310,658        | 47 ( - )  |  |  |
| North Carolina | Raleigh          | 0.992%                                | 1,191        | 48 ( - )  | 0.992%                                  | 11,909        | 48 ( - )  | 0.992%                                   | 297,734        | 48 ( - )  |  |  |
| Ohio           | Columbus         | 2.162%                                | 2,594        | 18 (2 ↑)  | 2.162%                                  | 25,943        | 19 (2 ↑)  | 2.162%                                   | 648,565        | 20 (1 ↑)  |  | X  |
| Oklahoma       | Oklahoma City    | 1.300%                                | 1,560        | 33 (2 ↑)  | 1.300%                                  | 15,598        | 34 (2 ↑)  | 1.300%                                   | 389,950        | 35 (2 ↑)  |  |  |
| <b>AVERAGE</b> |                  | <b>1.861%</b>                         | <b>2,233</b> |           | <b>1.917%</b>                           | <b>23,003</b> |           | <b>1.960%</b>                            | <b>588,126</b> |           | <b>N = 10</b>                                | <b>N = 18</b>                                |

|                |                | Land and Building Value:<br>\$100,000 |              |          | Land and Building Value:<br>\$1 Million |               |          | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|----------------|---------------------------------------|--------------|----------|---|---------------|----------|--|----------------|----------|--|--|
| State          | City           | Tax Rate                              | Tax Bill     | Rank     | Tax Rate                                | Tax Bill      | Rank     | Tax Rate                                 | Tax Bill       | Rank     |  |  |
| Oklahoma       | Tulsa          | 1.488%                                | 1,785        | 29 (2 ↑) | 1.488%                                  | 17,854        | 31 (2 ↑) | 1.488%                                   | 446,355        | 32 (2 ↑) | X  | X  |
| Oregon         | Portland       | 2.455%                                | 2,946        | 13 (2 ↑) | 2.455%                                  | 29,465        | 14 (2 ↑) | 2.455%                                   | 736,614        | 16 (2 ↑) |  |  |
| Pennsylvania   | Philadelphia   | 1.140%                                | 1,368        | 43 (1 ↑) | 1.960%                                  | 23,521        | 24 (1 ↑) | 2.118%                                   | 635,548        | 21 (2 ↑) |  | X  |
| Tennessee      | Memphis        | 2.778%                                | 3,333        | 6 (1 ↓)  | 2.778%                                  | 33,331        | 6 ( - )  | 2.778%                                   | 833,279        | 6 ( - )  |  | X  |
| Tennessee      | Nashville      | 1.209%                                | 1,451        | 38 (2 ↑) | 1.209%                                  | 14,513        | 39 (2 ↑) | 1.209%                                   | 362,825        | 39 (2 ↑) |  | X  |
| Texas          | Arlington      | 2.360%                                | 2,832        | 15 (3 ↓) | 2.360%                                  | 28,315        | 16 (3 ↓) | 2.360%                                   | 707,882        | 18 (3 ↓) |  |  |
| Texas          | Austin         | 2.112%                                | 2,535        | 19 (2 ↑) | 2.112%                                  | 25,347        | 20 (2 ↑) | 2.112%                                   | 633,685        | 22 ( - ) |  |  |
| Texas          | Dallas         | 2.668%                                | 3,201        | 10 (3 ↑) | 2.668%                                  | 32,014        | 10 (4 ↑) | 2.668%                                   | 800,350        | 12 (4 ↑) |  |  |
| Texas          | El Paso        | 2.997%                                | 3,597        | 3 (1 ↑)  | 2.997%                                  | 35,967        | 3 (1 ↑)  | 2.997%                                   | 899,163        | 3 (1 ↑)  |  |  |
| Texas          | Fort Worth     | 2.562%                                | 3,074        | 12 (3 ↓) | 2.562%                                  | 30,744        | 13 (2 ↓) | 2.562%                                   | 768,589        | 14 (3 ↓) |  |  |
| Texas          | Houston        | 2.388%                                | 2,866        | 14 (2 ↑) | 2.388%                                  | 28,660        | 15 (2 ↑) | 2.388%                                   | 716,508        | 17 (2 ↑) |  |  |
| Texas          | San Antonio    | 2.839%                                | 3,407        | 5 (1 ↑)  | 2.839%                                  | 34,072        | 5 (2 ↑)  | 2.839%                                   | 851,812        | 5 (2 ↑)  |  |  |
| Virginia       | Virginia Beach | 0.956%                                | 1,147        | 49 ( - ) | 0.956%                                  | 11,474        | 49 ( - ) | 0.956%                                   | 286,841        | 49 ( - ) |  |  |
| Washington     | Seattle        | 0.896%                                | 1,076        | 50 ( - ) | 0.896%                                  | 10,757        | 50 ( - ) | 0.896%                                   | 268,933        | 50 ( - ) |  |  |
| Wisconsin      | Milwaukee      | 2.672%                                | 3,207        | 9 (1 ↑)  | 2.728%                                  | 32,735        | 7 (3 ↑)  | 2.734%                                   | 820,144        | 8 (2 ↑)  |  |  |
| <b>AVERAGE</b> |                | <b>1.861%</b>                         | <b>2,233</b> |          | <b>1.917%</b>                           | <b>23,003</b> |          | <b>1.960%</b>                            | <b>588,126</b> |          | <b>N = 10</b>                                | <b>N = 18</b>                                |

\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

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:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|-------------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|----------|--|--|
| State          | Municipality      | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank     |  |  |
| Alabama        | Monroeville       | 0.819%                                | 983          | 45 ( - )  | 0.819%                                  | 9,832         | 45 ( - )  | 0.819%                                   | 245,795        | 45 ( - ) |  |  |
| Alaska         | Ketchikan         | 0.914%                                | 1,097        | 43 (1 ↑)  | 1.083%                                  | 13,001        | 40 (2 ↓)  | 1.107%                                   | 331,992        | 40 (2 ↓) | X  | X  |
| Arizona        | Safford           | 2.068%                                | 2,482        | 17 (10 ↑) | 2.129%                                  | 25,544        | 16 (9 ↑)  | 2.423%                                   | 727,005        | 9 (15 ↑) | X  | X  |
| Arkansas       | Pocahontas        | 0.758%                                | 909          | 47 (1 ↑)  | 0.758%                                  | 9,093         | 47 (1 ↑)  | 0.758%                                   | 227,332        | 47 (1 ↑) |  |  |
| California     | Yreka             | 1.056%                                | 1,267        | 41 (2 ↓)  | 1.056%                                  | 12,670        | 42 (2 ↓)  | 1.056%                                   | 316,740        | 42 (2 ↓) |  |  |
| Colorado       | Walsenburg        | 2.263%                                | 2,716        | 10 (2 ↑)  | 2.263%                                  | 27,159        | 12 (3 ↑)  | 2.263%                                   | 678,965        | 14 (1 ↑) |  |  |
| Connecticut    | Litchfield        | 1.398%                                | 1,678        | 27 (1 ↓)  | 1.398%                                  | 16,781        | 28 (1 ↑)  | 1.398%                                   | 419,517        | 30 (1 ↓) |  |  |
| Delaware       | Georgetown        | 0.394%                                | 473          | 50 ( - )  | 0.394%                                  | 4,727         | 50 ( - )  | 0.394%                                   | 118,169        | 50 ( - ) |  | X  |
| Florida        | Moore Haven       | 1.851%                                | 2,221        | 23 (1 ↓)  | 2.178%                                  | 26,136        | 15 (3 ↓)  | 2.223%                                   | 666,864        | 15 (4 ↓) | X  | X  |
| Georgia        | Fitzgerald        | 1.720%                                | 2,064        | 24 (1 ↓)  | 1.720%                                  | 20,635        | 26 (2 ↓)  | 1.720%                                   | 515,880        | 26 (1 ↓) |  |  |
| Hawaii         | Kauai             | 0.574%                                | 689          | 49 ( - )  | 0.574%                                  | 6,885         | 49 ( - )  | 0.574%                                   | 172,125        | 49 ( - ) |  | X  |
| Idaho          | St. Anthony       | 1.203%                                | 1,443        | 34 (4 ↓)  | 1.336%                                  | 16,032        | 32 (6 ↓)  | 1.464%                                   | 439,241        | 28 (2 ↓) | X  | X  |
| Illinois       | Galena            | 2.086%                                | 2,503        | 14 (4 ↑)  | 2.086%                                  | 25,035        | 19 (2 ↑)  | 2.086%                                   | 625,875        | 19 (2 ↑) |  | X  |
| Indiana        | North Vernon      | 2.828%                                | 3,393        | 4 (2 ↓)   | 2.828%                                  | 33,930        | 4 (1 ↓)   | 2.828%                                   | 848,250        | 4 (1 ↓)  |  |  |
| Iowa           | Hampton           | 1.363%                                | 1,636        | 28 (4 ↓)  | 2.091%                                  | 25,091        | 18 (10 ↓) | 2.345%                                   | 703,352        | 10 (3 ↓) | X  | X  |
| Kansas         | Iola              | 4.403%                                | 5,283        | 1 ( - )   | 4.403%                                  | 52,830        | 1 ( - )   | 4.403%                                   | 1,320,753      | 1 ( - )  |  |  |
| Kentucky       | Morehead          | 1.188%                                | 1,425        | 35 (1 ↑)  | 1.188%                                  | 14,251        | 35 (1 ↑)  | 1.188%                                   | 356,280        | 35 (1 ↑) |  |  |
| Louisiana      | Natchitoches      | 1.257%                                | 1,509        | 32 (1 ↑)  | 1.257%                                  | 15,087        | 34 (1 ↓)  | 1.257%                                   | 377,174        | 34 (1 ↓) |  |  |
| Maine          | Rockland          | 2.308%                                | 2,770        | 9 (1 ↑)   | 2.308%                                  | 27,696        | 10 (1 ↑)  | 2.308%                                   | 692,400        | 12 ( - ) |  |  |
| Maryland       | Denton            | 2.188%                                | 2,626        | 12 (5 ↑)  | 2.188%                                  | 26,259        | 13 (7 ↑)  | 2.188%                                   | 656,483        | 17 (3 ↑) |  |  |
| Massachusetts  | Adams             | 2.084%                                | 2,501        | 15 (4 ↑)  | 2.084%                                  | 25,010        | 20 (2 ↑)  | 2.084%                                   | 625,240        | 20 (2 ↑) |  | X  |
| Michigan       | Manistique        | 2.942%                                | 3,531        | 2 (1 ↑)   | 2.942%                                  | 35,306        | 2 (2 ↑)   | 2.942%                                   | 882,652        | 2 (2 ↑)  |  | X  |
| Minnesota      | Glencoe           | 1.664%                                | 1,996        | 25 (19 ↓) | 2.643%                                  | 31,713        | 6 (4 ↓)   | 2.792%                                   | 837,731        | 5 (3 ↓)  | X  | X  |
| Mississippi    | Philadelphia      | 2.104%                                | 2,525        | 13 (2 ↑)  | 2.104%                                  | 25,250        | 17 (1 ↑)  | 2.104%                                   | 631,260        | 18 ( - ) |  |  |
| Missouri       | Boonville         | 2.064%                                | 2,477        | 18 (4 ↓)  | 2.064%                                  | 24,767        | 22 (5 ↓)  | 2.064%                                   | 619,181        | 22 (5 ↓) |  | X  |
| Montana        | Glasgow           | 1.243%                                | 1,491        | 33 (4 ↓)  | 1.345%                                  | 16,139        | 31 (4 ↓)  | 1.443%                                   | 432,962        | 29 (2 ↓) | X  | X  |
| Nebraska       | Sidney            | 2.010%                                | 2,413        | 20 ( - )  | 2.187%                                  | 26,244        | 14 (1 ↓)  | 2.206%                                   | 661,757        | 16 (3 ↓) | X  | X  |
| Nevada         | Fallon            | 1.275%                                | 1,530        | 31 (1 ↑)  | 1.275%                                  | 15,299        | 33 (1 ↓)  | 1.275%                                   | 382,470        | 33 (1 ↓) |  |  |
| New Hampshire  | Lancaster         | 2.433%                                | 2,919        | 7 (2 ↑)   | 2.433%                                  | 29,195        | 8 (2 ↑)   | 2.433%                                   | 729,864        | 8 (2 ↑)  |  | X  |
| New Jersey     | Maurice River Twp | 2.310%                                | 2,772        | 8 (3 ↑)   | 2.310%                                  | 27,718        | 9 (5 ↑)   | 2.310%                                   | 692,944        | 11 (3 ↑) |  | X  |
| New Mexico     | Santa Rosa        | 1.065%                                | 1,278        | 40 (1 ↑)  | 1.065%                                  | 12,777        | 41 (1 ↑)  | 1.065%                                   | 319,423        | 41 (1 ↑) |  |  |
| New York       | Warsaw            | 2.922%                                | 3,507        | 3 (1 ↑)   | 2.922%                                  | 35,066        | 3 (2 ↑)   | 2.922%                                   | 876,654        | 3 (2 ↑)  |  | X  |
| North Carolina | Edenton           | 1.137%                                | 1,364        | 37 ( - )  | 1.137%                                  | 13,638        | 37 ( - )  | 1.137%                                   | 340,952        | 37 ( - ) |  |  |
| North Dakota   | Devils Lake       | 1.111%                                | 1,333        | 39 (1 ↓)  | 1.111%                                  | 13,334        | 39 ( - )  | 1.111%                                   | 333,338        | 39 ( - ) |  | X  |
| Ohio           | Bryan             | 1.541%                                | 1,849        | 26 (2 ↑)  | 1.541%                                  | 18,486        | 27 (3 ↑)  | 1.541%                                   | 462,154        | 27 (3 ↑) |  | X  |
| <b>AVERAGE</b> |                   | <b>1.688%</b>                         | <b>2,026</b> |           | <b>1.743%</b>                           | <b>20,913</b> |           | <b>1.763%</b>                            | <b>528,937</b> |          | <b>N = 9</b>                                 | <b>N = 23</b>                                |

|                |               | Land and Building Value:<br>\$100,000 |              |          | Land and Building Value:<br>\$1 Million |               |          | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|---------------|---------------------------------------|--------------|----------|---|---------------|----------|--|----------------|----------|--|--|
| State          | Municipality  | Tax Rate                              | Tax Bill     | Rank     | Tax Rate                                | Tax Bill      | Rank     | Tax Rate                                 | Tax Bill       | Rank     |  |  |
| Oklahoma       | Mangum        | 0.907%                                | 1,088        | 44 (1 ↓) | 0.907%                                  | 10,880        | 44 ( - ) | 0.907%                                   | 271,988        | 44 ( - ) | X  |  |
| Oregon         | Tillamook     | 1.162%                                | 1,394        | 36 (1 ↓) | 1.162%                                  | 13,945        | 36 (1 ↓) | 1.162%                                   | 348,624        | 36 (1 ↓) |  |  |
| Pennsylvania   | Ridgway       | 2.490%                                | 2,988        | 6 (1 ↑)  | 2.490%                                  | 29,880        | 7 ( - )  | 2.490%                                   | 746,992        | 7 (1 ↑)  |  |  |
| Rhode Island   | Hopkinton     | 2.029%                                | 2,434        | 19 (2 ↑) | 2.029%                                  | 24,345        | 23 ( - ) | 2.029%                                   | 608,623        | 23 ( - ) |  |  |
| South Carolina | Mullins       | 2.737%                                | 3,285        | 5 ( - )  | 2.737%                                  | 32,849        | 5 (1 ↑)  | 2.737%                                   | 821,237        | 6 ( - )  |  |  |
| South Dakota   | Vermillion    | 1.887%                                | 2,265        | 22 (3 ↑) | 1.887%                                  | 22,645        | 25 (3 ↑) | 1.887%                                   | 566,132        | 25 (3 ↑) | X  | X  |
| Tennessee      | Savannah      | 1.032%                                | 1,238        | 42 ( - ) | 1.032%                                  | 12,380        | 43 ( - ) | 1.032%                                   | 309,500        | 43 ( - ) |  |  |
| Texas          | Fort Stockton | 1.964%                                | 2,357        | 21 (8 ↓) | 1.964%                                  | 23,565        | 24 (8 ↓) | 1.964%                                   | 589,135        | 24 (8 ↓) |  |  |
| Utah           | Richfield     | 1.348%                                | 1,618        | 30 (1 ↑) | 1.348%                                  | 16,177        | 30 (1 ↑) | 1.348%                                   | 404,430        | 32 (1 ↓) |  |  |
| Vermont        | Hartford      | 2.083%                                | 2,500        | 16 ( - ) | 2.083%                                  | 25,000        | 21 (2 ↓) | 2.083%                                   | 624,994        | 21 (2 ↓) |  |  |
| Virginia       | Wise          | 0.796%                                | 955          | 46 ( - ) | 0.796%                                  | 9,548         | 46 ( - ) | 0.796%                                   | 238,695        | 46 ( - ) | X  |  |
| Washington     | Okanogan      | 1.358%                                | 1,629        | 29 (5 ↑) | 1.358%                                  | 16,292        | 29 (5 ↑) | 1.358%                                   | 407,307        | 31 (3 ↑) |  |  |
| West Virginia  | Elkins        | 1.112%                                | 1,334        | 38 (2 ↑) | 1.112%                                  | 13,339        | 38 (3 ↑) | 1.112%                                   | 333,477        | 38 (3 ↑) |  |  |
| Wisconsin      | Rice Lake     | 2.225%                                | 2,670        | 11 (3 ↓) | 2.280%                                  | 27,364        | 11 (2 ↓) | 2.286%                                   | 685,873        | 13 (4 ↓) |  |  |
| Wyoming        | Worland       | 0.737%                                | 884          | 48 (1 ↓) | 0.737%                                  | 8,842         | 48 (1 ↓) | 0.737%                                   | 221,062        | 48 (1 ↓) |  |  |
| <b>AVERAGE</b> |               | <b>1.688%</b>                         | <b>2,026</b> |          | <b>1.743%</b>                           | <b>20,913</b> |          | <b>1.763%</b>                            | <b>528,937</b> |          | <b>N = 9</b>                                 | <b>N = 23</b>                                |

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:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|-----------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | City            | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| Alabama        | Birmingham      | 1.153%                                | 2,307        | 30 (4 ↑)  | 1.153%                                  | 23,070        | 34 (3 ↑)  | 1.153%                                   | 576,738        | 36 (2 ↑)  |  |
| Alaska         | Anchorage       | 1.418%                                | 2,836        | 21 (7 ↑)  | 1.566%                                  | 31,314        | 19 (5 ↑)  | 1.581%                                   | 790,726        | 21 (4 ↑)  | X  |
| Arizona        | Phoenix         | 1.320%                                | 2,641        | 27 (4 ↑)  | 2.002%                                  | 40,048        | 9 (4 ↑)   | 2.255%                                   | 1,127,592      | 5 (3 ↑)   | X  |
| Arkansas       | Little Rock     | 1.401%                                | 2,802        | 24 (2 ↑)  | 1.401%                                  | 28,019        | 27 (3 ↑)  | 1.401%                                   | 700,474        | 27 (3 ↑)  |  |
| California     | Los Angeles     | 0.957%                                | 1,914        | 38 (1 ↑)  | 0.957%                                  | 19,137        | 41 (1 ↑)  | 0.957%                                   | 478,418        | 42 (1 ↑)  |  |
| Colorado       | Denver          | 1.766%                                | 3,532        | 13 (2 ↑)  | 1.766%                                  | 35,320        | 15 (1 ↑)  | 1.766%                                   | 883,011        | 16 (2 ↑)  |  |
| Connecticut    | Bridgeport      | 1.884%                                | 3,768        | 12 (2 ↓)  | 1.884%                                  | 37,684        | 14 (4 ↓)  | 1.884%                                   | 942,096        | 14 (3 ↓)  |  |
| DC             | Washington      | 0.771%                                | 1,543        | 43 ( - )  | 1.409%                                  | 28,178        | 25 (2 ↑)  | 1.858%                                   | 928,788        | 15 (2 ↑)  | X  |
| Delaware       | Wilmington      | 0.855%                                | 1,711        | 41 (8 ↑)  | 0.855%                                  | 17,108        | 45 (5 ↑)  | 0.855%                                   | 427,709        | 45 (5 ↑)  |  |
| Florida        | Jacksonville    | 1.138%                                | 2,275        | 31 (2 ↑)  | 1.332%                                  | 26,645        | 29 (3 ↑)  | 1.353%                                   | 676,515        | 28 (4 ↑)  | X  |
| Georgia        | Atlanta         | 1.409%                                | 2,818        | 22 (1 ↓)  | 1.409%                                  | 28,179        | 24 (1 ↑)  | 1.409%                                   | 704,478        | 25 (1 ↑)  |  |
| Hawaii         | Honolulu        | 0.597%                                | 1,194        | 50 (1 ↑)  | 0.597%                                  | 11,937        | 50 (1 ↑)  | 0.597%                                   | 298,437        | 50 (1 ↑)  |  |
| Idaho          | Boise           | 0.717%                                | 1,435        | 46 (2 ↓)  | 1.100%                                  | 22,001        | 37 (1 ↓)  | 1.174%                                   | 586,761        | 35 (1 ↑)  | X  |
| Illinois       | Aurora*         | 2.001%                                | 4,002        | 9 (2 ↑)   | 2.001%                                  | 40,021        | 10 (1 ↑)  | 2.001%                                   | 1,000,526      | 11 (1 ↑)  |  |
| Illinois       | Chicago         | 2.056%                                | 4,112        | 7 (1 ↓)   | 2.056%                                  | 41,117        | 7 ( - )   | 2.056%                                   | 1,027,913      | 9 (2 ↓)   |  |
| Indiana        | Indianapolis    | 2.102%                                | 4,204        | 6 (6 ↑)   | 2.102%                                  | 42,037        | 6 (6 ↑)   | 2.102%                                   | 1,050,918      | 8 (5 ↑)   |  |
| Iowa           | Des Moines      | 1.517%                                | 3,035        | 17 (13 ↑) | 1.954%                                  | 39,075        | 12 (6 ↑)  | 2.106%                                   | 1,052,957      | 7 (9 ↑)   | X  |
| Kansas         | Wichita         | 1.478%                                | 2,957        | 19 (3 ↑)  | 1.478%                                  | 29,567        | 23 (3 ↑)  | 1.478%                                   | 739,174        | 24 (3 ↑)  |  |
| Kentucky       | Louisville      | 0.724%                                | 1,448        | 45 ( - )  | 0.724%                                  | 14,482        | 48 (1 ↓)  | 0.724%                                   | 362,043        | 48 (1 ↓)  |  |
| Louisiana      | New Orleans     | 2.111%                                | 4,223        | 5 (4 ↑)   | 2.111%                                  | 42,226        | 5 (4 ↑)   | 2.111%                                   | 1,055,643      | 6 (4 ↑)   |  |
| Maine          | Portland        | 1.113%                                | 2,226        | 32 (4 ↑)  | 1.113%                                  | 22,255        | 35 (4 ↑)  | 1.113%                                   | 556,380        | 37 (3 ↑)  |  |
| Maryland       | Baltimore       | 1.351%                                | 2,701        | 25 (2 ↑)  | 1.351%                                  | 27,013        | 28 (3 ↑)  | 1.351%                                   | 675,315        | 29 (2 ↑)  |  |
| Massachusetts  | Boston          | 1.071%                                | 2,142        | 34 (4 ↑)  | 1.071%                                  | 21,420        | 38 (3 ↑)  | 1.071%                                   | 535,500        | 39 (3 ↑)  |  |
| Michigan       | Detroit         | 2.330%                                | 4,659        | 3 (4 ↑)   | 2.723%                                  | 54,453        | 2 ( - )   | 2.723%                                   | 1,361,323      | 2 ( - )   | X  |
| Minnesota      | Minneapolis     | 0.958%                                | 1,915        | 37 (14 ↓) | 1.538%                                  | 30,762        | 20 (3 ↓)  | 1.626%                                   | 812,796        | 20 (1 ↓)  | X  |
| Mississippi    | Jackson         | 2.801%                                | 5,601        | 1 ( - )   | 2.801%                                  | 56,013        | 1 ( - )   | 2.801%                                   | 1,400,319      | 1 ( - )   |  |
| Missouri       | Kansas City     | 2.276%                                | 4,553        | 4 (4 ↑)   | 2.276%                                  | 45,526        | 4 (4 ↑)   | 2.276%                                   | 1,138,155      | 4 (5 ↑)   |  |
| Montana        | Billings        | 0.634%                                | 1,269        | 49 (1 ↑)  | 0.892%                                  | 17,848        | 43 (2 ↑)  | 1.250%                                   | 624,852        | 33 (2 ↑)  | X  |
| Nebraska       | Omaha           | 1.559%                                | 3,118        | 16 (2 ↑)  | 1.660%                                  | 33,193        | 18 (1 ↑)  | 1.670%                                   | 835,191        | 18 (2 ↑)  | X  |
| Nevada         | Las Vegas       | 0.913%                                | 1,826        | 39 (1 ↑)  | 0.913%                                  | 18,260        | 42 (1 ↑)  | 0.913%                                   | 456,489        | 43 (1 ↑)  |  |
| New Hampshire  | Manchester      | 1.056%                                | 2,112        | 35 ( - )  | 1.056%                                  | 21,123        | 39 (1 ↓)  | 1.056%                                   | 528,064        | 40 (1 ↓)  |  |
| New Jersey     | Newark          | 1.482%                                | 2,963        | 18 (1 ↑)  | 1.482%                                  | 29,633        | 22 ( - )  | 1.482%                                   | 740,816        | 23 ( - )  |  |
| New Mexico     | Albuquerque     | 1.203%                                | 2,405        | 29 (3 ↑)  | 1.203%                                  | 24,052        | 32 (2 ↑)  | 1.203%                                   | 601,297        | 34 (3 ↑)  |  |
| New York       | Buffalo*        | 1.331%                                | 2,663        | 26 (2 ↓)  | 1.331%                                  | 26,628        | 30 (2 ↓)  | 1.331%                                   | 665,712        | 30 (2 ↓)  |  |
| New York       | New York City** | 0.578%                                | 1,157        | 52 (48 ↓) | 0.578%                                  | 11,565        | 52 (47 ↓) | 0.578%                                   | 289,135        | 52 (47 ↓) |  |
| <b>AVERAGE</b> |                 | <b>1.336%</b>                         | <b>2,672</b> |           | <b>1.418%</b>                           | <b>28,362</b> |           | <b>1.447%</b>                            | <b>723,359</b> |           | <b>N = 12</b>                                |

|                |                | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|----------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | City           | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| North Carolina | Charlotte      | 0.884%                                | 1,767        | 40 (1 ↑)  | 0.884%                                  | 17,674        | 44 ( - )  | 0.884%                                   | 441,848        | 44 (1 ↑)  |  |
| North Dakota   | Fargo          | 0.581%                                | 1,162        | 51 (1 ↑)  | 0.581%                                  | 11,625        | 51 (1 ↑)  | 0.581%                                   | 290,620        | 51 (1 ↑)  |  |
| Ohio           | Columbus       | 1.275%                                | 2,550        | 28 (1 ↑)  | 1.275%                                  | 25,499        | 31 (2 ↑)  | 1.275%                                   | 637,482        | 31 (2 ↑)  |  |
| Oklahoma       | Oklahoma City  | 1.404%                                | 2,808        | 23 (2 ↑)  | 1.404%                                  | 28,076        | 26 (3 ↑)  | 1.404%                                   | 701,910        | 26 (3 ↑)  |  |
| Oregon         | Portland       | 1.964%                                | 3,929        | 10 (3 ↑)  | 1.964%                                  | 39,286        | 11 (3 ↑)  | 1.964%                                   | 982,152        | 12 (2 ↑)  |  |
| Pennsylvania   | Philadelphia   | 0.684%                                | 1,368        | 47 ( - )  | 1.176%                                  | 23,521        | 33 (2 ↑)  | 1.271%                                   | 635,548        | 32 (2 ↑)  | X  |
| Rhode Island   | Providence     | 2.033%                                | 4,067        | 8 (6 ↑)   | 2.033%                                  | 40,665        | 8 (7 ↑)   | 2.033%                                   | 1,016,630      | 10 (5 ↑)  |  |
| South Carolina | Charleston     | 1.940%                                | 3,879        | 11 (6 ↓)  | 1.940%                                  | 38,794        | 13 (7 ↓)  | 1.940%                                   | 969,839        | 13 (7 ↓)  |  |
| South Dakota   | Sioux Falls    | 0.805%                                | 1,610        | 42 ( - )  | 0.805%                                  | 16,101        | 46 ( - )  | 0.805%                                   | 402,515        | 46 ( - )  |  |
| Tennessee      | Nashville***   | 1.104%                                | 2,209        | 33 (31 ↓) | 1.104%                                  | 22,085        | 36 (33 ↓) | 1.104%                                   | 552,125        | 38 (35 ↓) |  |
| Texas          | Houston        | 2.393%                                | 4,785        | 2 (1 ↑)   | 2.393%                                  | 47,853        | 3 (1 ↑)   | 2.393%                                   | 1,196,330      | 3 (1 ↑)   |  |
| Utah           | Salt Lake City | 1.039%                                | 2,078        | 36 (1 ↑)  | 1.039%                                  | 20,778        | 40 ( - )  | 1.039%                                   | 519,454        | 41 ( - )  |  |
| Vermont        | Burlington     | 1.664%                                | 3,329        | 15 (2 ↑)  | 1.664%                                  | 33,289        | 17 (4 ↑)  | 1.664%                                   | 832,227        | 19 (3 ↑)  |  |
| Virginia       | Virginia Beach | 0.494%                                | 987          | 53 ( - )  | 0.494%                                  | 9,874         | 53 ( - )  | 0.494%                                   | 246,841        | 53 ( - )  |  |
| Washington     | Seattle        | 0.728%                                | 1,456        | 44 (2 ↑)  | 0.728%                                  | 14,563        | 47 (1 ↑)  | 0.728%                                   | 364,076        | 47 (1 ↑)  |  |
| West Virginia  | Charleston     | 1.671%                                | 3,342        | 14 (2 ↑)  | 1.671%                                  | 33,415        | 16 (4 ↑)  | 1.671%                                   | 835,380        | 17 (4 ↑)  | X  |
| Wisconsin      | Milwaukee      | 1.467%                                | 2,933        | 20 ( - )  | 1.500%                                  | 30,001        | 21 (2 ↑)  | 1.504%                                   | 751,792        | 22 (2 ↑)  |  |
| Wyoming        | Cheyenne       | 0.658%                                | 1,316        | 48 ( - )  | 0.658%                                  | 13,160        | 49 ( - )  | 0.658%                                   | 328,992        | 49 ( - )  |  |
| <b>AVERAGE</b> |                | <b>1.336%</b>                         | <b>2,672</b> |           | <b>1.418%</b>                           | <b>28,362</b> |           | <b>1.447%</b>                            | <b>723,359</b> |           | <b>N = 12</b>                                |

\* 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 the rest of the state.

\*\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

\*\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

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:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|-----------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | City            | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| Alabama        | Birmingham      | 1.097%                                | 2,742        | 28 (3 ↑)  | 1.097%                                  | 27,420        | 31 (4 ↑)  | 1.097%                                   | 685,488        | 33 (3 ↑)  |  |
| Alaska         | Anchorage       | 1.462%                                | 3,656        | 16 (6 ↑)  | 1.581%                                  | 39,514        | 17 (3 ↑)  | 1.593%                                   | 995,726        | 18 (2 ↑)  | X  |
| Arizona        | Phoenix         | 1.056%                                | 2,641        | 31 (4 ↑)  | 1.980%                                  | 49,501        | 7 (1 ↑)   | 2.182%                                   | 1,363,932      | 4 (2 ↑)   | X  |
| Arkansas       | Little Rock     | 1.401%                                | 3,503        | 19 (1 ↑)  | 1.401%                                  | 35,029        | 22 (2 ↑)  | 1.401%                                   | 875,724        | 22 (3 ↑)  |  |
| California     | Los Angeles     | 0.909%                                | 2,272        | 35 (2 ↑)  | 0.909%                                  | 22,725        | 39 (1 ↑)  | 0.909%                                   | 568,122        | 40 (1 ↑)  |  |
| Colorado       | Denver          | 1.681%                                | 4,203        | 10 (2 ↑)  | 1.681%                                  | 42,031        | 11 (2 ↑)  | 1.681%                                   | 1,050,777      | 13 (1 ↑)  |  |
| Connecticut    | Bridgeport      | 1.583%                                | 3,959        | 14 (1 ↓)  | 1.583%                                  | 39,587        | 16 (2 ↓)  | 1.583%                                   | 989,670        | 19 (4 ↓)  |  |
| DC             | Washington      | 0.617%                                | 1,543        | 46 ( - )  | 1.535%                                  | 38,378        | 19 ( - )  | 1.894%                                   | 1,183,788      | 9 (1 ↑)   | X  |
| Delaware       | Wilmington      | 0.684%                                | 1,711        | 42 (7 ↑)  | 0.684%                                  | 17,108        | 46 (4 ↑)  | 0.684%                                   | 427,709        | 46 (4 ↑)  |  |
| Florida        | Jacksonville    | 1.118%                                | 2,794        | 27 (1 ↑)  | 1.273%                                  | 31,836        | 24 (3 ↑)  | 1.290%                                   | 806,281        | 25 (2 ↑)  | X  |
| Georgia        | Atlanta         | 1.392%                                | 3,481        | 20 (2 ↓)  | 1.392%                                  | 34,806        | 23 (2 ↓)  | 1.392%                                   | 870,158        | 23 ( - )  |  |
| Hawaii         | Honolulu        | 0.477%                                | 1,194        | 50 (1 ↑)  | 0.477%                                  | 11,937        | 50 (1 ↑)  | 0.477%                                   | 298,437        | 50 (1 ↑)  |  |
| Idaho          | Boise           | 0.574%                                | 1,435        | 47 ( - )  | 1.064%                                  | 26,593        | 34 (1 ↓)  | 1.123%                                   | 701,565        | 32 (1 ↑)  | X  |
| Illinois       | Aurora*         | 1.601%                                | 4,002        | 13 (2 ↑)  | 1.601%                                  | 40,021        | 14 (2 ↑)  | 1.601%                                   | 1,000,526      | 17 ( - )  |  |
| Illinois       | Chicago         | 1.645%                                | 4,112        | 12 (1 ↓)  | 1.645%                                  | 41,117        | 13 (1 ↓)  | 1.645%                                   | 1,027,913      | 15 (2 ↓)  |  |
| Indiana        | Indianapolis    | 2.012%                                | 5,030        | 5 (2 ↑)   | 2.012%                                  | 50,301        | 6 (3 ↑)   | 2.012%                                   | 1,257,521      | 7 (2 ↑)   |  |
| Iowa           | Des Moines      | 1.214%                                | 3,035        | 23 (11 ↑) | 1.563%                                  | 39,075        | 18 (8 ↑)  | 1.685%                                   | 1,052,957      | 12 (9 ↑)  | X  |
| Kansas         | Wichita         | 1.241%                                | 3,103        | 21 (4 ↑)  | 1.241%                                  | 31,032        | 26 (4 ↑)  | 1.241%                                   | 775,804        | 28 (3 ↑)  |  |
| Kentucky       | Louisville      | 0.636%                                | 1,591        | 44 (1 ↑)  | 0.636%                                  | 15,910        | 48 (1 ↑)  | 0.636%                                   | 397,756        | 48 (1 ↑)  |  |
| Louisiana      | New Orleans     | 2.126%                                | 5,315        | 4 (1 ↑)   | 2.126%                                  | 53,147        | 5 (1 ↑)   | 2.126%                                   | 1,328,681      | 6 (1 ↑)   |  |
| Maine          | Portland        | 0.935%                                | 2,338        | 34 (2 ↑)  | 0.935%                                  | 23,379        | 38 (1 ↑)  | 0.935%                                   | 584,480        | 39 (1 ↑)  |  |
| Maryland       | Baltimore       | 1.192%                                | 2,981        | 24 (2 ↑)  | 1.192%                                  | 29,809        | 28 (3 ↑)  | 1.192%                                   | 745,214        | 29 (3 ↑)  |  |
| Massachusetts  | Boston          | 0.857%                                | 2,142        | 38 (1 ↑)  | 0.857%                                  | 21,420        | 42 ( - )  | 0.857%                                   | 535,500        | 43 ( - )  |  |
| Michigan       | Detroit         | 1.927%                                | 4,817        | 6 (3 ↑)   | 2.398%                                  | 59,954        | 2 (2 ↑)   | 2.398%                                   | 1,498,846      | 2 (2 ↑)   | X  |
| Minnesota      | Minneapolis     | 0.766%                                | 1,915        | 40 (11 ↓) | 1.230%                                  | 30,762        | 27 (4 ↓)  | 1.300%                                   | 812,796        | 24 (2 ↓)  | X  |
| Mississippi    | Jackson         | 2.809%                                | 7,021        | 1 ( - )   | 2.809%                                  | 70,213        | 1 ( - )   | 2.809%                                   | 1,755,333      | 1 ( - )   |  |
| Missouri       | Kansas City     | 2.153%                                | 5,382        | 3 (3 ↑)   | 2.153%                                  | 53,822        | 4 (3 ↑)   | 2.153%                                   | 1,345,545      | 5 (3 ↑)   |  |
| Montana        | Billings        | 0.507%                                | 1,269        | 49 (1 ↑)  | 0.838%                                  | 20,946        | 44 (1 ↑)  | 1.248%                                   | 779,742        | 27 (3 ↑)  | X  |
| Nebraska       | Omaha           | 1.516%                                | 3,789        | 15 (2 ↑)  | 1.596%                                  | 39,903        | 15 (3 ↑)  | 1.605%                                   | 1,002,942      | 16 (3 ↑)  | X  |
| Nevada         | Las Vegas       | 0.868%                                | 2,170        | 36 (5 ↑)  | 0.868%                                  | 21,702        | 40 (4 ↑)  | 0.868%                                   | 542,542        | 41 (4 ↑)  |  |
| New Hampshire  | Manchester      | 0.845%                                | 2,112        | 39 (1 ↓)  | 0.845%                                  | 21,123        | 43 (2 ↓)  | 0.845%                                   | 528,064        | 44 (2 ↓)  |  |
| New Jersey     | Newark          | 1.185%                                | 2,963        | 25 (2 ↓)  | 1.185%                                  | 29,633        | 29 ( - )  | 1.185%                                   | 740,816        | 30 (1 ↓)  |  |
| New Mexico     | Albuquerque     | 1.149%                                | 2,874        | 26 (1 ↑)  | 1.149%                                  | 28,735        | 30 (2 ↑)  | 1.149%                                   | 718,379        | 31 (3 ↑)  |  |
| New York       | Buffalo*        | 1.065%                                | 2,663        | 30 ( - )  | 1.065%                                  | 26,628        | 33 (1 ↑)  | 1.065%                                   | 665,712        | 35 ( - )  |  |
| New York       | New York City** | 0.463%                                | 1,157        | 52 (44 ↓) | 0.463%                                  | 11,565        | 52 (42 ↓) | 0.463%                                   | 289,135        | 52 (41 ↓) |  |
| <b>AVERAGE</b> |                 | <b>1.204%</b>                         | <b>3,010</b> |           | <b>1.293%</b>                           | <b>32,323</b> |           | <b>1.318%</b>                            | <b>823,867</b> |           | <b>N = 12</b>                                |

|                |                | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|----------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | City           | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| North Carolina | Charlotte      | 0.864%                                | 2,161        | 37 (3 ↑)  | 0.864%                                  | 21,610        | 41 (2 ↑)  | 0.864%                                   | 540,240        | 42 (2 ↑)  |  |
| North Dakota   | Fargo          | 0.465%                                | 1,162        | 51 (1 ↑)  | 0.465%                                  | 11,625        | 51 (1 ↑)  | 0.465%                                   | 290,620        | 51 (1 ↑)  |  |
| Ohio           | Columbus       | 1.020%                                | 2,550        | 32 (1 ↑)  | 1.020%                                  | 25,499        | 35 (2 ↑)  | 1.020%                                   | 637,482        | 36 (2 ↑)  |  |
| Oklahoma       | Oklahoma City  | 1.435%                                | 3,588        | 18 (1 ↑)  | 1.435%                                  | 35,875        | 21 (1 ↑)  | 1.435%                                   | 896,885        | 21 (3 ↑)  |  |
| Oregon         | Portland       | 1.866%                                | 4,665        | 8 (2 ↑)   | 1.866%                                  | 46,652        | 9 (2 ↑)   | 1.866%                                   | 1,166,306      | 10 (2 ↑)  |  |
| Pennsylvania   | Philadelphia   | 0.547%                                | 1,368        | 48 ( - )  | 0.941%                                  | 23,521        | 37 (1 ↑)  | 1.017%                                   | 635,548        | 37 (2 ↑)  | X  |
| Rhode Island   | Providence     | 1.738%                                | 4,346        | 9 (5 ↑)   | 1.738%                                  | 43,455        | 10 (5 ↑)  | 1.738%                                   | 1,086,380      | 11 (5 ↑)  |  |
| South Carolina | Charleston     | 1.902%                                | 4,755        | 7 (3 ↓)   | 1.902%                                  | 47,548        | 8 (3 ↓)   | 1.902%                                   | 1,188,711      | 8 (3 ↓)   |  |
| South Dakota   | Sioux Falls    | 0.644%                                | 1,610        | 43 (1 ↓)  | 0.644%                                  | 16,101        | 47 (1 ↓)  | 0.644%                                   | 402,515        | 47 (1 ↓)  |  |
| Tennessee      | Nashville***   | 1.073%                                | 2,682        | 29 (26 ↓) | 1.073%                                  | 26,818        | 32 (29 ↓) | 1.073%                                   | 670,438        | 34 (31 ↓) |  |
| Texas          | Houston        | 2.394%                                | 5,985        | 2 ( - )   | 2.394%                                  | 59,849        | 3 (1 ↓)   | 2.394%                                   | 1,496,219      | 3 (1 ↓)   |  |
| Utah           | Salt Lake City | 0.991%                                | 2,478        | 33 (1 ↓)  | 0.991%                                  | 24,782        | 36 ( - )  | 0.991%                                   | 619,542        | 38 (1 ↓)  |  |
| Vermont        | Burlington     | 1.452%                                | 3,629        | 17 (4 ↑)  | 1.452%                                  | 36,293        | 20 (5 ↑)  | 1.452%                                   | 907,332        | 20 (6 ↑)  |  |
| Virginia       | Virginia Beach | 0.427%                                | 1,067        | 53 ( - )  | 0.427%                                  | 10,674        | 53 ( - )  | 0.427%                                   | 266,841        | 53 ( - )  |  |
| Washington     | Seattle        | 0.697%                                | 1,742        | 41 (2 ↑)  | 0.697%                                  | 17,417        | 45 (2 ↑)  | 0.697%                                   | 435,433        | 45 (2 ↑)  |  |
| West Virginia  | Charleston     | 1.671%                                | 4,177        | 11 (5 ↑)  | 1.671%                                  | 41,769        | 12 (5 ↑)  | 1.671%                                   | 1,044,225      | 14 (4 ↑)  | X  |
| Wisconsin      | Milwaukee      | 1.228%                                | 3,070        | 22 (2 ↑)  | 1.255%                                  | 31,368        | 25 (3 ↑)  | 1.258%                                   | 785,968        | 26 (2 ↑)  |  |
| Wyoming        | Cheyenne       | 0.625%                                | 1,563        | 45 (1 ↓)  | 0.625%                                  | 15,627        | 49 (1 ↓)  | 0.625%                                   | 390,678        | 49 (1 ↓)  |  |
| <b>AVERAGE</b> |                | <b>1.204%</b>                         | <b>3,010</b> |           | <b>1.293%</b>                           | <b>32,323</b> |           | <b>1.318%</b>                            | <b>823,867</b> |           | <b>N = 12</b>                                |

\* 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 the rest of the state.

\*\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

\*\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

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 Fifty U.S. Cities (Personal Property = 50% of Total Parcel Value)**

|                |                  | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|------------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | City             | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| Arizona        | Mesa             | 0.932%                                | 1,865        | 39 (2 ↑)  | 1.408%                                  | 28,166        | 27 (1 ↓)  | 1.585%                                   | 792,346        | 21 (1 ↑)  | X  |
| Arizona        | Phoenix          | 1.320%                                | 2,641        | 24 (5 ↑)  | 2.002%                                  | 40,048        | 14 (2 ↑)  | 2.255%                                   | 1,127,592      | 10 (3 ↑)  | X  |
| Arizona        | Tucson           | 1.211%                                | 2,421        | 27 (2 ↓)  | 1.824%                                  | 36,488        | 16 (1 ↓)  | 2.052%                                   | 1,025,928      | 15 (4 ↓)  | X  |
| California     | Fresno           | 0.995%                                | 1,991        | 34 (2 ↑)  | 0.995%                                  | 19,908        | 38 (1 ↑)  | 0.995%                                   | 497,707        | 38 (1 ↑)  |  |
| California     | Long Beach       | 0.966%                                | 1,932        | 35 (2 ↑)  | 0.966%                                  | 19,316        | 39 (1 ↑)  | 0.966%                                   | 482,890        | 39 (1 ↑)  |  |
| California     | Los Angeles      | 0.957%                                | 1,914        | 37 (1 ↑)  | 0.957%                                  | 19,137        | 40 (1 ↑)  | 0.957%                                   | 478,418        | 40 (1 ↑)  |  |
| California     | Oakland          | 1.093%                                | 2,187        | 31 (3 ↑)  | 1.093%                                  | 21,866        | 35 (2 ↑)  | 1.093%                                   | 546,640        | 35 (2 ↑)  |  |
| California     | Sacramento       | 0.904%                                | 1,807        | 42 (1 ↑)  | 0.904%                                  | 18,072        | 44 (1 ↑)  | 0.904%                                   | 451,800        | 44 (1 ↑)  |  |
| California     | San Diego        | 0.940%                                | 1,879        | 38 (2 ↑)  | 0.940%                                  | 18,794        | 41 (2 ↑)  | 0.940%                                   | 469,844        | 41 (2 ↑)  |  |
| California     | San Francisco    | 0.930%                                | 1,861        | 40 (1 ↓)  | 0.930%                                  | 18,608        | 42 ( - )  | 0.930%                                   | 465,200        | 42 ( - )  |  |
| California     | San Jose         | 1.025%                                | 2,049        | 33 (2 ↑)  | 1.025%                                  | 20,493        | 37 (1 ↑)  | 1.025%                                   | 512,320        | 37 (1 ↑)  |  |
| Colorado       | Colorado Springs | 1.561%                                | 3,122        | 16 (10 ↑) | 1.561%                                  | 31,217        | 19 (12 ↑) | 1.561%                                   | 780,435        | 22 (9 ↑)  |  |
| Colorado       | Denver           | 1.766%                                | 3,532        | 15 (1 ↑)  | 1.766%                                  | 35,320        | 17 (1 ↑)  | 1.766%                                   | 883,011        | 18 (1 ↑)  |  |
| DC             | Washington       | 0.771%                                | 1,543        | 45 (1 ↑)  | 1.409%                                  | 28,178        | 26 (1 ↑)  | 1.858%                                   | 928,788        | 17 (1 ↑)  | X  |
| Florida        | Jacksonville     | 1.138%                                | 2,275        | 29 (2 ↑)  | 1.332%                                  | 26,645        | 30 ( - )  | 1.353%                                   | 676,515        | 29 (1 ↑)  | X  |
| Florida        | Miami            | 1.284%                                | 2,568        | 25 (2 ↑)  | 1.510%                                  | 30,202        | 21 ( - )  | 1.534%                                   | 767,104        | 23 ( - )  | X  |
| Georgia        | Atlanta          | 1.409%                                | 2,818        | 21 (2 ↓)  | 1.409%                                  | 28,179        | 25 (2 ↓)  | 1.409%                                   | 704,478        | 27 (2 ↓)  |  |
| Illinois       | Chicago          | 2.056%                                | 4,112        | 13 (4 ↓)  | 2.056%                                  | 41,117        | 13 (3 ↓)  | 2.056%                                   | 1,027,913      | 14 (4 ↓)  |  |
| Indiana        | Indianapolis     | 2.102%                                | 4,204        | 12 (2 ↑)  | 2.102%                                  | 42,037        | 12 (2 ↑)  | 2.102%                                   | 1,050,918      | 13 (3 ↑)  |  |
| Kansas         | Wichita          | 1.478%                                | 2,957        | 18 (2 ↑)  | 1.478%                                  | 29,567        | 23 (1 ↑)  | 1.478%                                   | 739,174        | 25 (1 ↑)  |  |
| Kentucky       | Louisville       | 0.724%                                | 1,448        | 47 ( - )  | 0.724%                                  | 14,482        | 48 ( - )  | 0.724%                                   | 362,043        | 48 ( - )  |  |
| Louisiana      | New Orleans      | 2.111%                                | 4,223        | 11 (2 ↑)  | 2.111%                                  | 42,226        | 11 (2 ↑)  | 2.111%                                   | 1,055,643      | 12 (3 ↑)  |  |
| Maryland       | Baltimore        | 1.351%                                | 2,701        | 23 (1 ↑)  | 1.351%                                  | 27,013        | 29 ( - )  | 1.351%                                   | 675,315        | 30 (1 ↓)  |  |
| Massachusetts  | Boston           | 1.071%                                | 2,142        | 32 (1 ↑)  | 1.071%                                  | 21,420        | 36 ( - )  | 1.071%                                   | 535,500        | 36 ( - )  |  |
| Michigan       | Detroit          | 2.330%                                | 4,659        | 8 (2 ↑)   | 2.723%                                  | 54,453        | 3 (1 ↑)   | 2.723%                                   | 1,361,323      | 3 (1 ↑)   | X  |
| Minnesota      | Minneapolis      | 0.958%                                | 1,915        | 36 (14 ↓) | 1.538%                                  | 30,762        | 20 (1 ↓)  | 1.626%                                   | 812,796        | 20 ( - )  | X  |
| Missouri       | Kansas City      | 2.276%                                | 4,553        | 9 (3 ↑)   | 2.276%                                  | 45,526        | 9 (3 ↑)   | 2.276%                                   | 1,138,155      | 9 (5 ↑)   |  |
| Nebraska       | Omaha            | 1.559%                                | 3,118        | 17 ( - )  | 1.660%                                  | 33,193        | 18 (2 ↑)  | 1.670%                                   | 835,191        | 19 (2 ↑)  | X  |
| Nevada         | Las Vegas        | 0.913%                                | 1,826        | 41 (1 ↑)  | 0.913%                                  | 18,260        | 43 (1 ↑)  | 0.913%                                   | 456,489        | 43 (1 ↑)  |  |
| New Mexico     | Albuquerque      | 1.203%                                | 2,405        | 28 (2 ↑)  | 1.203%                                  | 24,052        | 32 (1 ↑)  | 1.203%                                   | 601,297        | 33 (1 ↑)  |  |
| New York       | New York City*   | 0.578%                                | 1,157        | 49 (41 ↓) | 0.578%                                  | 11,565        | 49 (40 ↓) | 0.578%                                   | 289,135        | 49 (40 ↓) |  |
| North Carolina | Charlotte        | 0.884%                                | 1,767        | 43 (1 ↑)  | 0.884%                                  | 17,674        | 45 (1 ↑)  | 0.884%                                   | 441,848        | 45 (1 ↑)  |  |
| North Carolina | Raleigh          | 0.814%                                | 1,628        | 44 (1 ↑)  | 0.814%                                  | 16,280        | 46 (1 ↑)  | 0.814%                                   | 406,994        | 46 (1 ↑)  |  |
| Ohio           | Columbus         | 1.275%                                | 2,550        | 26 (2 ↑)  | 1.275%                                  | 25,499        | 31 (1 ↑)  | 1.275%                                   | 637,482        | 31 (1 ↑)  |  |
| Oklahoma       | Oklahoma City    | 1.404%                                | 2,808        | 22 (1 ↑)  | 1.404%                                  | 28,076        | 28 ( - )  | 1.404%                                   | 701,910        | 28 ( - )  |  |
| <b>AVERAGE</b> |                  | <b>1.460%</b>                         | <b>2,920</b> |           | <b>1.549%</b>                           | <b>30,974</b> |           | <b>1.576%</b>                            | <b>787,815</b> |           | <b>N = 11</b>                                |

|                |                | Land and Building Value:<br>\$100,000 |              |          | Land and Building Value:<br>\$1 Million |               |          | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|----------------|---------------------------------------|--------------|----------|---|---------------|----------|--|----------------|----------|--|
| State          | City           | Tax Rate                              | Tax Bill     | Rank     | Tax Rate                                | Tax Bill      | Rank     | Tax Rate                                 | Tax Bill       | Rank     |  |
| Oklahoma       | Tulsa          | 1.442%                                | 2,884        | 20 (1 ↑) | 1.442%                                  | 28,841        | 24 (1 ↑) | 1.442%                                   | 721,035        | 26 (1 ↑) | X  |
| Oregon         | Portland       | 1.964%                                | 3,929        | 14 (1 ↑) | 1.964%                                  | 39,286        | 15 (2 ↑) | 1.964%                                   | 982,152        | 16 (1 ↑) |  |
| Pennsylvania   | Philadelphia   | 0.684%                                | 1,368        | 48 (1 ↑) | 1.176%                                  | 23,521        | 33 (1 ↑) | 1.271%                                   | 635,548        | 32 (1 ↑) |  |
| Tennessee      | Memphis        | 2.536%                                | 5,072        | 5 (1 ↑)  | 2.536%                                  | 50,721        | 6 (1 ↑)  | 2.536%                                   | 1,268,033      | 6 (1 ↑)  |  |
| Tennessee      | Nashville      | 1.104%                                | 2,209        | 30 (2 ↑) | 1.104%                                  | 22,085        | 34 (1 ↑) | 1.104%                                   | 552,125        | 34 (1 ↑) |  |
| Texas          | Arlington      | 2.490%                                | 4,980        | 6 (1 ↓)  | 2.490%                                  | 49,795        | 7 (1 ↓)  | 2.490%                                   | 1,244,882      | 7 (1 ↓)  |  |
| Texas          | Austin         | 2.125%                                | 4,250        | 10 (1 ↑) | 2.125%                                  | 42,496        | 10 (1 ↑) | 2.125%                                   | 1,062,402      | 11 (1 ↑) |  |
| Texas          | Dallas         | 2.720%                                | 5,441        | 3 (1 ↑)  | 2.720%                                  | 54,409        | 4 (1 ↑)  | 2.720%                                   | 1,360,236      | 4 (1 ↑)  |  |
| Texas          | El Paso        | 3.003%                                | 6,006        | 1 ( - )  | 3.003%                                  | 60,062        | 1 ( - )  | 3.003%                                   | 1,501,548      | 1 ( - )  |  |
| Texas          | Fort Worth     | 2.694%                                | 5,388        | 4 (1 ↓)  | 2.694%                                  | 53,876        | 5 (2 ↓)  | 2.694%                                   | 1,346,902      | 5 (2 ↓)  |  |
| Texas          | Houston        | 2.393%                                | 4,785        | 7 ( - )  | 2.393%                                  | 47,853        | 8 ( - )  | 2.393%                                   | 1,196,330      | 8 ( - )  |  |
| Texas          | San Antonio    | 2.873%                                | 5,747        | 2 ( - )  | 2.873%                                  | 57,468        | 2 ( - )  | 2.873%                                   | 1,436,692      | 2 ( - )  |  |
| Virginia       | Virginia Beach | 0.494%                                | 987          | 50 ( - ) | 0.494%                                  | 9,874         | 50 ( - ) | 0.494%                                   | 246,841        | 50 ( - ) |  |
| Washington     | Seattle        | 0.728%                                | 1,456        | 46 (2 ↑) | 0.728%                                  | 14,563        | 47 (2 ↑) | 0.728%                                   | 364,076        | 47 (2 ↑) |  |
| Wisconsin      | Milwaukee      | 1.467%                                | 2,933        | 19 (1 ↓) | 1.500%                                  | 30,001        | 22 ( - ) | 1.504%                                   | 751,792        | 24 ( - ) |  |
| <b>AVERAGE</b> |                | <b>1.460%</b>                         | <b>2,920</b> |          | <b>1.549%</b>                           | <b>30,974</b> |          | <b>1.576%</b>                            | <b>787,815</b> |          | <b>N = 11</b>                                |

\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

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 Fifty U.S. Cities (Personal Property = 60% of Total Parcel Value)**

|                |                  | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|------------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | City             | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| Arizona        | Mesa             | 0.746%                                | 1,865        | 44 (1 ↑)  | 1.391%                                  | 34,763        | 25 (1 ↑)  | 1.532%                                   | 957,267        | 20 (1 ↑)  | X  |
| Arizona        | Phoenix          | 1.056%                                | 2,641        | 28 (5 ↑)  | 1.980%                                  | 49,501        | 13 ( - )  | 2.182%                                   | 1,363,932      | 9 (1 ↑)   | X  |
| Arizona        | Tucson           | 0.969%                                | 2,421        | 32 (2 ↓)  | 1.800%                                  | 44,994        | 15 (3 ↓)  | 1.982%                                   | 1,238,582      | 14 (3 ↓)  | X  |
| California     | Fresno           | 0.946%                                | 2,364        | 33 (2 ↑)  | 0.946%                                  | 23,641        | 36 (1 ↑)  | 0.946%                                   | 591,027        | 37 (1 ↑)  |  |
| California     | Long Beach       | 0.917%                                | 2,294        | 34 (2 ↑)  | 0.917%                                  | 22,937        | 38 (1 ↑)  | 0.917%                                   | 573,432        | 38 (1 ↑)  |  |
| California     | Los Angeles      | 0.909%                                | 2,272        | 35 (2 ↑)  | 0.909%                                  | 22,725        | 39 (1 ↑)  | 0.909%                                   | 568,122        | 39 (1 ↑)  |  |
| California     | Oakland          | 1.039%                                | 2,597        | 29 (3 ↑)  | 1.039%                                  | 25,965        | 33 (2 ↑)  | 1.039%                                   | 649,135        | 33 (2 ↑)  |  |
| California     | Sacramento       | 0.858%                                | 2,146        | 40 (3 ↑)  | 0.858%                                  | 21,461        | 44 (2 ↑)  | 0.858%                                   | 536,513        | 44 (2 ↑)  |  |
| California     | San Diego        | 0.893%                                | 2,232        | 36 (3 ↑)  | 0.893%                                  | 22,318        | 40 (2 ↑)  | 0.893%                                   | 557,940        | 40 (2 ↑)  |  |
| California     | San Francisco    | 0.884%                                | 2,210        | 37 (1 ↑)  | 0.884%                                  | 22,097        | 41 ( - )  | 0.884%                                   | 552,425        | 41 ( - )  |  |
| California     | San Jose         | 0.973%                                | 2,434        | 31 (3 ↑)  | 0.973%                                  | 24,335        | 35 (1 ↑)  | 0.973%                                   | 608,380        | 36 (1 ↑)  |  |
| Colorado       | Colorado Springs | 1.491%                                | 3,726        | 17 (5 ↑)  | 1.491%                                  | 37,263        | 20 (9 ↑)  | 1.491%                                   | 931,584        | 21 (8 ↑)  |  |
| Colorado       | Denver           | 1.681%                                | 4,203        | 14 (2 ↑)  | 1.681%                                  | 42,031        | 16 (2 ↑)  | 1.681%                                   | 1,050,777      | 17 (2 ↑)  |  |
| DC             | Washington       | 0.617%                                | 1,543        | 47 (1 ↑)  | 1.535%                                  | 38,378        | 19 (1 ↑)  | 1.894%                                   | 1,183,788      | 15 ( - )  | X  |
| Florida        | Jacksonville     | 1.118%                                | 2,794        | 26 (1 ↑)  | 1.273%                                  | 31,836        | 26 (1 ↑)  | 1.290%                                   | 806,281        | 27 ( - )  | X  |
| Florida        | Miami            | 1.268%                                | 3,171        | 21 ( - )  | 1.449%                                  | 36,234        | 21 ( - )  | 1.469%                                   | 917,911        | 22 ( - )  | X  |
| Georgia        | Atlanta          | 1.392%                                | 3,481        | 20 (2 ↓)  | 1.392%                                  | 34,806        | 24 (2 ↓)  | 1.392%                                   | 870,158        | 25 (1 ↓)  |  |
| Illinois       | Chicago          | 1.645%                                | 4,112        | 15 ( - )  | 1.645%                                  | 41,117        | 17 ( - )  | 1.645%                                   | 1,027,913      | 18 ( - )  |  |
| Indiana        | Indianapolis     | 2.012%                                | 5,030        | 11 ( - )  | 2.012%                                  | 50,301        | 12 (2 ↑)  | 2.012%                                   | 1,257,521      | 13 (1 ↑)  |  |
| Kansas         | Wichita          | 1.241%                                | 3,103        | 22 (2 ↑)  | 1.241%                                  | 31,032        | 28 (2 ↑)  | 1.241%                                   | 775,804        | 29 (1 ↑)  |  |
| Kentucky       | Louisville       | 0.636%                                | 1,591        | 46 (1 ↑)  | 0.636%                                  | 15,910        | 48 (1 ↑)  | 0.636%                                   | 397,756        | 48 (1 ↑)  |  |
| Louisiana      | New Orleans      | 2.126%                                | 5,315        | 10 (1 ↓)  | 2.126%                                  | 53,147        | 11 (1 ↓)  | 2.126%                                   | 1,328,681      | 12 ( - )  |  |
| Maryland       | Baltimore        | 1.192%                                | 2,981        | 24 (1 ↑)  | 1.192%                                  | 29,809        | 30 (1 ↑)  | 1.192%                                   | 745,214        | 30 (1 ↑)  |  |
| Massachusetts  | Boston           | 0.857%                                | 2,142        | 41 (1 ↓)  | 0.857%                                  | 21,420        | 45 (2 ↓)  | 0.857%                                   | 535,500        | 45 (2 ↓)  |  |
| Michigan       | Detroit          | 1.927%                                | 4,817        | 12 (1 ↑)  | 2.398%                                  | 59,954        | 7 (1 ↑)   | 2.398%                                   | 1,498,846      | 7 (1 ↑)   | X  |
| Minnesota      | Minneapolis      | 0.766%                                | 1,915        | 43 (15 ↓) | 1.230%                                  | 30,762        | 29 (5 ↓)  | 1.300%                                   | 812,796        | 26 (3 ↓)  | X  |
| Missouri       | Kansas City      | 2.153%                                | 5,382        | 8 (2 ↑)   | 2.153%                                  | 53,822        | 9 (2 ↑)   | 2.153%                                   | 1,345,545      | 10 (3 ↑)  |  |
| Nebraska       | Omaha            | 1.516%                                | 3,789        | 16 (1 ↑)  | 1.596%                                  | 39,903        | 18 (1 ↑)  | 1.605%                                   | 1,002,942      | 19 (1 ↑)  | X  |
| Nevada         | Las Vegas        | 0.868%                                | 2,170        | 38 (4 ↑)  | 0.868%                                  | 21,702        | 42 (3 ↑)  | 0.868%                                   | 542,542        | 42 (3 ↑)  |  |
| New Mexico     | Albuquerque      | 1.149%                                | 2,874        | 25 (1 ↑)  | 1.149%                                  | 28,735        | 31 (1 ↑)  | 1.149%                                   | 718,379        | 31 (1 ↑)  |  |
| New York       | New York City*   | 0.463%                                | 1,157        | 49 (37 ↓) | 0.463%                                  | 11,565        | 49 (34 ↓) | 0.463%                                   | 289,135        | 49 (33 ↓) |  |
| North Carolina | Charlotte        | 0.864%                                | 2,161        | 39 (2 ↑)  | 0.864%                                  | 21,610        | 43 (1 ↑)  | 0.864%                                   | 540,240        | 43 (1 ↑)  |  |
| North Carolina | Raleigh          | 0.782%                                | 1,956        | 42 (2 ↑)  | 0.782%                                  | 19,558        | 46 (1 ↑)  | 0.782%                                   | 488,939        | 46 (1 ↑)  |  |
| Ohio           | Columbus         | 1.020%                                | 2,550        | 30 (1 ↑)  | 1.020%                                  | 25,499        | 34 ( - )  | 1.020%                                   | 637,482        | 34 ( - )  |  |
| Oklahoma       | Oklahoma City    | 1.435%                                | 3,588        | 18 (1 ↑)  | 1.435%                                  | 35,875        | 22 (1 ↑)  | 1.435%                                   | 896,885        | 23 (2 ↑)  |  |
| <b>AVERAGE</b> |                  | <b>1.371%</b>                         | <b>3,427</b> |           | <b>1.473%</b>                           | <b>36,820</b> |           | <b>1.494%</b>                            | <b>933,965</b> |           | <b>N = 11</b>                                |

|                |                | Land and Building Value:<br>\$100,000 |              |          | Land and Building Value:<br>\$1 Million |               |          | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|----------------|---------------------------------------|--------------|----------|---|---------------|----------|--|----------------|----------|--|
| State          | City           | Tax Rate                              | Tax Bill     | Rank     | Tax Rate                                | Tax Bill      | Rank     | Tax Rate                                 | Tax Bill       | Rank     |  |
| Oklahoma       | Tulsa          | 1.428%                                | 3,571        | 19 (1 ↑) | 1.428%                                  | 35,708        | 23 (2 ↑) | 1.428%                                   | 892,710        | 24 (2 ↑) | X  |
| Oregon         | Portland       | 1.866%                                | 4,665        | 13 (1 ↑) | 1.866%                                  | 46,652        | 14 (2 ↑) | 1.866%                                   | 1,166,306      | 16 (1 ↑) |  |
| Pennsylvania   | Philadelphia   | 0.547%                                | 1,368        | 48 (1 ↑) | 0.941%                                  | 23,521        | 37 (1 ↑) | 1.017%                                   | 635,548        | 35 (1 ↑) |  |
| Tennessee      | Memphis        | 2.464%                                | 6,159        | 6 (1 ↑)  | 2.464%                                  | 61,590        | 6 (1 ↑)  | 2.464%                                   | 1,539,754      | 6 (1 ↑)  |  |
| Tennessee      | Nashville      | 1.073%                                | 2,682        | 27 (2 ↑) | 1.073%                                  | 26,818        | 32 (1 ↑) | 1.073%                                   | 670,438        | 32 (1 ↑) |  |
| Texas          | Arlington      | 2.529%                                | 6,322        | 5 ( - )  | 2.529%                                  | 63,220        | 5 ( - )  | 2.529%                                   | 1,580,507      | 5 ( - )  |  |
| Texas          | Austin         | 2.129%                                | 5,321        | 9 (1 ↓)  | 2.129%                                  | 53,214        | 10 (1 ↓) | 2.129%                                   | 1,330,350      | 11 (2 ↓) |  |
| Texas          | Dallas         | 2.736%                                | 6,841        | 3 (1 ↑)  | 2.736%                                  | 68,407        | 3 (1 ↑)  | 2.736%                                   | 1,710,164      | 3 (1 ↑)  |  |
| Texas          | El Paso        | 3.005%                                | 7,512        | 1 ( - )  | 3.005%                                  | 75,122        | 1 ( - )  | 3.005%                                   | 1,878,038      | 1 ( - )  |  |
| Texas          | Fort Worth     | 2.733%                                | 6,833        | 4 (1 ↓)  | 2.733%                                  | 68,334        | 4 (1 ↓)  | 2.733%                                   | 1,708,348      | 4 (1 ↓)  |  |
| Texas          | Houston        | 2.394%                                | 5,985        | 7 (1 ↓)  | 2.394%                                  | 59,849        | 8 (2 ↓)  | 2.394%                                   | 1,496,219      | 8 (2 ↓)  |  |
| Texas          | San Antonio    | 2.884%                                | 7,209        | 2 ( - )  | 2.884%                                  | 72,090        | 2 ( - )  | 2.884%                                   | 1,802,241      | 2 ( - )  |  |
| Virginia       | Virginia Beach | 0.427%                                | 1,067        | 50 ( - ) | 0.427%                                  | 10,674        | 50 ( - ) | 0.427%                                   | 266,841        | 50 ( - ) |  |
| Washington     | Seattle        | 0.697%                                | 1,742        | 45 (1 ↑) | 0.697%                                  | 17,417        | 47 (1 ↑) | 0.697%                                   | 435,433        | 47 (1 ↑) |  |
| Wisconsin      | Milwaukee      | 1.228%                                | 3,070        | 23 ( - ) | 1.255%                                  | 31,368        | 27 (1 ↑) | 1.258%                                   | 785,968        | 28 ( - ) |  |
| <b>AVERAGE</b> |                | <b>1.371%</b>                         | <b>3,427</b> |          | <b>1.473%</b>                           | <b>36,820</b> |          | <b>1.494%</b>                            | <b>933,965</b> |          | <b>N = 11</b>                                |

\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

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:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |          | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|-------------------|---------------------------------------|--------------|-----------|---|---------------|----------|--|----------------|----------|--|
| State          | Municipality      | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank     | Tax Rate                                 | Tax Bill       | Rank     |  |
| Alabama        | Monroeville       | 0.656%                                | 1,311        | 48 (2 ↓)  | 0.656%                                  | 13,112        | 48 (2 ↓) | 0.656%                                   | 327,795        | 48 (2 ↓) | X  |
| Alaska         | Ketchikan         | 0.752%                                | 1,503        | 40 (3 ↑)  | 0.882%                                  | 17,641        | 39 ( - ) | 0.896%                                   | 447,992        | 38 ( - ) |  |
| Arizona        | Safford           | 1.241%                                | 2,482        | 21 (12 ↑) | 1.718%                                  | 34,360        | 11 (5 ↑) | 1.895%                                   | 947,424        | 6 (10 ↑) | X  |
| Arkansas       | Pocahontas        | 0.743%                                | 1,486        | 42 (2 ↑)  | 0.743%                                  | 14,864        | 43 (1 ↑) | 0.743%                                   | 371,612        | 43 (1 ↑) |  |
| California     | Yreka             | 0.845%                                | 1,689        | 37 (3 ↑)  | 0.845%                                  | 16,893        | 41 ( - ) | 0.845%                                   | 422,320        | 41 ( - ) |  |
| Colorado       | Walsenburg        | 1.811%                                | 3,621        | 6 ( - )   | 1.811%                                  | 36,211        | 6 (4 ↑)  | 1.811%                                   | 905,287        | 7 (3 ↑)  | X  |
| Connecticut    | Litchfield        | 0.742%                                | 1,484        | 43 (4 ↓)  | 0.742%                                  | 14,842        | 44 (4 ↓) | 0.742%                                   | 371,042        | 44 (4 ↓) |  |
| Delaware       | Georgetown        | 0.236%                                | 473          | 50 ( - )  | 0.236%                                  | 4,727         | 50 ( - ) | 0.236%                                   | 118,169        | 50 ( - ) |  |
| Florida        | Moore Haven       | 1.503%                                | 3,007        | 12 (1 ↑)  | 1.756%                                  | 35,117        | 8 (1 ↑)  | 1.783%                                   | 891,398        | 9 (1 ↓)  |  |
| Georgia        | Fitzgerald        | 1.535%                                | 3,070        | 10 (1 ↑)  | 1.535%                                  | 30,702        | 14 (1 ↓) | 1.535%                                   | 767,556        | 14 (1 ↑) |  |
| Hawaii         | Kauai             | 0.377%                                | 753          | 49 ( - )  | 0.377%                                  | 7,533         | 49 ( - ) | 0.377%                                   | 188,325        | 49 ( - ) | X  |
| Idaho          | St. Anthony       | 0.722%                                | 1,443        | 45 (7 ↓)  | 1.122%                                  | 22,439        | 27 (9 ↓) | 1.199%                                   | 599,417        | 27 (9 ↓) |  |
| Illinois       | Galena            | 1.252%                                | 2,503        | 19 (2 ↑)  | 1.252%                                  | 25,035        | 23 (1 ↑) | 1.252%                                   | 625,875        | 24 (1 ↑) |  |
| Indiana        | North Vernon      | 2.297%                                | 4,593        | 4 (1 ↓)   | 2.297%                                  | 45,930        | 4 (1 ↓)  | 2.297%                                   | 1,148,250      | 4 (1 ↓)  | X  |
| Iowa           | Hampton           | 0.818%                                | 1,636        | 38 (13 ↓) | 1.255%                                  | 25,091        | 21 (7 ↓) | 1.407%                                   | 703,352        | 18 (6 ↓) |  |
| Kansas         | Iola              | 2.418%                                | 4,836        | 3 (1 ↑)   | 2.418%                                  | 48,364        | 3 (1 ↑)  | 2.418%                                   | 1,209,109      | 3 (1 ↑)  |  |
| Kentucky       | Morehead          | 0.674%                                | 1,347        | 46 (1 ↑)  | 0.674%                                  | 13,474        | 46 (1 ↑) | 0.674%                                   | 336,850        | 46 (1 ↑) |  |
| Louisiana      | Natchitoches      | 1.286%                                | 2,572        | 16 (2 ↑)  | 1.286%                                  | 25,723        | 18 (4 ↑) | 1.286%                                   | 643,064        | 20 (3 ↑) |  |
| Maine          | Rockland          | 1.269%                                | 2,539        | 17 (5 ↑)  | 1.269%                                  | 25,388        | 19 (6 ↑) | 1.269%                                   | 634,700        | 21 (5 ↑) |  |
| Maryland       | Denton            | 1.115%                                | 2,231        | 26 (2 ↑)  | 1.115%                                  | 22,309        | 29 (2 ↑) | 1.115%                                   | 557,733        | 30 (1 ↑) |  |
| Massachusetts  | Adams             | 1.250%                                | 2,501        | 20 (3 ↑)  | 1.250%                                  | 25,010        | 24 (2 ↑) | 1.250%                                   | 625,240        | 25 (2 ↑) | X  |
| Michigan       | Manistique        | 1.520%                                | 3,040        | 11 (1 ↓)  | 1.745%                                  | 34,906        | 10 (3 ↓) | 1.745%                                   | 872,649        | 11 (4 ↓) |  |
| Minnesota      | Glencoe           | 0.998%                                | 1,996        | 30 (18 ↓) | 1.586%                                  | 31,713        | 13 (7 ↓) | 1.675%                                   | 837,731        | 12 (6 ↓) | X  |
| Mississippi    | Philadelphia      | 2.104%                                | 4,208        | 5 ( - )   | 2.104%                                  | 42,084        | 5 ( - )  | 2.104%                                   | 1,052,100      | 5 ( - )  |  |
| Missouri       | Boonville         | 1.656%                                | 3,312        | 9 (1 ↓)   | 1.656%                                  | 33,119        | 12 ( - ) | 1.656%                                   | 827,975        | 13 ( - ) |  |
| Montana        | Glasgow           | 0.746%                                | 1,491        | 41 (5 ↓)  | 1.053%                                  | 21,054        | 32 (5 ↓) | 1.478%                                   | 738,933        | 16 (2 ↓) | X  |
| Nebraska       | Sidney            | 1.677%                                | 3,354        | 8 (1 ↑)   | 1.783%                                  | 35,662        | 7 (1 ↑)  | 1.794%                                   | 897,189        | 8 (1 ↑)  | X  |
| Nevada         | Fallon            | 1.021%                                | 2,042        | 29 ( - )  | 1.021%                                  | 20,423        | 33 (1 ↓) | 1.021%                                   | 510,570        | 33 (1 ↓) |  |
| New Hampshire  | Lancaster         | 1.460%                                | 2,919        | 14 (1 ↑)  | 1.460%                                  | 29,195        | 16 (1 ↑) | 1.460%                                   | 729,864        | 17 (2 ↑) |  |
| New Jersey     | Maurice River Twp | 1.386%                                | 2,772        | 15 (2 ↑)  | 1.386%                                  | 27,718        | 17 (3 ↑) | 1.386%                                   | 692,944        | 19 (2 ↑) |  |
| New Mexico     | Santa Rosa        | 0.854%                                | 1,709        | 36 (5 ↑)  | 0.854%                                  | 17,088        | 40 (2 ↑) | 0.854%                                   | 427,200        | 40 (2 ↑) |  |
| New York       | Warsaw            | 1.753%                                | 3,507        | 7 ( - )   | 1.753%                                  | 35,066        | 9 (2 ↑)  | 1.753%                                   | 876,654        | 10 (1 ↑) |  |
| North Carolina | Edenton           | 0.911%                                | 1,822        | 34 (3 ↑)  | 0.911%                                  | 18,218        | 37 (1 ↑) | 0.911%                                   | 455,452        | 37 (2 ↑) |  |
| North Dakota   | Devils Lake       | 0.667%                                | 1,333        | 47 (1 ↑)  | 0.667%                                  | 13,334        | 47 (1 ↑) | 0.667%                                   | 333,338        | 47 (1 ↑) |  |
| Ohio           | Bryan             | 1.203%                                | 2,406        | 23 (7 ↓)  | 1.203%                                  | 24,064        | 25 (6 ↓) | 1.203%                                   | 601,609        | 26 (6 ↓) |  |
| <b>AVERAGE</b> |                   | <b>1.225%</b>                         | <b>2,451</b> |           | <b>1.285%</b>                           | <b>25,691</b> |          | <b>1.304%</b>                            | <b>652,041</b> |          | <b>N = 10</b>                                |

|                |               | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|---------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | Municipality  | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| Oklahoma       | Mangum        | 0.979%                                | 1,958        | 31 (1 ↓)  | 0.979%                                  | 19,583        | 34 (1 ↓)  | 0.979%                                   | 489,578        | 34 (1 ↓)  |  |
| Oregon         | Tillamook     | 0.930%                                | 1,859        | 33 (2 ↑)  | 0.930%                                  | 18,593        | 36 (1 ↑)  | 0.930%                                   | 464,832        | 36 (1 ↑)  |  |
| Pennsylvania   | Ridgway       | 1.494%                                | 2,988        | 13 (1 ↑)  | 1.494%                                  | 29,880        | 15 ( - )  | 1.494%                                   | 746,992        | 15 (2 ↑)  |  |
| Rhode Island   | Hopkinton     | 1.117%                                | 2,234        | 25 (1 ↑)  | 1.117%                                  | 22,338        | 28 (1 ↑)  | 1.117%                                   | 558,448        | 29 ( - )  |  |
| South Carolina | Mullins       | 3.588%                                | 7,176        | 1 ( - )   | 3.588%                                  | 71,761        | 1 ( - )   | 3.588%                                   | 1,794,024      | 1 ( - )   |  |
| South Dakota   | Vermillion    | 1.132%                                | 2,265        | 24 (8 ↑)  | 1.132%                                  | 22,645        | 26 (9 ↑)  | 1.132%                                   | 566,132        | 28 (7 ↑)  |  |
| Tennessee      | Savannah      | 0.942%                                | 1,884        | 32 (2 ↑)  | 0.942%                                  | 18,839        | 35 (1 ↑)  | 0.942%                                   | 470,978        | 35 (1 ↑)  |  |
| Texas          | Fort Stockton | 2.539%                                | 5,078        | 2 ( - )   | 2.539%                                  | 50,782        | 2 ( - )   | 2.539%                                   | 1,269,550      | 2 ( - )   |  |
| Utah           | Richfield     | 0.895%                                | 1,790        | 35 (11 ↓) | 0.895%                                  | 17,904        | 38 (10 ↓) | 0.895%                                   | 447,603        | 39 (11 ↓) |  |
| Vermont        | Hartford      | 1.258%                                | 2,515        | 18 (2 ↑)  | 1.258%                                  | 25,153        | 20 (3 ↑)  | 1.258%                                   | 628,835        | 22 (2 ↑)  |  |
| Virginia       | Wise          | 0.752%                                | 1,504        | 39 (3 ↑)  | 0.752%                                  | 15,038        | 42 (1 ↑)  | 0.752%                                   | 375,945        | 42 (1 ↑)  | X  |
| Washington     | Okanogan      | 1.101%                                | 2,202        | 27 (4 ↑)  | 1.101%                                  | 22,022        | 30 (4 ↑)  | 1.101%                                   | 550,562        | 31 (3 ↑)  |  |
| West Virginia  | Elkins        | 1.100%                                | 2,199        | 28 (1 ↓)  | 1.100%                                  | 21,991        | 31 (1 ↓)  | 1.100%                                   | 549,787        | 32 (2 ↓)  |  |
| Wisconsin      | Rice Lake     | 1.221%                                | 2,441        | 22 (3 ↓)  | 1.254%                                  | 25,078        | 22 (1 ↓)  | 1.257%                                   | 628,711        | 23 (1 ↓)  |  |
| Wyoming        | Worland       | 0.727%                                | 1,453        | 44 (1 ↑)  | 0.727%                                  | 14,534        | 45 ( - )  | 0.727%                                   | 363,338        | 45 ( - )  |  |
| <b>AVERAGE</b> |               | <b>1.225%</b>                         | <b>2,451</b> |           | <b>1.285%</b>                           | <b>25,691</b> |           | <b>1.304%</b>                            | <b>652,041</b> |           | <b>N = 10</b>                                |

\$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:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |          | Land and Building Value:<br>\$25 Million |                |          | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|-------------------|---------------------------------------|--------------|-----------|---|---------------|----------|--|----------------|----------|--|
| State          | Municipality      | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank     | Tax Rate                                 | Tax Bill       | Rank     |  |
| Alabama        | Monroeville       | 0.623%                                | 1,557        | 44 (2 ↑)  | 0.623%                                  | 15,572        | 46 ( - ) | 0.623%                                   | 389,295        | 46 ( - ) | X  |
| Alaska         | Ketchikan         | 0.740%                                | 1,851        | 39 (1 ↑)  | 0.845%                                  | 21,121        | 39 (1 ↓) | 0.856%                                   | 534,992        | 39 (2 ↓) |  |
| Arizona        | Safford           | 0.993%                                | 2,482        | 25 (14 ↑) | 1.639%                                  | 40,973        | 9 (5 ↑)  | 1.780%                                   | 1,112,738      | 6 (8 ↑)  | X  |
| Arkansas       | Pocahontas        | 0.740%                                | 1,849        | 40 (3 ↑)  | 0.740%                                  | 18,491        | 43 (1 ↑) | 0.740%                                   | 462,287        | 43 (1 ↑) |  |
| California     | Yreka             | 0.802%                                | 2,006        | 36 (1 ↓)  | 0.802%                                  | 20,060        | 41 (2 ↓) | 0.802%                                   | 501,505        | 41 (2 ↓) |  |
| Colorado       | Walsenburg        | 1.720%                                | 4,300        | 6 ( - )   | 1.720%                                  | 43,001        | 6 (2 ↑)  | 1.720%                                   | 1,075,029      | 7 (1 ↑)  | X  |
| Connecticut    | Litchfield        | 0.632%                                | 1,581        | 43 (1 ↓)  | 0.632%                                  | 15,811        | 45 (2 ↓) | 0.632%                                   | 395,279        | 45 (2 ↓) |  |
| Delaware       | Georgetown        | 0.189%                                | 473          | 50 ( - )  | 0.189%                                  | 4,727         | 50 ( - ) | 0.189%                                   | 118,169        | 50 ( - ) |  |
| Florida        | Moore Haven       | 1.472%                                | 3,680        | 10 ( - )  | 1.674%                                  | 41,853        | 8 (1 ↓)  | 1.696%                                   | 1,059,798      | 9 (2 ↓)  |  |
| Georgia        | Fitzgerald        | 1.501%                                | 3,753        | 9 ( - )   | 1.501%                                  | 37,527        | 12 ( - ) | 1.501%                                   | 938,185        | 12 (1 ↑) |  |
| Hawaii         | Kauai             | 0.301%                                | 753          | 49 ( - )  | 0.301%                                  | 7,533         | 49 ( - ) | 0.301%                                   | 188,325        | 49 ( - ) | X  |
| Idaho          | St. Anthony       | 0.577%                                | 1,443        | 47 (3 ↓)  | 1.090%                                  | 27,244        | 20 (4 ↓) | 1.151%                                   | 719,548        | 19 (2 ↓) |  |
| Illinois       | Galena            | 1.001%                                | 2,503        | 22 (3 ↑)  | 1.001%                                  | 25,035        | 26 (3 ↑) | 1.001%                                   | 625,875        | 27 (2 ↑) |  |
| Indiana        | North Vernon      | 2.197%                                | 5,493        | 3 ( - )   | 2.197%                                  | 54,930        | 3 ( - )  | 2.197%                                   | 1,373,250      | 3 ( - )  | X  |
| Iowa           | Hampton           | 0.654%                                | 1,636        | 42 (10 ↓) | 1.004%                                  | 25,091        | 25 (8 ↓) | 1.125%                                   | 703,352        | 20 (4 ↓) |  |
| Kansas         | Iola              | 2.024%                                | 5,060        | 5 ( - )   | 2.024%                                  | 50,597        | 5 ( - )  | 2.024%                                   | 1,264,931      | 5 ( - )  | X  |
| Kentucky       | Morehead          | 0.593%                                | 1,481        | 46 (1 ↑)  | 0.593%                                  | 14,813        | 47 ( - ) | 0.593%                                   | 370,315        | 47 ( - ) |  |
| Louisiana      | Natchitoches      | 1.295%                                | 3,237        | 12 (1 ↑)  | 1.295%                                  | 32,370        | 14 (1 ↑) | 1.295%                                   | 809,245        | 16 (2 ↑) |  |
| Maine          | Rockland          | 1.062%                                | 2,654        | 18 (4 ↑)  | 1.062%                                  | 26,542        | 21 (5 ↑) | 1.062%                                   | 663,550        | 23 (3 ↑) |  |
| Maryland       | Denton            | 0.971%                                | 2,428        | 26 (5 ↑)  | 0.971%                                  | 24,284        | 30 (5 ↑) | 0.971%                                   | 607,108        | 30 (5 ↑) |  |
| Massachusetts  | Adams             | 1.000%                                | 2,501        | 24 (2 ↑)  | 1.000%                                  | 25,010        | 28 (2 ↑) | 1.000%                                   | 625,240        | 29 (1 ↑) | X  |
| Michigan       | Manistique        | 1.252%                                | 3,130        | 13 (1 ↓)  | 1.522%                                  | 38,060        | 11 (2 ↓) | 1.522%                                   | 951,492        | 11 (1 ↓) |  |
| Minnesota      | Glencoe           | 0.799%                                | 1,996        | 37 (23 ↓) | 1.269%                                  | 31,713        | 15 (4 ↓) | 1.340%                                   | 837,731        | 15 (6 ↓) | X  |
| Mississippi    | Philadelphia      | 2.104%                                | 5,261        | 4 ( - )   | 2.104%                                  | 52,605        | 4 ( - )  | 2.104%                                   | 1,315,125      | 4 ( - )  |  |
| Missouri       | Boonville         | 1.575%                                | 3,938        | 8 ( - )   | 1.575%                                  | 39,383        | 10 ( - ) | 1.575%                                   | 984,569        | 10 (1 ↑) |  |
| Montana        | Glasgow           | 0.596%                                | 1,491        | 45 (4 ↓)  | 0.990%                                  | 24,740        | 29 (9 ↓) | 1.477%                                   | 923,253        | 13 (1 ↓) | X  |
| Nebraska       | Sidney            | 1.624%                                | 4,061        | 7 ( - )   | 1.709%                                  | 42,725        | 7 (1 ↓)  | 1.718%                                   | 1,073,763      | 8 (2 ↓)  | X  |
| Nevada         | Fallon            | 0.971%                                | 2,427        | 27 ( - )  | 0.971%                                  | 24,266        | 31 ( - ) | 0.971%                                   | 606,645        | 31 ( - ) |  |
| New Hampshire  | Lancaster         | 1.168%                                | 2,919        | 15 (2 ↑)  | 1.168%                                  | 29,195        | 17 (4 ↑) | 1.168%                                   | 729,864        | 18 (3 ↑) |  |
| New Jersey     | Maurice River Twp | 1.109%                                | 2,772        | 16 (5 ↑)  | 1.109%                                  | 27,718        | 18 (7 ↑) | 1.109%                                   | 692,944        | 21 (4 ↑) |  |
| New Mexico     | Santa Rosa        | 0.813%                                | 2,032        | 35 (1 ↑)  | 0.813%                                  | 20,321        | 40 ( - ) | 0.813%                                   | 508,032        | 40 ( - ) |  |
| New York       | Warsaw            | 1.403%                                | 3,507        | 11 ( - )  | 1.403%                                  | 35,066        | 13 ( - ) | 1.403%                                   | 876,654        | 14 (1 ↑) |  |
| North Carolina | Edenton           | 0.866%                                | 2,165        | 34 ( - )  | 0.866%                                  | 21,653        | 38 (1 ↓) | 0.866%                                   | 541,327        | 38 ( - ) |  |
| North Dakota   | Devils Lake       | 0.533%                                | 1,333        | 48 ( - )  | 0.533%                                  | 13,334        | 48 ( - ) | 0.533%                                   | 333,338        | 48 ( - ) |  |
| Ohio           | Bryan             | 0.963%                                | 2,406        | 28 (8 ↓)  | 0.963%                                  | 24,064        | 32 (8 ↓) | 0.963%                                   | 601,609        | 32 (8 ↓) |  |
| <b>AVERAGE</b> |                   | <b>1.104%</b>                         | <b>2,759</b> |           | <b>1.165%</b>                           | <b>29,119</b> |          | <b>1.183%</b>                            | <b>739,581</b> |          | <b>N = 10</b>                                |

|                |               | Land and Building Value:<br>\$100,000 |              |           | Land and Building Value:<br>\$1 Million |               |           | Land and Building Value:<br>\$25 Million |                |           | Tax Rate<br>Varies with<br>Property<br>Value |
|----------------|---------------|---------------------------------------|--------------|-----------|---|---------------|-----------|--|----------------|-----------|--|
| State          | Municipality  | Tax Rate                              | Tax Bill     | Rank      | Tax Rate                                | Tax Bill      | Rank      | Tax Rate                                 | Tax Bill       | Rank      |  |
| Oklahoma       | Mangum        | 1.001%                                | 2,502        | 23 ( - )  | 1.001%                                  | 25,023        | 27 ( - )  | 1.001%                                   | 625,571        | 28 (1 ↓)  |  |
| Oregon         | Tillamook     | 0.883%                                | 2,208        | 32 (1 ↑)  | 0.883%                                  | 22,080        | 36 ( - )  | 0.883%                                   | 551,988        | 36 ( - )  |  |
| Pennsylvania   | Ridgway       | 1.195%                                | 2,988        | 14 (1 ↑)  | 1.195%                                  | 29,880        | 16 (2 ↑)  | 1.195%                                   | 746,992        | 17 (2 ↑)  |  |
| Rhode Island   | Hopkinton     | 0.934%                                | 2,334        | 29 (1 ↑)  | 0.934%                                  | 23,341        | 33 (1 ↑)  | 0.934%                                   | 583,535        | 33 (1 ↑)  |  |
| South Carolina | Mullins       | 3.426%                                | 8,565        | 1 ( - )   | 3.426%                                  | 85,649        | 1 ( - )   | 3.426%                                   | 2,141,236      | 1 ( - )   |  |
| South Dakota   | Vermillion    | 0.906%                                | 2,265        | 31 (7 ↑)  | 0.906%                                  | 22,645        | 35 (7 ↑)  | 0.906%                                   | 566,132        | 35 (7 ↑)  |  |
| Tennessee      | Savannah      | 0.915%                                | 2,288        | 30 (1 ↓)  | 0.915%                                  | 22,876        | 34 (1 ↓)  | 0.915%                                   | 571,901        | 34 (1 ↓)  |  |
| Texas          | Fort Stockton | 2.539%                                | 6,348        | 2 ( - )   | 2.539%                                  | 63,478        | 2 ( - )   | 2.539%                                   | 1,586,938      | 2 ( - )   |  |
| Utah           | Richfield     | 0.878%                                | 2,195        | 33 (17 ↓) | 0.878%                                  | 21,948        | 37 (18 ↓) | 0.878%                                   | 548,710        | 37 (17 ↓) |  |
| Vermont        | Hartford      | 1.006%                                | 2,515        | 21 (3 ↑)  | 1.006%                                  | 25,153        | 24 (4 ↑)  | 1.006%                                   | 628,835        | 26 (2 ↑)  |  |
| Virginia       | Wise          | 0.774%                                | 1,934        | 38 (1 ↓)  | 0.774%                                  | 19,343        | 42 (1 ↓)  | 0.774%                                   | 483,570        | 42 (1 ↓)  | X  |
| Washington     | Okanogan      | 1.053%                                | 2,632        | 19 (9 ↑)  | 1.053%                                  | 26,320        | 22 (10 ↑) | 1.053%                                   | 658,004        | 24 (8 ↑)  |  |
| West Virginia  | Elkins        | 1.096%                                | 2,740        | 17 (1 ↑)  | 1.096%                                  | 27,399        | 19 (4 ↑)  | 1.096%                                   | 684,980        | 22 (1 ↑)  |  |
| Wisconsin      | Rice Lake     | 1.022%                                | 2,556        | 20 (1 ↓)  | 1.049%                                  | 26,221        | 23 (1 ↓)  | 1.052%                                   | 657,292        | 25 (3 ↓)  |  |
| Wyoming        | Worland       | 0.686%                                | 1,716        | 41 (4 ↑)  | 0.686%                                  | 17,161        | 44 (1 ↑)  | 0.686%                                   | 429,018        | 44 (1 ↑)  |  |
| <b>AVERAGE</b> |               | <b>1.104%</b>                         | <b>2,759</b> |           | <b>1.165%</b>                           | <b>29,119</b> |           | <b>1.183%</b>                            | <b>739,581</b> |           | <b>N = 10</b>                                |

\$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 (2018)**

| 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         | Chicago       | X                     | X                      | X                          | X                      | X              | X                      | Yes  |
| Illinois         | Aurora        | 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                      | 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         | New York City | X                     | X                      | X                          | X                      | X              | X                      | Yes  |
| New York         | Buffalo       | X                     | X                      | X                          | X                      | X              | X                      | Yes  |
| Number of Cities |               | 21                    | 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          | Columbia       |                       |                        | 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  |
| <b>Number of Cities</b> |                | <b>21</b>             | <b>31</b>              | <b>43</b>                  | <b>47</b>              | <b>15</b>      | <b>23</b>              | <b>No = 7</b>  |

\* 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 and Nebraska, 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 non-preferential 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 \$100,000 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: Pochahontas 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:<br>\$600,000 |               |      |                    | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|-----------------|---------------------------------------|---------------|------|--------------------|--|
| State          | City            | Tax Rate                              | Tax Bill      | Rank | Change<br>From '17 |  |
| Alabama        | Birmingham      | 1.438%                                | 9,057         | 28   | 1 ↑                | X  |
| Alaska         | Anchorage       | 1.478%                                | 9,309         | 26   | 6 ↑                |  |
| Arizona        | Phoenix         | 1.356%                                | 8,540         | 32   | 2 ↑                |  |
| Arkansas       | Little Rock     | 1.400%                                | 8,820         | 29   | 2 ↑                |  |
| California     | Los Angeles     | 1.196%                                | 7,535         | 40   | -                  |  |
| Colorado       | Denver          | 0.635%                                | 4,003         | 51   | 1 ↓                | X  |
| Connecticut    | Bridgeport      | 3.221%                                | 20,291        | 3    | 1 ↑                |  |
| DC             | Washington      | 0.757%                                | 4,769         | 49   | -                  |  |
| Delaware       | Wilmington      | 1.369%                                | 8,623         | 30   | 3 ↑                |  |
| Florida        | Jacksonville    | 1.604%                                | 10,104        | 21   | 3 ↑                |  |
| Georgia        | Atlanta         | 1.500%                                | 9,452         | 25   | 1 ↑                | X  |
| Hawaii         | Honolulu        | 0.326%                                | 2,051         | 53   | -                  |  |
| Idaho          | Boise           | 1.366%                                | 8,608         | 31   | 3 ↓                |  |
| Illinois       | Aurora*         | 3.812%                                | 24,013        | 2    | 1 ↑                |  |
| Illinois       | Chicago         | 1.544%                                | 9,726         | 22   | 17 ↑               |  |
| Indiana        | Indianapolis    | 1.864%                                | 11,746        | 18   | 2 ↑                | X  |
| Iowa           | Des Moines      | 3.184%                                | 20,059        | 4    | 1 ↑                |  |
| Kansas         | Wichita         | 1.289%                                | 8,120         | 35   | 2 ↑                |  |
| Kentucky       | Louisville      | 1.107%                                | 6,975         | 42   | 1 ↑                |  |
| Louisiana      | New Orleans     | 1.450%                                | 9,132         | 27   | -                  |  |
| Maine          | Portland        | 2.012%                                | 12,679        | 14   | 3 ↑                | X  |
| Maryland       | Baltimore       | 2.306%                                | 14,530        | 13   | 1 ↑                |  |
| Massachusetts  | Boston          | 0.908%                                | 5,722         | 45   | -                  |  |
| Michigan       | Detroit         | 4.144%                                | 26,107        | 1    | 1 ↑                |  |
| Minnesota      | Minneapolis     | 1.642%                                | 10,346        | 19   | 3 ↑                |  |
| Mississippi    | Jackson         | 2.765%                                | 17,419        | 6    | 2 ↑                | X  |
| Missouri       | Kansas City     | 1.501%                                | 9,457         | 24   | 6 ↑                |  |
| Montana        | Billings        | 0.898%                                | 5,660         | 46   | -                  |  |
| Nebraska       | Omaha           | 1.975%                                | 12,445        | 17   | 1 ↑                |  |
| Nevada         | Las Vegas       | 1.104%                                | 6,953         | 43   | 2 ↓                |  |
| New Hampshire  | Manchester      | 2.012%                                | 12,674        | 15   | 1 ↑                | X  |
| New Jersey     | Newark          | 2.822%                                | 17,780        | 5    | 1 ↑                |  |
| New Mexico     | Albuquerque     | 1.321%                                | 8,323         | 33   | 2 ↑                |  |
| New York       | Buffalo*        | 2.536%                                | 15,977        | 9    | 1 ↑                |  |
| New York       | New York City** | 1.201%                                | 7,567         | 39   | 38 ↓               |  |
| <b>AVERAGE</b> |                 | <b>1.680%</b>                         | <b>10,585</b> |      |                    | <b>N = 28</b>                                |

|                |                | Land and Building Value:<br>\$600,000 |               |      |                    | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|----------------|---------------------------------------|---------------|------|--------------------|--|
| State          | City           | Tax Rate                              | Tax Bill      | Rank | Change<br>From '17 |  |
| North Carolina | Charlotte      | 0.996%                                | 6,275         | 44   | -                  | X  |
| North Dakota   | Fargo          | 1.107%                                | 6,975         | 41   | 1 ↑                |  |
| Ohio           | Columbus       | 2.471%                                | 15,566        | 10   | 2 ↑                |  |
| Oklahoma       | Oklahoma City  | 1.263%                                | 7,955         | 36   | 2 ↑                |  |
| Oregon         | Portland       | 2.455%                                | 15,469        | 11   | 2 ↑                |  |
| Pennsylvania   | Philadelphia   | 1.303%                                | 8,207         | 34   | 2 ↑                | X  |
| Rhode Island   | Providence     | 1.977%                                | 12,458        | 16   | 3 ↑                |  |
| South Carolina | Charleston     | 1.245%                                | 7,844         | 38   | 13 ↓               |  |
| South Dakota   | Sioux Falls    | 1.533%                                | 9,660         | 23   | -                  |  |
| Tennessee      | Nashville***   | 1.247%                                | 7,856         | 37   | 30 ↓               |  |
| Texas          | Houston        | 2.417%                                | 15,230        | 12   | 3 ↑                | X  |
| Utah           | Salt Lake City | 0.669%                                | 4,214         | 50   | 1 ↑                |  |
| Vermont        | Burlington     | 2.639%                                | 16,628        | 8    | 3 ↑                |  |
| Virginia       | Virginia Beach | 0.827%                                | 5,208         | 48   | -                  |  |
| Washington     | Seattle        | 0.889%                                | 5,598         | 47   | -                  |  |
| West Virginia  | Charleston     | 1.618%                                | 10,192        | 20   | 1 ↑                |  |
| Wisconsin      | Milwaukee      | 2.722%                                | 17,150        | 7    | 2 ↑                |  |
| Wyoming        | Cheyenne       | 0.623%                                | 3,924         | 52   | -                  |  |
| <b>AVERAGE</b> |                | <b>1.680%</b>                         | <b>10,585</b> |      |                    | <b>N = 28</b>                                |

\* 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 the rest of the state.

\*\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

\*\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

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

**Appendix Table 5b: Apartment Property Taxes for the Largest Fifty U.S. Cities**

|                |                  | Land and Building Value:<br>\$600,000 |               |      |                    | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|------------------|---------------------------------------|---------------|------|--------------------|--|
| State          | City             | Tax Rate                              | Tax Bill      | Rank | Change<br>From '17 |  |
| Arizona        | Mesa             | 0.933%                                | 5,879         | 44   | -                  | X  |
| Arizona        | Phoenix          | 1.356%                                | 8,540         | 25   | -                  | X  |
| Arizona        | Tucson           | 1.256%                                | 7,911         | 31   | 4 ↓                | X  |
| California     | Fresno           | 1.244%                                | 7,839         | 33   | 1 ↓                |  |
| California     | Long Beach       | 1.207%                                | 7,606         | 34   | 1 ↑                |  |
| California     | Los Angeles      | 1.196%                                | 7,535         | 36   | -                  |  |
| California     | Oakland          | 1.367%                                | 8,610         | 24   | -                  |  |
| California     | Sacramento       | 1.130%                                | 7,116         | 39   | -                  |  |
| California     | San Diego        | 1.175%                                | 7,400         | 37   | 1 ↑                |  |
| California     | San Francisco    | 1.163%                                | 7,327         | 38   | 1 ↓                |  |
| California     | San Jose         | 1.281%                                | 8,069         | 29   | 1 ↓                |  |
| Colorado       | Colorado Springs | 0.548%                                | 3,454         | 50   | -                  |  |
| Colorado       | Denver           | 0.635%                                | 4,003         | 49   | -                  |  |
| DC             | Washington       | 0.757%                                | 4,769         | 48   | -                  | X  |
| Florida        | Jacksonville     | 1.604%                                | 10,104        | 18   | 1 ↑                | X  |
| Florida        | Miami            | 1.791%                                | 11,284        | 16   | 1 ↑                | X  |
| Georgia        | Atlanta          | 1.500%                                | 9,452         | 22   | 2 ↓                |  |
| Illinois       | Chicago          | 1.544%                                | 9,726         | 19   | 15 ↑               | X  |
| Indiana        | Indianapolis     | 1.864%                                | 11,746        | 15   | 1 ↑                | X  |
| Kansas         | Wichita          | 1.289%                                | 8,120         | 28   | 2 ↑                |  |
| Kentucky       | Louisville       | 1.107%                                | 6,975         | 40   | 1 ↑                | X  |
| Louisiana      | New Orleans      | 1.450%                                | 9,132         | 23   | 1 ↓                |  |
| Maryland       | Baltimore        | 2.306%                                | 14,530        | 12   | -                  |  |
| Massachusetts  | Boston           | 0.908%                                | 5,722         | 45   | -                  | X  |
| Michigan       | Detroit          | 4.144%                                | 26,107        | 1    | 1 ↑                |  |
| Minnesota      | Minneapolis      | 1.642%                                | 10,346        | 17   | 1 ↑                | X  |
| Missouri       | Kansas City      | 1.501%                                | 9,457         | 21   | 2 ↑                | X  |
| Nebraska       | Omaha            | 1.975%                                | 12,445        | 14   | 1 ↑                | X  |
| Nevada         | Las Vegas        | 1.104%                                | 6,953         | 41   | 1 ↓                |  |
| New Mexico     | Albuquerque      | 1.321%                                | 8,323         | 26   | -                  |  |
| New York       | New York City*   | 1.201%                                | 7,567         | 35   | 34 ↓               | X  |
| North Carolina | Charlotte        | 0.996%                                | 6,275         | 42   | -                  |  |
| North Carolina | Raleigh          | 0.978%                                | 6,162         | 43   | -                  |  |
| Ohio           | Columbus         | 2.471%                                | 15,566        | 9    | 1 ↑                | X  |
| Oklahoma       | Oklahoma City    | 1.263%                                | 7,955         | 30   | 1 ↑                |  |
| <b>AVERAGE</b> |                  | <b>1.634%</b>                         | <b>10,297</b> |      |                    | <b>N = 23</b>                                |

|                |                | Land and Building Value:<br>\$600,000 |               |      |                    | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|----------------|---------------------------------------|---------------|------|--------------------|--|
| State          | City           | Tax Rate                              | Tax Bill      | Rank | Change<br>From '17 |  |
| Oklahoma       | Tulsa          | 1.504%                                | 9,476         | 20   | 1 ↑                | X  |
| Oregon         | Portland       | 2.455%                                | 15,469        | 10   | 1 ↑                |  |
| Pennsylvania   | Philadelphia   | 1.303%                                | 8,207         | 27   | 2 ↑                | X  |
| Tennessee      | Memphis        | 2.864%                                | 18,042        | 4    | -                  | X  |
| Tennessee      | Nashville      | 1.247%                                | 7,856         | 32   | 1 ↑                | X  |
| Texas          | Arlington      | 2.724%                                | 17,164        | 6    | 2 ↑                | X  |
| Texas          | Austin         | 2.231%                                | 14,054        | 13   | 1 ↑                | X  |
| Texas          | Dallas         | 2.691%                                | 16,955        | 8    | 1 ↑                |  |
| Texas          | El Paso        | 2.937%                                | 18,503        | 2    | 3 ↑                |  |
| Texas          | Fort Worth     | 2.830%                                | 17,831        | 5    | 2 ↓                | X  |
| Texas          | Houston        | 2.417%                                | 15,230        | 11   | 2 ↑                |  |
| Texas          | San Antonio    | 2.874%                                | 18,104        | 3    | 3 ↑                | X  |
| Virginia       | Virginia Beach | 0.827%                                | 5,208         | 47   | -                  |  |
| Washington     | Seattle        | 0.889%                                | 5,598         | 46   | -                  |  |
| Wisconsin      | Milwaukee      | 2.722%                                | 17,150        | 7    | -                  |  |
| <b>AVERAGE</b> |                | <b>1.634%</b>                         | <b>10,297</b> |      |                    | <b>N = 23</b>                                |

\* Estimates of effective tax rates in New York City declined sharply due to new data on sales ratios, not a change in tax policy. See the box on page 23 for details.

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



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

|                |                   | Land and Building Value:<br>\$600,000 |               |      |                    | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|-------------------|---------------------------------------|---------------|------|--------------------|--|
| State          | Municipality      | Tax Rate                              | Tax Bill      | Rank | Change<br>From '17 |  |
| Alabama        | Monroeville       | 0.819%                                | 5,161         | 43   | -                  |  |
| Alaska         | Ketchikan         | 1.054%                                | 6,641         | 36   | 1 ↓                | X  |
| Arizona        | Safford           | 0.910%                                | 5,731         | 40   | 1 ↑                | X  |
| Arkansas       | Pocahontas        | 0.760%                                | 4,789         | 44   | 1 ↑                | X  |
| California     | Yreka             | 1.056%                                | 6,652         | 34   | -                  |  |
| Colorado       | Walsenburg        | 0.643%                                | 4,050         | 48   | 1 ↓                |  |
| Connecticut    | Litchfield        | 2.012%                                | 12,676        | 20   | 2 ↓                | X  |
| Delaware       | Georgetown        | 0.556%                                | 3,503         | 50   | 1 ↓                | X  |
| Florida        | Moore Haven       | 2.133%                                | 13,436        | 15   | 1 ↓                | X  |
| Georgia        | Fitzgerald        | 1.709%                                | 10,769        | 25   | 3 ↓                |  |
| Hawaii         | Kauai             | 0.570%                                | 3,594         | 49   | 1 ↑                | X  |
| Idaho          | St. Anthony       | 1.374%                                | 8,658         | 26   | 1 ↓                | X  |
| Illinois       | Galena            | 2.384%                                | 15,021        | 10   | -                  | X  |
| Indiana        | North Vernon      | 1.773%                                | 11,172        | 23   | 3 ↓                | X  |
| Iowa           | Hampton           | 2.657%                                | 16,742        | 5    | 3 ↓                | X  |
| Kansas         | Iola              | 2.113%                                | 13,311        | 16   | 3 ↓                |  |
| Kentucky       | Morehead          | 1.028%                                | 6,478         | 38   | -                  | X  |
| Louisiana      | Natchitoches      | 0.905%                                | 5,704         | 41   | 1 ↑                |  |
| Maine          | Rockland          | 2.308%                                | 14,540        | 11   | 1 ↑                |  |
| Maryland       | Denton            | 1.937%                                | 12,201        | 21   | 2 ↑                |  |
| Massachusetts  | Adams             | 2.073%                                | 13,059        | 18   | 1 ↓                | X  |
| Michigan       | Manistique        | 2.988%                                | 18,827        | 2    | 1 ↑                |  |
| Minnesota      | Glencoe           | 1.835%                                | 11,560        | 22   | 4 ↑                | X  |
| Mississippi    | Philadelphia      | 2.104%                                | 13,256        | 17   | 1 ↓                |  |
| Missouri       | Boonville         | 1.054%                                | 6,641         | 35   | 3 ↓                | X  |
| Montana        | Glasgow           | 1.039%                                | 6,543         | 37   | -                  | X  |
| Nebraska       | Sidney            | 2.148%                                | 13,534        | 14   | 1 ↑                | X  |
| Nevada         | Fallon            | 1.278%                                | 8,048         | 28   | 1 ↓                |  |
| New Hampshire  | Lancaster         | 2.780%                                | 17,517        | 4    | 1 ↑                | X  |
| New Jersey     | Maurice River Twp | 2.640%                                | 16,631        | 6    | 2 ↑                | X  |
| New Mexico     | Santa Rosa        | 0.944%                                | 5,950         | 39   | 1 ↑                |  |
| New York       | Warsaw            | 3.340%                                | 21,040        | 1    | -                  | X  |
| North Carolina | Edenton           | 1.135%                                | 7,152         | 32   | 1 ↓                |  |
| North Dakota   | Devils Lake       | 1.270%                                | 8,000         | 29   | 1 ↓                | X  |
| Ohio           | Bryan             | 1.761%                                | 11,092        | 24   | -                  | X  |
| <b>AVERAGE</b> |                   | <b>1.634%</b>                         | <b>10,293</b> |      |                    | <b>N = 29</b>                                |

|                |               | Land and Building Value:<br>\$600,000 |               |      |                    | Lower Tax<br>Rate on<br>Personal<br>Property |
|----------------|---------------|---------------------------------------|---------------|------|--------------------|--|
| State          | Municipality  | Tax Rate                              | Tax Bill      | Rank | Change<br>From '17 |  |
| Oklahoma       | Mangum        | 0.881%                                | 5,549         | 42   | 3 ↓                | X  |
| Oregon         | Tillamook     | 1.162%                                | 7,321         | 30   | -                  |  |
| Pennsylvania   | Ridgway       | 2.846%                                | 17,928        | 3    | 1 ↑                |  |
| Rhode Island   | Hopkinton     | 2.032%                                | 12,801        | 19   | -                  |  |
| South Carolina | Mullins       | 2.585%                                | 16,287        | 7    | -                  |  |
| South Dakota   | Vermillion    | 2.157%                                | 13,587        | 13   | 8 ↑                | X  |
| Tennessee      | Savannah      | 1.064%                                | 6,701         | 33   | 3 ↑                | X  |
| Texas          | Fort Stockton | 2.539%                                | 15,996        | 8    | 2 ↓                | X  |
| Utah           | Richfield     | 0.706%                                | 4,449         | 46   | 2 ↓                |  |
| Vermont        | Hartford      | 2.484%                                | 15,650        | 9    | 2 ↑                | X  |
| Virginia       | Wise          | 0.646%                                | 4,068         | 47   | 1 ↑                | X  |
| Washington     | Okanogan      | 1.347%                                | 8,486         | 27   | 2 ↑                |  |
| West Virginia  | Elkins        | 1.150%                                | 7,246         | 31   | 2 ↑                |  |
| Wisconsin      | Rice Lake     | 2.275%                                | 14,331        | 12   | 3 ↓                |  |
| Wyoming        | Worland       | 0.723%                                | 4,558         | 45   | 1 ↑                |  |
| <b>AVERAGE</b> |               | <b>1.634%</b>                         | <b>10,293</b> |      |                    | <b>N = 29</b>                                |

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 |                  |                      |                   |              |
|-----------------|---------------|----------------------|-------|----------------|--|------------------|----------------------|-------------------|--------------|
| City            | State         | Rank                 | Ratio | Chg. from 2017 | Assessment Ratio                               | Nominal Tax Rate | Exemptions & Credits | Assessment Limits | Sales Ratio* |
| Birmingham      | Alabama       | 10                   | 2.183 | 0.003          | X  |                  | X                    |                   |              |
| Anchorage       | Alaska        | 37                   | 1.072 | -0.001         |  |                  | X                    |                   |              |
| Phoenix         | Arizona       | 15                   | 2.076 | 0.079          | X  | X                |                      |                   | +            |
| Little Rock     | Arkansas      | 28                   | 1.334 | 0.074          |  |                  | X                    | X                 | +            |
| Los Angeles     | California    | 42                   | 1.011 | -0.001         |  |                  | X                    |                   |              |
| Denver          | Colorado      | 3                    | 3.885 | 0.386          | X  |                  |                      |                   | -            |
| Bridgeport      | Connecticut   | 51                   | 0.985 | -0.015         |  |                  |                      |                   | -            |
| Washington      | DC            | 11                   | 2.127 | -0.040         |  | X                | X                    |                   | -            |
| Wilmington      | Delaware      | 30                   | 1.190 | 0.312          |  |                  |                      |                   | +            |
| Jacksonville    | Florida       | 13                   | 2.103 | 0.741          |  |                  | X                    | X                 |              |
| Atlanta         | Georgia       | 25                   | 1.358 | -0.079         |  |                  | X                    |                   |              |
| Honolulu        | Hawaii        | 2                    | 3.973 | 0.413          |  | X                | X                    |                   | -            |
| Boise           | Idaho         | 21                   | 1.684 | -0.179         |  |                  | X                    |                   | -            |
| Aurora          | Illinois      | 34                   | 1.095 | -0.001         |  |                  | X                    |                   |              |
| Chicago         | Illinois      | 5                    | 2.943 | 0.177          | X  |                  | X                    | X                 |              |
| Indianapolis    | Indiana       | 7                    | 2.425 | 0.072          |  |                  | X                    |                   | -            |
| Des Moines      | Iowa          | 22                   | 1.628 | 0.037          | X  |                  | -                    |                   | +            |
| Wichita         | Kansas        | 8                    | 2.256 | 0.052          | X  |                  | X                    |                   | +            |
| Louisville      | Kentucky      | 41                   | 1.012 | 0.052          |  |                  |                      |                   | +            |
| New Orleans     | Louisiana     | 14                   | 2.088 | 0.051          | X  |                  | X                    |                   | +            |
| Portland        | Maine         | 36                   | 1.074 | -0.003         |  |                  | X                    |                   |              |
| Baltimore       | Maryland      | 50                   | 0.991 | -0.079         |  |                  |                      |                   | -            |
| Boston          | Massachusetts | 1                    | 4.425 | 0.188          |  | X                | X                    |                   | -            |
| Detroit         | Michigan      | 32                   | 1.173 | -0.020         |  | X                |                      |                   | -            |
| Minneapolis     | Minnesota     | 19                   | 1.794 | -0.143         | X  | X                | X                    |                   | -            |
| Jackson         | Mississippi   | 16                   | 1.953 | 0.126          | X  |                  | X                    |                   | +            |
| Kansas City     | Missouri      | 18                   | 1.836 | -0.011         | X  | X                |                      |                   | -            |
| Billings        | Montana       | 26                   | 1.345 | 0.016          | X  |                  |                      |                   | -            |
| Omaha           | Nebraska      | 43                   | 1.000 | -0.022         |  |                  |                      |                   |              |
| Las Vegas       | Nevada        | 49                   | 0.997 | 0.000          |  |                  |                      |                   | -            |
| Manchester      | New Hampshire | 45                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Newark          | New Jersey    | 43                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Albuquerque     | New Mexico    | 31                   | 1.189 | 0.027          |  | X                | X                    | X                 |              |
| Buffalo         | New York      | 23                   | 1.622 | 0.159          |  | X                | X                    |                   |              |
| New York City** | New York      | 6                    | 2.763 | -1.204         | X  | -                | X                    | X                 | -            |

|                      |                | Classification Ratio |              |                | Causes of Preferential Treatment of Homesteads |                  |                      |                   |                      |
|----------------------|----------------|----------------------|--------------|----------------|--|------------------|----------------------|-------------------|----------------------|
| City                 | State          | Rank                 | Ratio        | Chg. from 2017 | Assessment Ratio                               | Nominal Tax Rate | Exemptions & Credits | Assessment Limits | Sales Ratio*         |
| Charlotte            | North Carolina | 45                   | 1.000        | 0.000          | X  | X                | X                    |                   | -                    |
| Fargo                | North Dakota   | 35                   | 1.087        | 0.000          |  |                  |                      |                   |                      |
| Columbus             | Ohio           | 29                   | 1.320        | 0.036          |  |                  |                      |                   |                      |
| Oklahoma City        | Oklahoma       | 39                   | 1.061        | -0.002         |  |                  |                      |                   |                      |
| Portland             | Oregon         | 45                   | 1.000        | 0.000          |  |                  |                      |                   |                      |
| Philadelphia         | Pennsylvania   | 12                   | 2.105        | -0.037         | X  | X                | X                    |                   | -                    |
| Providence           | Rhode Island   | 17                   | 1.952        | 0.000          |  |                  |                      |                   |                      |
| Charleston           | South Carolina | 4                    | 3.119        | 0.018          |  |                  |                      |                   |                      |
| Sioux Falls          | South Dakota   | 40                   | 1.051        | -0.075         |  |                  |                      |                   |                      |
| Nashville***         | Tennessee      | 24                   | 1.600        | 0.000          |  |                  |                      |                   |                      |
| Houston              | Texas          | 27                   | 1.342        | 0.055          | X  | -                | X                    |                   | -                    |
| Salt Lake City       | Utah           | 20                   | 1.747        | -0.006         |  |                  |                      |                   |                      |
| Burlington           | Vermont        | 33                   | 1.156        | 0.050          |  |                  |                      |                   |                      |
| Virginia Beach       | Virginia       | 53                   | 0.915        | -0.007         |  |                  |                      |                   |                      |
| Seattle              | Washington     | 45                   | 1.000        | 0.000          |  |                  |                      |                   |                      |
| Charleston           | West Virginia  | 9                    | 2.222        | 0.113          |  | X                | X                    |                   | +                    |
| Milwaukee            | Wisconsin      | 38                   | 1.062        | -0.009         |  |                  |                      |                   |                      |
| Cheyenne             | Wyoming        | 52                   | 0.954        | 0.037          |  |                  |                      |                   |                      |
| <b>TOTAL/AVERAGE</b> |                |                      | <b>1.666</b> | <b>0.025</b>   | <b>16</b>                                      | <b>14</b>        | <b>29</b>            | <b>5</b>          | <b>9 (+), 22 (-)</b> |

\*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 "-".

\*\* Estimates of the classification ratio in New York City declined sharply due to new data on sales ratios for commercial properties, not a change in tax policy. See the box on page 23 for details.

\*\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

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

|                 |               | Classification Ratio |       |                | Causes of Preferential Treatment of Homesteads |                  |                      |                   |              |
|-----------------|---------------|----------------------|-------|----------------|--|------------------|----------------------|-------------------|--------------|
| City            | State         | Rank                 | Ratio | Chg. from 2017 | Assessment Ratio                               | Nominal Tax Rate | Exemptions & Credits | Assessment Limits | Sales Ratio* |
| Birmingham      | Alabama       | 4                    | 2.183 | 0.003          | X  |                  | X                    |                   |              |
| Anchorage       | Alaska        | 29                   | 1.072 | -0.001         |  |                  | X                    |                   |              |
| Phoenix         | Arizona       | 23                   | 1.119 | -0.003         |  | X                |                      |                   |              |
| Little Rock     | Arkansas      | 16                   | 1.334 | 0.074          |  |                  | X                    | X                 | +            |
| Los Angeles     | California    | 36                   | 1.011 | -0.001         |  |                  | X                    |                   |              |
| Denver          | Colorado      | 48                   | 0.985 | -0.053         |  |                  |                      |                   | -            |
| Bridgeport      | Connecticut   | 52                   | 0.928 | -0.072         |  |                  |                      |                   | -            |
| Washington      | DC            | 25                   | 1.096 | -0.021         |  |                  | X                    |                   | -            |
| Wilmington      | Delaware      | 41                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Jacksonville    | Florida       | 6                    | 2.103 | 0.741          |  |                  | X                    | X                 |              |
| Atlanta         | Georgia       | 14                   | 1.358 | -0.079         |  |                  | X                    |                   |              |
| Honolulu        | Hawaii        | 24                   | 1.110 | -0.008         |  |                  | X                    |                   | -            |
| Boise           | Idaho         | 9                    | 1.684 | -0.179         |  |                  | X                    |                   | -            |
| Aurora          | Illinois      | 26                   | 1.095 | -0.001         |  |                  | X                    |                   |              |
| Chicago         | Illinois      | 22                   | 1.119 | 0.324          | -  |                  | X                    | X                 |              |
| Indianapolis    | Indiana       | 3                    | 2.425 | 0.072          |  |                  | X                    |                   | -            |
| Des Moines      | Iowa          | 12                   | 1.452 | -0.097         | X  |                  | X                    |                   | -            |
| Wichita         | Kansas        | 34                   | 1.022 | -0.002         |  |                  | X                    |                   |              |
| Louisville      | Kentucky      | 35                   | 1.012 | 0.052          |  |                  |                      |                   | +            |
| New Orleans     | Louisiana     | 13                   | 1.447 | -0.013         |  |                  | X                    |                   |              |
| Portland        | Maine         | 28                   | 1.074 | -0.003         |  |                  | X                    |                   |              |
| Baltimore       | Maryland      | 47                   | 0.991 | -0.079         |  |                  |                      |                   | -            |
| Boston          | Massachusetts | 7                    | 1.970 | 0.016          |  |                  | X                    |                   |              |
| Detroit         | Michigan      | 19                   | 1.261 | 0.005          |  | X                |                      |                   |              |
| Minneapolis     | Minnesota     | 18                   | 1.296 | -0.014         | X  |                  | X                    |                   | -            |
| Jackson         | Mississippi   | 8                    | 1.953 | 0.126          | X  |                  | X                    |                   | +            |
| Kansas City     | Missouri      | 41                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Billings        | Montana       | 45                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Omaha           | Nebraska      | 37                   | 1.000 | -0.022         |  |                  |                      |                   |              |
| Las Vegas       | Nevada        | 49                   | 0.966 | 0.000          |  |                  |                      |                   | -            |
| Manchester      | New Hampshire | 44                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Newark          | New Jersey    | 37                   | 1.000 | 0.000          |  |                  |                      |                   |              |
| Albuquerque     | New Mexico    | 32                   | 1.060 | 0.026          |  |                  | X                    | X                 |              |
| Buffalo         | New York      | 10                   | 1.622 | 0.159          |  | X                | X                    |                   |              |
| New York City** | New York      | 2                    | 2.550 | -2.250         | X  | -                | X                    | X                 | -            |

|                      |                | Classification Ratio |              |                | Causes of Preferential Treatment of Homesteads |                  |                      |                   |                      |
|----------------------|----------------|----------------------|--------------|----------------|--|------------------|----------------------|-------------------|----------------------|
| City                 | State          | Rank                 | Ratio        | Chg. from 2017 | Assessment Ratio                               | Nominal Tax Rate | Exemptions & Credits | Assessment Limits | Sales Ratio*         |
| Charlotte            | North Carolina | 45                   | 1.000        | 0.000          |  |                  |                      |                   |                      |
| Fargo                | North Dakota   | 27                   | 1.087        | 0.000          | X  |                  |                      |                   | -                    |
| Columbus             | Ohio           | 17                   | 1.320        | 0.036          |  | X                | X                    |                   | -                    |
| Oklahoma City        | Oklahoma       | 30                   | 1.061        | 0.000          |  |                  | X                    |                   |                      |
| Portland             | Oregon         | 37                   | 1.000        | 0.000          |  |                  |                      |                   |                      |
| Philadelphia         | Pennsylvania   | 20                   | 1.224        | -0.021         |  |                  | X                    |                   |                      |
| Providence           | Rhode Island   | 37                   | 1.000        | 0.000          |  |                  |                      |                   |                      |
| Charleston           | South Carolina | 1                    | 3.119        | 0.018          | X  |                  | X                    |                   |                      |
| Sioux Falls          | South Dakota   | 33                   | 1.051        | -0.075         |  | X                |                      |                   | -                    |
| Nashville***         | Tennessee      | 11                   | 1.600        | 0.000          | X  |                  |                      |                   |                      |
| Houston              | Texas          | 15                   | 1.357        | 0.053          |  |                  | X                    |                   | -                    |
| Salt Lake City       | Utah           | 51                   | 0.961        | -0.003         |  |                  |                      |                   | -                    |
| Burlington           | Vermont        | 21                   | 1.185        | 0.071          | X  | -                | X                    |                   | -                    |
| Virginia Beach       | Virginia       | 53                   | 0.871        | -0.004         |  |                  |                      |                   | -                    |
| Seattle              | Washington     | 41                   | 1.000        | 0.000          |  |                  |                      |                   |                      |
| Charleston           | West Virginia  | 5                    | 2.148        | -0.106         |  | X                |                      |                   | +                    |
| Milwaukee            | Wisconsin      | 31                   | 1.060        | -0.009         |  |                  | X                    |                   |                      |
| Cheyenne             | Wyoming        | 50                   | 0.963        | 0.043          |  |                  |                      |                   | -                    |
| <b>TOTAL/AVERAGE</b> |                |                      | <b>1.308</b> | <b>-0.024</b>  | <b>9</b>                                       | <b>6</b>         | <b>29</b>            | <b>5</b>          | <b>4 (+), 19 (-)</b> |

\* 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 "-".

\*\* Estimates of the classification ratio in New York City declined sharply due to new data on sales ratios for apartment buildings, not a change in tax policy. See the box on page 23 for details.

\*\*\* Nashville is now the largest city in the Tennessee and replaces Memphis.

### Appendix Table 7: Impact of Assessment Limits

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

| 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   | % Difference |
| Arizona        | Mesa           | 0.831                          | 0.665                                   | 0.166        | 1,867                          | 1,494                                   | 373          | 20.0%        |
| Arizona        | Phoenix        | 1.272                          | 0.936                                   | 0.336        | 2,939                          | 2,162                                   | 777          | 26.4%        |
| Arizona        | Tucson         | 1.163                          | 1.083                                   | 0.080        | 1,749                          | 1,629                                   | 120          | 6.9%         |
| Arkansas       | Little Rock    | 1.123                          | 1.050                                   | 0.073        | 1,908                          | 1,783                                   | 125          | 6.6%         |
| California     | Fresno         | 1.207                          | 0.759                                   | 0.448        | 2,831                          | 1,780                                   | 1,050        | 37.1%        |
| California     | Long Beach     | 1.192                          | 0.777                                   | 0.415        | 6,648                          | 4,335                                   | 2,313        | 34.8%        |
| California     | Los Angeles    | 1.183                          | 0.694                                   | 0.489        | 7,655                          | 4,490                                   | 3,165        | 41.3%        |
| California     | Oakland        | 1.353                          | 0.706                                   | 0.647        | 9,289                          | 4,845                                   | 4,444        | 47.8%        |
| California     | Sacramento     | 1.106                          | 0.594                                   | 0.512        | 3,715                          | 1,995                                   | 1,720        | 46.3%        |
| California     | San Diego      | 1.161                          | 0.784                                   | 0.377        | 6,969                          | 4,703                                   | 2,266        | 32.5%        |
| California     | San Francisco  | 1.156                          | 0.620                                   | 0.536        | 12,759                         | 6,849                                   | 5,911        | 46.3%        |
| California     | San Jose       | 1.270                          | 0.730                                   | 0.540        | 10,857                         | 6,242                                   | 4,615        | 42.5%        |
| Florida        | Jacksonville   | 1.266                          | 0.794                                   | 0.472        | 2,241                          | 1,405                                   | 836          | 37.3%        |
| Florida        | Miami          | 1.602                          | 0.867                                   | 0.735        | 5,160                          | 2,792                                   | 2,369        | 45.9%        |
| Illinois       | Chicago        | 1.628                          | 1.448                                   | 0.180        | 4,165                          | 3,706                                   | 459          | 11.0%        |
| Michigan       | Detroit        | 3.277                          | 2.361                                   | 0.916        | 1,645                          | 1,185                                   | 460          | 28.0%        |
| New Mexico     | Albuquerque    | 1.267                          | 1.235                                   | 0.032        | 2,494                          | 2,432                                   | 62           | 2.5%         |
| New York       | New York City* | 1.160                          | 0.495                                   | 0.665        | 7,063                          | 3,015                                   | 4,049        | 57.3%        |
| Oklahoma       | Oklahoma City  | 1.176                          | 1.126                                   | 0.050        | 1,861                          | 1,782                                   | 79           | 4.2%         |
| Oklahoma       | Tulsa          | 1.413                          | 1.354                                   | 0.059        | 1,973                          | 1,891                                   | 82           | 4.1%         |
| Oregon         | Portland*      | 2.455                          | 1.656                                   | 0.799        | 10,497                         | 7,077                                   | 3,419        | 32.6%        |
| South Carolina | Charleston     | 0.372                          | 0.268                                   | 0.104        | 1,283                          | 924                                     | 359          | 28.0%        |
| Texas          | Arlington      | 2.137                          | 2.062                                   | 0.075        | 3,587                          | 3,461                                   | 126          | 3.5%         |
| Texas          | Austin         | 1.884                          | 1.884                                   | 0.000        | 6,267                          | 6,267                                   | 0            | 0.0%         |
| Texas          | Dallas         | 2.155                          | 2.155                                   | 0.000        | 4,108                          | 4,108                                   | 0            | 0.0%         |
| Texas          | El Paso        | 2.640                          | 2.640                                   | 0.000        | 3,372                          | 3,372                                   | 0            | 0.0%         |
| Texas          | Fort Worth     | 2.237                          | 2.158                                   | 0.079        | 3,789                          | 3,655                                   | 135          | 3.6%         |
| Texas          | Houston        | 1.778                          | 1.778                                   | 0.000        | 3,086                          | 3,086                                   | 0            | 0.0%         |
| Texas          | San Antonio    | 2.438                          | 2.438                                   | 0.000        | 3,613                          | 3,613                                   | 0            | 0.0%         |
| <b>AVERAGE</b> |                | <b>1.548</b>                   | <b>1.245</b>                            | <b>0.303</b> | <b>4,669</b>                   | <b>3,313</b>                            | <b>1,356</b> | <b>29.0%</b> |

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 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 48 on page 50 for details on the methodology for these two cities).