

# **Analysis of a Local Sales Tax in the City of Milwaukee**

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Prepared for the Budget and Management Division  
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## Foreword

This report on the economic feasibility of adopting a local sales tax in Milwaukee is the product of a collaboration between the Robert M. La Follette School of Public Affairs at the University of Wisconsin–Madison and the Budget Office of the City of Milwaukee. Our objective is to provide graduate students at La Follette the opportunity to improve their policy analysis skills while contributing to the capacity of the City’s government to effectively provide public services to the citizens of Milwaukee.

The La Follette School offers a two-year graduate program leading to a master’s degree in public affairs. Students study policy analysis and public management, and pursue a concentration in a public policy area of their choice. They spend the first year and a half taking courses that provide them with the tools needed to analyze public policies. The authors of this report are all enrolled in Public Affairs 869, Workshop in Program and Policy Analysis, Domestic Issues. Although acquiring a set of policy analysis skills is important, there is no substitute for doing policy analysis as a means of learning policy analysis. Public Affairs 869 provides graduate students that opportunity.

The students were assigned to one of four project teams. One team worked on this project for the City of Milwaukee, while the other teams worked on projects for the Joint Legislative Council, the Wisconsin Department of Revenue, and the City of Madison’s Department of Planning and Development. The topic of this report—an analysis of the feasibility of a city sales tax—was chosen by Mark Nicolini, the budget director of the City of Milwaukee, in consultation with his staff.

Milwaukee, like many large cities, is facing a fiscal environment where its major sources of revenue are growing very slowly at the same time as the costs of providing existing public services are growing quite rapidly for reasons that are largely outside of control of the City. These trends are creating a fiscal gap. In recent years, the City has tried to deal with this deficit by taking steps to increase the efficiency of service delivery. Arguably, the City is close to the point where the fiscal gap can only be closed by cutting public services or by finding new sources of revenue. The purpose of this report is to explore the economic feasibility of implementing a city sales tax. The authors first investigate the use of a local sales tax in other large American cities, and then explore the likely impact of a city sales tax on business activity within the City. They also assess the burden a local sales tax would place on low-income Milwaukee residents and estimate the amount of money that a sales tax would raise at the rates of 0.5 percent, 0.75 percent, and 1 percent.

This report does not provide the final word on the complex issues the authors address. The graduate student authors are, after all, relatively inexperienced policy analysts, and the topic they have addressed is large and complex. Nevertheless, much has been accomplished, and I trust that the students have learned a great deal, and that Mayor Barrett and the staff of the City’s Budget and Management Division will profit from their evaluation of a city sales tax.

This report would not have been possible without the support and encouragement of Budget Director Mark Nicolini. Eric Pearson, who served as the project coordinator for the Budget and Management Division, solicited ideas for policy analysis projects from the Budget Office staff and coordinated the efforts of the staff in support of the project. Budget Office staff members Dennis Yaccarino and Craig Kammholz served as project advisors and were very generous with their time and advice. A number of other people also contributed to the success of the report. Their names are listed in the acknowledgments.

The report also benefited greatly from the active support of the staff of the La Follette School. Terry Shelton, the La Follette outreach director, along with Kari Reynolds, Elizabeth Hassemer, and Gregory Lynch, contributed logistic and practical support for the project. Karen FASTER, La Follette publications director, edited the report and shouldered the task of producing the final bound document.

I am very grateful to Wilbur R. Voigt whose generous gift to the La Follette School supports the La Follette School policy analysis workshop projects. With his support, we are able to finance the production of the final reports, plus other expenses associated with the projects.

By involving La Follette students in one of the tough issues faced by city government in Milwaukee, I hope the students not only have learned a great deal about doing policy analysis but have gained an appreciation of the complexities and challenges facing city governments in Wisconsin and elsewhere. I also hope that this report will contribute to the work of the Division of Budget and Management and to the ongoing public discussions of the best way for the City of Milwaukee to finance the public services desired by its citizens.

Andrew Reschovsky  
May 4, 2005

## **Acknowledgments**

The authors would like to thank all those who gave time and energy to help us complete this analysis. We would like to thank Mark Nicolini, Dennis Yaccarino, and Craig Kammholz of the City of Milwaukee Budget Office for the challenging and rewarding opportunity to work on this project and the time they dedicated to the effort. We would also like to thank Blair Kruger, Rebecca Boldt, and Josh Dukelow of the Wisconsin Department of Revenue for the invaluable information they provided to us, which assisted us in completing our analysis. Special thanks to Karen FASTER at the La Follette School of Public Affairs for her patience and editing expertise. Finally, a sincere thank you to our professor, Andrew Reschovsky of the University of Wisconsin-Madison Robert M. La Follette School of Public Affairs, for his invaluable guidance and suggestions.

## **Executive Summary**

The City of Milwaukee, like other large cities in the nation, faces the challenge of maintaining current levels of public services under increasing fiscal constraints. As Wisconsin's largest municipality, Milwaukee is home to nearly 600,000 residents and is an important center for commerce and tourism. Residents and non-residents depend on public safety, health, and other services to live and do business in the City. The costs of providing these services are rising, and current revenue sources are not sufficient to cover these increasing costs. To avoid substantial reductions in public services, the City of Milwaukee must find new sources of revenue. In this report, we analyze whether a city sales tax would be a reasonable public policy for the City of Milwaukee.

Based on our analysis, we project a growing fiscal gap between Milwaukee's revenues and expenditures that will reach \$67 million (in 2004 dollars) by 2015. To address this, we begin our analysis by comparing the City of Milwaukee to U.S. cities with populations greater than 250,000 that generate revenue through local sales taxes. Our findings provide us with a basis for comparison and reveal a range of reasonable rates. We find that two-thirds of these cities use a local sales tax, and the most common sales tax rate is 1 percent. For the City of Milwaukee, we estimate that a sales tax rate of 0.75 percent would generate sufficient revenue to close the City's fiscal gap.

Our analysis also considers economic competitiveness and tax burden issues of levying a sales tax. In our discussion of economic competitiveness, we find that levying a 0.75 percent sales tax would decrease total sales in the City by 0.59 percent. Based on the large amount of business and consumer expenditures made by non-residents of the City, we estimate that approximately 42 percent of a city sales tax would be exported to non-residents, compared with 25 percent of the property tax. We also find that, overall, the sales tax is no more regressive than the property tax.

Based on our analysis, we conclude that a city sales tax would be a feasible policy option for the City of Milwaukee and would generate the revenue needed to meet the rising costs of providing the current level of public services at least through 2015.

## Fiscal Outlook for the City of Milwaukee

The City of Milwaukee, like other cities in the nation, faces the challenge of maintaining current levels of public services under increasing fiscal constraints. In Milwaukee, the costs of providing public services are increasing at a faster rate than available revenues. The City's two main sources of revenue—state aid and property taxes—are not expected to grow at a rate that will cover increasing costs. Since 1999, state aid has been declining in *real* (inflation-adjusted) terms, and given the tight state budget situation, increases in state aid are not expected. The goal of the City to maintain a competitive property tax rate and pressure from the State to limit increases in property tax levies suggest that revenue from the property tax will grow very slowly. Thus, the City of Milwaukee must decide how to provide necessary levels of public services without depending on increased revenues from state aid or the property tax.

With limited growth in current revenue and the assumption of continued increases in the costs of providing existing city services, Milwaukee faces a growing “fiscal gap.” In other words, the expected growth rates of existing sources of revenue are consistently lower than projected increases in expenditures necessary to maintain current levels of public services. To close the fiscal gap, the City of Milwaukee has two options. It can cut services, or it can search for alternative sources of revenue. This report explores the economic feasibility of enacting a city sales tax as an alternate source of revenue. The adoption of any new source of revenue by a municipal government in Wisconsin requires explicit authorization through state statute. This report provides an initial exploration of the impacts of a city sales tax and its potential as a source of revenue to address the City's projected fiscal gap.

Our analysis is divided into six sections. We start by examining the ability of current revenue sources to meet fiscal needs and by estimating the City's fiscal gap for the next decade. Our examination of the feasibility of a local sales tax begins with a survey of the use of city sales taxes by large cities across the country. We then turn to a discussion of the effects of a local sales tax on economic activity in Milwaukee. The next section investigates the incidence of a local sales tax. We then estimate sales tax revenue from a local sales tax at alternative rates, and calculate the tax rate that would be needed to close the fiscal gap from 2006 to 2015. In the final section of the report, we summarize our recommendations.

## Current and Projected Revenues for the City of Milwaukee

The City of Milwaukee relies on several major sources of revenue to provide basic services. These revenue sources include:

- State aid (shared revenue)<sup>1</sup>
- Residential and commercial property taxes
- User fees and service charges

State aid, primarily through the State's shared revenue program, is the City of Milwaukee's largest revenue source. An examination of local revenue data from 1995 to 2005, shows that state shared revenue receipts, adjusted for inflation, account for an average of 32.7 percent of the City's operating budget. In 1999, shared revenue receipts peaked at 35.7 percent of the City's operating budget. Since 1999, shared revenue receipts as a proportion of the City budget steadily declined to 30 percent as of 2004 (City of Milwaukee, Department of Administration, Budget and Management Division 2004b). Shared revenue receipts in 2005 are almost identical to 2004 receipts, representing a \$19.6 million decline in real dollars from 2003 (City of Milwaukee, Department of Administration, Budget and Management Division 2004a). Examining these trends, we assume that shared revenue, adjusted for inflation, will decline annually at a rate of 2 percent through 2015.

Property taxes are the second largest revenue source for the City of Milwaukee. From 1995 to 2005, property taxes accounted for an average of 22.5 percent of the total budget (City of Milwaukee, Department of Administration, Budget and Management Division 2004b). In 2005, the property tax levy will generate \$203 million, or 25.3 percent of the City's revenues (City of Milwaukee, Department of Administration, Budget and Management Division 2004a). In 2000, the City's property tax base, in 2004 dollars, equaled \$31,536 per capita. In 2003, the tax base, in 2004 dollars, equaled \$37,878 per capita, an increase of 20 percent.<sup>2</sup> The City of Milwaukee cannot fully exploit the growing property tax base by increasing property tax rates due to political constraints at the state and local level. At the state level, Gov. Jim Doyle and the Legislature are considering different versions of a property tax freeze bill. The Wisconsin Legislative Fiscal Bureau (2005) indicates that if the Joint Finance Committee's proposed property tax freeze bill were in effect for 2004-05, property tax revenues between 2004 and 2005 could only increase at a rate of 1.4 percent.<sup>3</sup> Between 2004 and 2005, property tax levies grew by 2 percent. This increase reflected a pledge by Mayor Tom Barrett to "freeze" property tax levies. (City of Milwaukee, Department of Administration, Budget and Management Division 2004a).<sup>4</sup> In our

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<sup>1</sup> The terms "state aid" and "shared revenue" are used interchangeably throughout the analysis.

<sup>2</sup> Population projections were not available for 2004 or 2005. Estimates based on U.S. Census (2004) population projections for the City of Milwaukee and Wisconsin Department of Revenue (Division of Research and Policy 2004) data on equalized values for the City of Milwaukee.

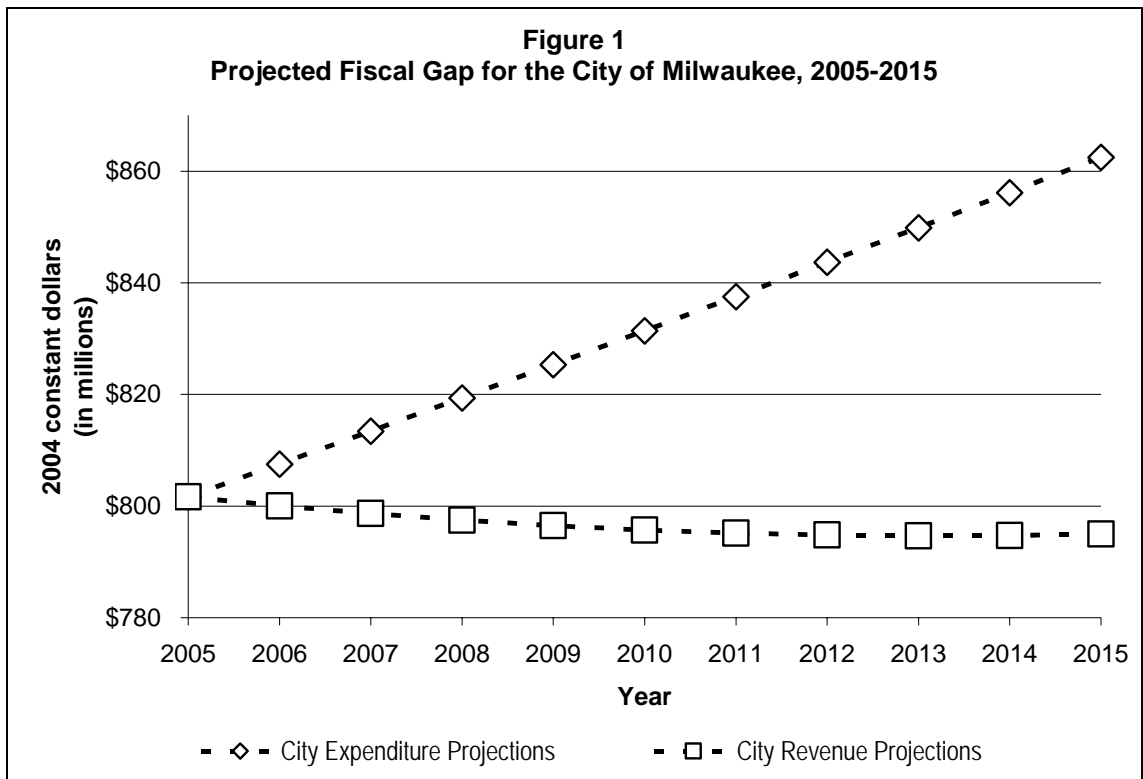
<sup>3</sup> The Wisconsin Department of Revenue (2005) estimated a rate of 1.4 percent by "increasing the 2003(04) municipal or county tax levy by the percentage change in each municipality's or county's tax base due to new construction between 2003 and 2004."

<sup>4</sup> The mayor's property tax levy freeze reflected a commitment to keep levies constant in real terms.

projections, we assume that annual property tax revenues will increase by 2 percent annually in real (inflation adjusted) dollars, reflecting policymakers' desire to limit annual increases in property tax levies.

User fees and service charges are the third largest revenue source for the City of Milwaukee. User fees and service charges, however, tend to cover only the costs of the services provided and are not intended to serve as a source of funding for non-fee related public services. In our revenue projections, we assume that user fees and service charges, as well as all other sources of revenue (not including shared revenue and property tax taxes) will grow at the rate of inflation.

We project that shared revenue, currently 30.4 percent of Milwaukee's total revenue, will decrease in real terms by 2.3 percent annually between now and 2015. Property tax receipts, which make up 25.3 percent of city revenue, are projected to grow in real terms by 2 percent annually during the same time period. Finally, we assume that the remaining 44.3 percent of current revenue sources, consisting of user fees, service charges, and miscellaneous revenue, will grow at the rate of inflation during the coming decade. Based on these assumptions, we calculate that in 2015 the City of Milwaukee will collect \$67 million less in real (inflation adjusted) revenue than the City is collecting this year. These revenue projections are illustrated by the lower line in Figure 1.



Source: authors' calculations and City of Milwaukee,  
(Department of Administration, Budget and Management Division 2004a)

## **Projecting the Costs of Providing the Current Level of City Services**

The amount of money the City will need to spend to maintain current levels of public services will almost certainly increase at a rate in excess of the rate of inflation. Many city services are labor intensive. It is thus not surprising that the largest share of the city budget finances salaries and fringe benefits. Over time, to maintain a high quality labor force, the City must increase wages at a rate in excess of the consumer price index. As is widely recognized, in the past few years, health-care costs around the nation have been increasing at a rate in excess of 10 percent. Reflecting these trends, the City's 2005 budget assumes that expenditures needed to maintain current services would need to increase at an annual rate of between 3.5 percent and 4.5 percent (City of Milwaukee, Department of Administration, Budget and Management Division 2004a).

In this report, we make a somewhat more conservative assumption in predicting that between 2005 and 2015, the expenditures needed to maintain current levels of public services will increase annually in *real* terms, i.e. relative to the rate of inflation as measured by the consumer price index, by 0.73 percent. We arrive at this rate of increase by first assuming that 80 percent of the city budget is spent on personnel-related costs, and then by assuming that these costs will rise annually in real terms by 0.91 percent. This percentage was determined by calculating the average amount by which the U.S. Bureau of Labor Statistics' Employment Cost Index exceeded the Consumer Price Index in the period between 1996 and 2004. Finally, we assume that the 20 percent of the City's budget is devoted on non-personnel spending will grow at the rate of inflation. These expenditure projections are illustrated in the upper line of Figure 1.

## **Milwaukee's Fiscal Gap**

Figure 1 projects the "fiscal gap" between anticipated revenues and the amount of money needed to fund current services from 2005 to 2015, calculated in 2004 dollars. In 2006, the projected gap is more than \$7 million. It grows annually, reaching \$67 million in 2015.

If Milwaukee does not or cannot cut current public services and cannot raise additional revenue (relative to our projections) from current sources, it must examine alternative sources of revenue. In the rest of this report, we analyze the advantages and disadvantages of one possible revenue source, a local sales tax.

## Examination of a Local Sales Tax in Other U.S. Cities

We begin our analysis of the feasibility of a city sales tax by exploring the extent to which other large U.S. cities rely on a city sales tax. We first compare Milwaukee to the 67 other cities with 2003 populations of more than 250,000 persons. A complete list of these cities and their local, state, and total sales tax rates appears in Appendix A.

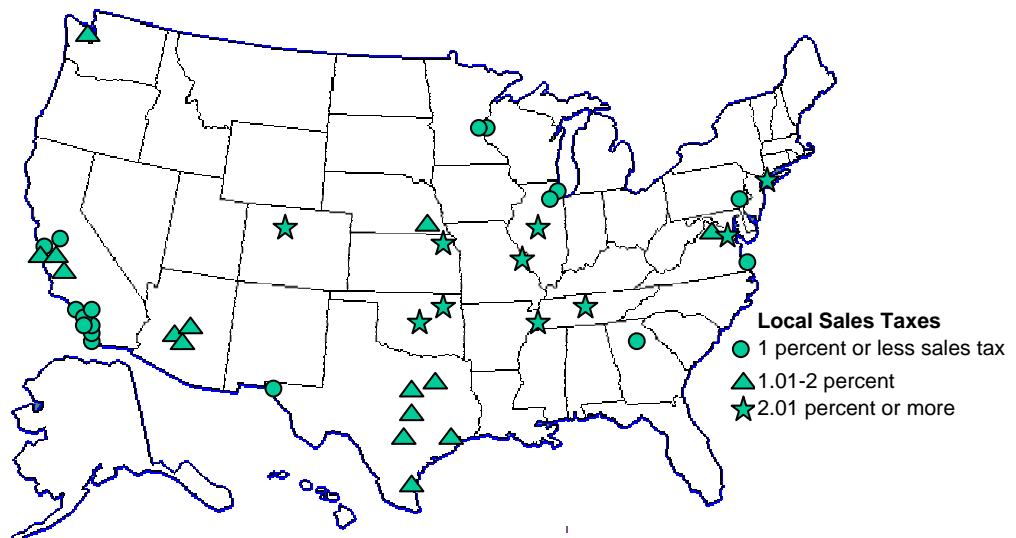
### Large Cities' Local Sales Taxes

Of the 67 large cities, nearly two-thirds (43) have local city sales taxes. The cities' rates range from 0.5 percent to 4.13 percent, and the median is 1.5 percent. Fifteen of the 43 cities utilize a 1 percent rate, which is the most common rate.

In our review of cities that have a local sales tax, we attempted to discern patterns in population and geography. We observed that city sales taxes are not confined to the largest population cities in our sample. Although nine of the largest 10 cities levy a local sales tax, the city tax is used in six of the 10 cities with populations between 250,000 and 300,000. Among the cities that we reviewed, the median population of a city with the local sales tax is 473,000 while the median population of a city without a city sales tax is 440,000.

As illustrated in Figure 2, cities with a local sales tax can be found across the country. The largest concentrations of cities with the local sales tax are in the states of California and Texas. This is primarily due to the fact that these states have more cities with populations above our 250,000 threshold. In California, the state collects the total sales tax at time of purchase (including state, county, and city portions) and remits the California cities' share back to each municipal government.

**Figure 2**  
**Geographic Distribution of Cities with Local Sales Taxes**



One important distinction regarding the cities that levy the local sales tax is that the total tax paid by consumers at time of purchase (including state, county, and local portions) is higher than in cities that do not have a local sales tax. The average total sales tax rate in cities that collect a local city sales tax is 7.86 percent compared with 5.82 percent in cities that do not.

Our research indicates that the most popular arrangement for collecting the local sales tax is a “piggy-back” approach under which all sales taxes levied within a state are collected at the state level with the appropriate local portion remitted to the local government. The State of Wisconsin could expand its existing county sales tax payment mechanism to include remission of any sales tax levied by the City of Milwaukee.

### **Cities with Populations Similar to Milwaukee**

Table 1 lists the 10 U.S. cities with populations closest to that of Milwaukee, 550,000 to 736,000. Six of these have local city sales taxes, with rates ranging from 1 to 3.5 percent. The median local sales tax rate for cities within this population range that actually levy a city sales tax is 2.25 percent.

**Table 1  
Local and Total Sales Tax Rates in Cities  
with Populations Similar to Milwaukee (550,000 to 736,000)**

<b>City</b>	<b>State</b>	<b>Population</b>	<b>Local Rate</b>	<b>Total Rate</b>
Jacksonville	Florida	735,617		7.00%
Columbus	Ohio	711,470		6.75%
Austin	Texas	656,562	2.00%	8.25%
Baltimore	Maryland	651,154		6.75%
Memphis	Tennessee	650,100	2.25%	9.25%
<i>Milwaukee</i>	<i>Wisconsin</i>	<i>596,974</i>		<i>5.60%</i>
Boston	Massachusetts	589,141		5.00%
Nashville	Tennessee	569,891	2.25%	9.25%
El Paso	Texas	563,662	1.00%	8.25%
Seattle	Washington	563,374	2.30%	8.80%
Denver	Colorado	554,636	3.50%	6.40%

In table 2, we list the 10 U.S. cities with populations closest to Milwaukee's that also levy a city sales tax. The median local rate in these cities is 2 percent and the average rate is 1.9 percent.

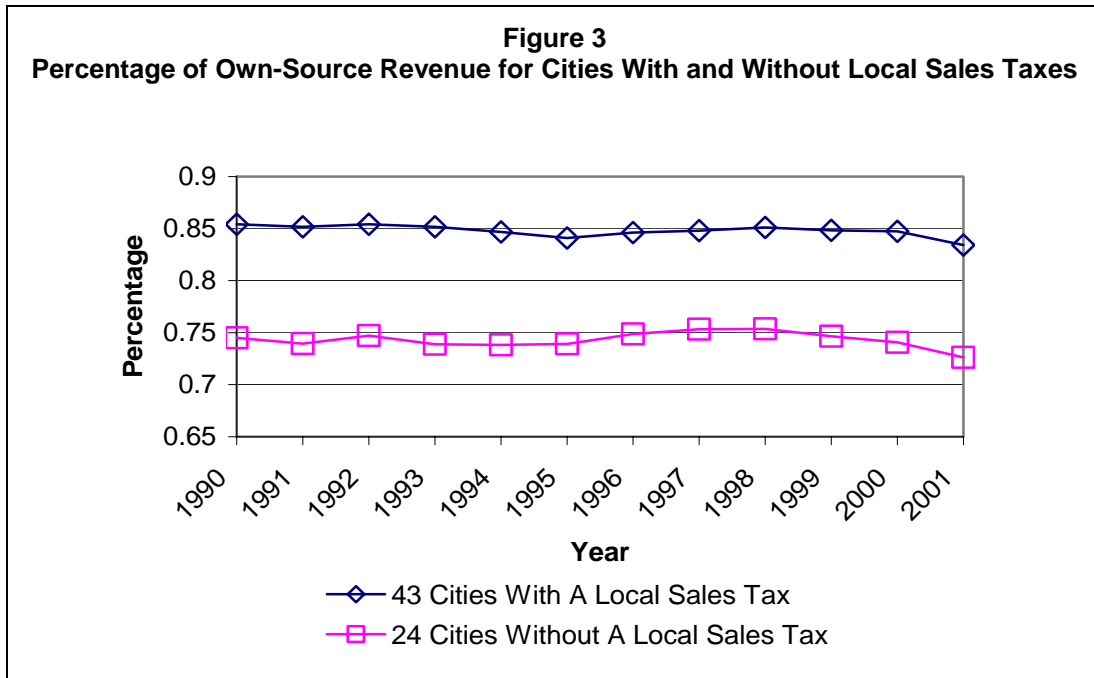
**Table 2**  
**Local and Total Sales Tax Rates in Cities**  
**with Populations Similar to Milwaukee (550,000 to 736,000)**

City	State	Population	Local Rate	Total Rate
Dallas	Texas	1,208,318	2.00%	8.25%
San Jose	California	898,349	1.00%	8.25%
San Francisco	California	751,682	1.00%	8.50%
Austin	Texas	656,562	2.00%	8.25%
Memphis	Tennessee	650,100	2.25%	9.25%
<i>Milwaukee</i>	<i>Wisconsin</i>	<i>596,974</i>		5.60%
Fort Worth	Texas	585,122	2.00%	8.25%
El Paso	Texas	563,662	1.00%	8.25%
Seattle	Washington	563,374	1.90%	8.80%
Denver	Colorado	554,636	3.50%	7.60%
Nashville	Tennessee	544,765	2.25%	9.25%

The total combined sales tax (including state, county, and local components as well as special districts) paid by consumers in these cities ranges from 7.6 percent to 9.25 percent. The average total sales tax is just more than 8 percent. Consumers in Milwaukee pay a total sales tax rate of 5.6 percent. Five percent of that is the state sales tax, 0.5 percent is the county sales tax, and 0.1 percent is for the regional baseball stadium tax. If Milwaukee levied a rate as high as 2 percent, the total rate consumers paid would be below or equal to the rates in all of the cities listed in table 2.

### Effect of a Local Sales Tax on Own-Source Revenue

Milwaukee's 2004 budget indicates that less than 70 percent of its total revenue was from its own sources. This figure is significantly lower than that of 43 comparable cities that levied local sales taxes. A local sales tax would certainly increase Milwaukee's reliance on own-source revenues. In Figure 3 we demonstrate that during the 1990s, the share of city revenues from own sources remained quite stable, and the ratio of revenue from own sources consistently remained 10 percent higher in cities that levied a local city sales tax versus those that did not.



Source: U.S. Census Bureau, "Fiscal" 1990-2003 and authors' calculations

Implementing a city sales tax in Milwaukee would be consistent with the practices of many of Milwaukee's peer cities. It would also address the fact that Milwaukee relies on own-source revenues much less than other large cities around the country.

## **Effects of a City Sales Tax on Economic Activity in Milwaukee**

A local sales tax in the City of Milwaukee would likely influence spending patterns of individuals and businesses. A city sales tax has the potential to weaken the City's competitive position and create hardships for some businesses within the City. In our analysis, we assume that, within the Milwaukee metro area, only the City would be granted permission to levy a municipal sales tax. In this section we explore the impact of a city sales tax on economic activity and assess the efficiency of a city sales tax.

A local sales tax would make taxable purchases in the City more expensive than identical purchases in jurisdictions that did not levy the tax. If Milwaukee retailers did not respond to a city sales tax by lowering their prices to offset the city tax, purchases in the City would be slightly more expensive than purchases in the City's suburbs. Undoubtedly, some city residents would respond to the higher costs by choosing to shop outside the City. Estimating the extent of this behavior requires weighing the costs and benefits of traveling to purchase goods and services.

Businesses may also respond to a higher sales tax. Though it is unlikely that many businesses would choose to incur the costs of leaving the City, firms may consider the impact of the city sales tax when considering a business expansion. A local sales tax however, would not affect all sales within the City. For instance, the increased tax would have little impact on purchases of goods and services limited to locations in the City, such as downtown restaurant sales.

There is no consensus in the academic community regarding how a city sales tax would affect the local economy. The balance of research suggests that a municipal sales tax in Milwaukee would have a small influence on the economic competitiveness of the City relative to its suburbs. In a 1970 study, Mikesell found that a 1 percent increase in a city's sales tax rate relative to surrounding areas would result in a loss of between 1.69 and 10.97 percent of retail sales, implying a very high willingness to travel to avoid the tax. Fisher (1980), however, concluded that a higher sales tax in Washington, D.C., was not responsible for any lost retail sales in the district. In two studies, Fox (1986, 1997) concluded that a local sales tax would have no negative effect on economic competitiveness. He stated that "at the margin tax rate changes would appear to influence only a low percentage of sales" (Fox, 1986).

## **Predicting the Impact of a City Sales Tax on Retail Sales in Milwaukee**

To predict the extent to which a city sales tax might lead to reduced taxable sales within the City, we compare the potential tax savings to residents of diverting their retail purchases to the suburbs with the costs of doing so. To figure this out, we estimate:

- the real and opportunity costs of travel,
- the median family income of each ZIP code in the City,
- the percentage of purchases made by city residents that are large enough to induce them to travel outside the City, and
- the distance from each ZIP code in the City to the major shopping areas both inside and out of the City.

Detailed assumptions about the model are listed in Appendix B.

### **Estimating the Loss of Sales Attributable to City Sales Tax**

As explained in Appendix C, we estimate that an average consumer must save 68 cents to travel one mile farther from her or his home to shop. Given the higher opportunity cost, city residents with higher incomes would have to save a larger amount before they considered shopping in the suburbs to avoid the city sales tax. This variation in cost per mile is accounted for by adjusting for the median family income in each ZIP code in the City.

We utilized data on the consumer expenditures of residents in Milwaukee's 21 ZIP codes.<sup>5</sup> This dataset breaks down consumer spending into 16 categories, of which we targeted four:

- 1) television equipment (TVs, DVD players, VCRs, and media for these machines);
- 2) furniture;
- 3) major appliances (refrigerators, dishwashers, clothes dryers, etc.); and
- 4) computer hardware and software.

We hypothesize that consumers of these goods may be motivated to travel some distance from their homes to avoid a city sales tax.

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<sup>5</sup> ZIP code Purchasing Power Profiles prepared by Employment and Training Institute, School of Continuing Education, University of Wisconsin-Milwaukee, 2004.

Having compiled this data, we calculated the purchase price that would cause a cost-minimizing Milwaukee resident to purchase the good outside the City. Then, using the median family income in each ZIP code as an indicator of what residents would likely spend on goods in the four chosen categories, we estimated the percentage spent on items that cost more than this purchase price.<sup>6</sup>

We then added up the losses from each ZIP code in all four categories and multiplied this figure by 50 percent.<sup>7</sup> Finally, we divided this total by the City's total sales. This is the percentage of sales that would be lost to the City's suburbs because of the sales tax.

Using the methodology described above, we estimate that a 0.5 percent sales tax would cause a \$55 million decrease in annual sales in the four broad spending categories, that a 0.75 percent sales tax would cause a \$64 million decrease, and that a 1 percent sales tax would cause a \$84 million decrease.<sup>8</sup> We believe that these losses would increase annually in proportion to total sales in the City. These losses are, respectively, 0.47 percent, 0.59 percent, and 0.72 percent of the \$11.8 billion the City generates in retail and wholesale sales each year. Such percentages are quite small and should not deter the City from levying a sales tax.

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<sup>6</sup> While data do not inform these estimates, they are consistent across categories and income groups, and we feel that they are reasonable. Detailed calculations and estimates are found in appendices D through I.

<sup>7</sup> We did this because we assume that half of the Milwaukee residents are cost-minimizers. Therefore, half of the residents who would be better off traveling outside the City to make these purchases will do so, while the other half chooses not to or cannot leave the City to make these purchases.

<sup>8</sup> These estimates are in 2004 dollars. These estimates do not include purchases made by businesses. While we believe that businesses could divert their purchases outside the City, there is no reliable dataset available on which to base estimates. For analytical purposes, we feel comfortable estimating that a worst case-scenario would double the loss of City sales.

## Tax Incidence

Tax incidence refers to the impact a tax has on an individual's after-tax income. We assume that the alternative to levying a city sales tax is to increase reliance on the property tax. Thus, we next estimate the proportion of the burden of a sales or property tax borne by residents and non-residents of the City of Milwaukee.

### Non-Residents

The burden of any tax on city residents is reduced if a portion of the tax is exported to non-residents. Property tax exporting occurs when a non-resident owns or rents property in the City. At the state level, the Wisconsin Department of Revenue's 2004 *Tax Incidence Study* estimates under its "plausible" assumption that 5.3 percent of the property tax is exported to non-residents of Wisconsin (Wisconsin Department of Revenue, Division of Research and Policy 2004). For the City of Milwaukee, non-residents not only include individuals or businesses from out of state, but also those from outside the city limits. Based on a set of assumptions outlined in Appendix J, we conclude that approximately 25 percent of the property tax is levied on non-residents of Milwaukee.

Sales tax exporting usually occurs because of spending on goods or services by commuters and tourists. At the state level, it is estimated that 2.1 percent of the sales tax is exported to non-residents of Wisconsin (Wisconsin Department of Revenue, Division of Research and Policy 2004). For the City of Milwaukee, we assume this percentage to be significantly higher, as non-residents include those who reside out of state and outside the city limits. Sales tax exportation to non-residents can occur through three transactions:

- (1) purchases made by commuters, or non-residents who work in the City;
- (2) purchases made by visitors to the City, for leisure or for business; and
- (3) taxation of business purchases that are borne by non-residents.

The City of Milwaukee is one of the State's main trade and employment centers. Papadopoulos (1980) explains that when a consumer reaches a trade center for a specific reason, such as work, a significant secondary opportunity is shopping. In the City of Milwaukee, commuting brings approximately 134,000 people from other municipalities inside its borders each week day for work (U.S. Census 2000f). Since a commuter spends a majority of the daytime during the week in Milwaukee it is likely that he or she purchases goods and services there.

Shields and Deller (1998) studied the effect of commuting on local retail market performance in Wisconsin counties. In Milwaukee County, retail sales account for approximately 61 percent of sales taxes collected (Wisconsin Department of Revenue 2003). When shopping, a commuter is likely to make purchases in her or his work community if it offers a better variety of goods and services than her or his residence.

This allows the commuter, or customer, to comparison shop and multi-purpose shop, thus decreasing uncertainty and the time or transportation costs involved in shopping. Commuters develop an affinity for the area in which they work and are more likely to destination shop on weekends or vacation days (Shields and Deller, 1998).

In 2001, Green surveyed commuting patterns in Kenosha and Racine counties. He found that Racine out-commuters, people who left their homes in Racine County to work, spent an average of \$100 per week on expenditures besides those directly related to commuting, like gasoline and maintenance. These expenditures include groceries, restaurant dining, and retail purchases. In Kenosha, the out-commuter sample spent an average of \$75 per week on expenditures unrelated to commuting.

We assume that the expenditure amounts of Racine and Kenosha out-commuters can be applied to people commuting into the City of Milwaukee to work,<sup>9</sup> and calculate a rough estimate of in-commuter spending. A larger amount of Racine out-commuters work in Milwaukee than Kenosha out-commuters, so we used expenditure numbers from the Racine study and apply them to Milwaukee in-commuters. Table 3 projects total annual commuter expenditures in the City of Milwaukee from 2001 to 2006.<sup>10</sup> Based on the calculated commuter expenditures in the City of Milwaukee, we estimate that commuters would pay approximately 9 percent of a city sales tax.<sup>11</sup>

**Table 3**  
**Estimated Annual Commuter Expenditures**  
**for the City of Milwaukee (Less Groceries)**  
**in 2004 Dollars**

<b>Year</b>	<b>Per Commuter</b>	<b>Expenditures (in millions)</b>
2001	\$4,350	\$583
2002	\$4,410	\$591
2003	\$4,460	\$598
2004	\$4,580	\$614
2005	\$4,760	\$638
2006	\$4,920	\$659

*Source: authors' calculations*

Expenditures by tourists would also contribute significantly to city sales tax revenue and provide an additional way that the City could export sales taxes to non-residents. The Wisconsin Department of Tourism (2004) reports that in 2003, Milwaukee County ranked number one for visitor spending in Wisconsin. In addition to tourists, the City attracts a substantial number of people who come to the City on business.

<sup>9</sup> Assumption based on correspondence with Green (2005).

<sup>10</sup> See Appendix K for assumptions.

<sup>11</sup> See Appendix M for assumptions.

According to Hawkins and Murray (2004), visitor spending and activity is largely reliant on a place's supply of amenities and attractions. Milwaukee's presence in the State as the key center for economic activity and entertainment increases its attraction to visitors for business trips or pleasure excursions. The Wisconsin Department of Tourism reports visitor expenditures for Wisconsin counties annually through 2003. Milwaukee County visitor expenditures in 2003 were approximately \$1.6 billion (Wisconsin Department of Tourism, 2004). We estimate visitor expenditures for the City of Milwaukee from 2002 to 2006 in Table 4.<sup>12</sup> Based on these figures, we estimate that tourists will pay approximately 14 percent of a city sales tax.<sup>13</sup>

**Table 4**  
**Estimated City of Milwaukee Visitor Expenditures in 2004 Dollars**

Year	Expenditures (in millions)
2002	\$990
2003	\$965
2004	\$993
2005	\$1,034
2006	\$1,069

Source: authors' calculations

The City of Milwaukee serves as one of the State's most important centers for commercial activity. As this is the case, we believe that a much higher number of out-of-state and non-city companies carry out business in Milwaukee as compared to the rest of the State. In creating our estimate for the portion of the sales tax on business purchases exported to non-residents, we began with the assumptions made for Wisconsin in the Department of Revenue's *Tax Incidence Study* and made reasonable conjectures for the City of Milwaukee. The Department of Revenue divides businesses into two categories: manufacturing and non-manufacturing. Sales tax on business is borne by the labor that works for business, the customers who purchase business goods and services, and the business owners of capital (Wisconsin Department of Revenue, Division of Research and Policy 2004). Our assumptions for the portion of sales tax exported to non-residents of the City are outlined in Appendix M. Based on our assumptions, we estimate that approximately 19 percent of the total sales tax is exported through business purchases wherein the City tax is borne by non-residents.

After accounting for the city sales tax paid by commuters, visitors, and on certain business purchases, we estimate that 42 percent of the total city sales tax would be exported to non-residents of the City of Milwaukee.

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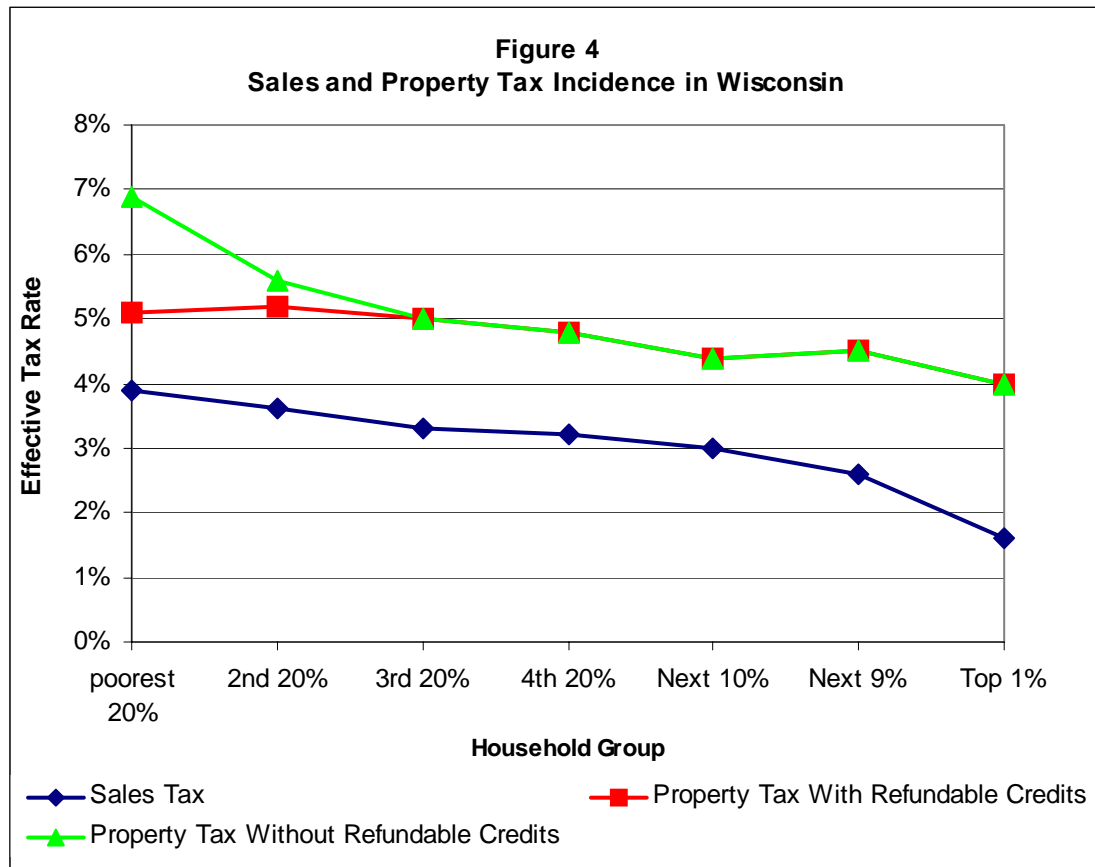
<sup>12</sup> See Appendix L for assumptions.

<sup>13</sup> See Appendix M for assumptions.

## Residents

The tax burden on Milwaukee residents is also an important consideration. We compare the burden of the sales tax on city residents to the burden of additional property tax that would raise the same amount of revenue. The incidence of any given tax on low-income households is of particular concern to the City because the percentage of poor individuals is higher in Milwaukee than in the State as a whole. Thirty-eight percent of Milwaukee residents have incomes below \$27,500 compared to 27 percent of households in Wisconsin. Furthermore, Milwaukee's share of households with incomes more than \$82,000 is smaller than the percentage of Wisconsin households with incomes more than \$82,000 (U.S. Census, 2000c). Taking these facts into account, we focused on the effects of a sales tax versus a property tax on the lowest-income households in the City.

The *Tax Incidence Study* concluded that sales and property taxes in Wisconsin are regressive. Households with lower incomes pay a larger share of their total income in property tax than households with higher incomes. The same is true for sales tax (Wisconsin Department of Revenue, Division of Research and Policy 2004). Figure 4 demonstrates that the property tax, even accounting for the state Homestead Credit, is slightly more regressive than the sales tax. Without considering the Homestead Credit, property taxes are even more regressive than the sales tax.



Source: Wisconsin Department of Revenue *Tax Incidence Study*, 2004

Milwaukee residents' property tax incidences vary according to whether they claim the Homestead Credit. The credit significantly reduces the regressivity of the property tax on low-income individuals. Data from the Department of Revenue, however, indicate that nearly six of every 10 Milwaukee households eligible for the Homestead Credit do not claim it (Wisconsin Department of Revenue, Division of Research and Policy 2004). This suggests that the actual incidence of the property tax on low-income families in the City lies between the two upper lines estimated in Figure 4.

The Department of Revenue study examines the effect that the Homestead Credit has on property tax incidence, but it does not discuss the variance present in sales tax incidence within the low-income quintile. If a household experiences a financial hardship in a given year, their consumption patterns may not change from previous years. This may overemphasize the sales tax burden for that particular year simply because the household is temporarily experiencing low income (Chernick and Reschovsky, 2000).

On the basis of the *Tax Incidence Study*, we conclude that the property tax and the sales tax are mildly regressive. As discussed earlier in this report, our projections indicate that the City of Milwaukee would likely need to raise additional revenue from one of these two sources. Since the average burden of a sales tax on the City's low-income population is similar to the burden of a property tax, we conclude that a sales tax would be no more regressive than the property tax. We reach this decision because the data on average tax burden by income quintile hide the fact that the burdens of either tax would vary substantially among individuals depending on whether they take advantage of the Homestead Credit and depending on what share of their income they spend on taxable items. We do not believe there is strong evidence to indicate that one tax is substantially more of a burden on low-income residents than the other.

We conclude that since the average burden of a sales tax on the City's low-income population is similar to that of a property tax, a sales tax would be no more regressive than the property tax. Based upon the large amount of business and consumer expenditures made by non-residents of the City, we estimate that approximately 42 percent of a city sales tax would be exported to non-residents, as compared with 25 percent of the property tax. In this respect, raising a certain amount of revenue with a sales tax is more desirable than raising the same amount of revenue with a property tax, as a larger portion of the sales tax can be exported to non-residents.

## Estimating Sales Tax Revenue for the City of Milwaukee

Based on information on local sales tax rates in cities with populations comparable to Milwaukee and the City’s projected fiscal gap, we examined a range of 0.5 percent to 1 percent. We believe this range is reasonable. If the rate is too low, the final sales tax collections may not be worth the political effort as well as the costs of administering the tax collection. If the rate is too high, taxpayers are more likely to avoid the tax by making purchases in municipalities without a local sales tax.

The City of Milwaukee faces a fiscal gap in the years ahead as the cost of public services out-paces growth in revenue. If we consider a city sales tax as a new revenue option, it is important to estimate the amount of revenue it would generate. Our revenue forecasts rely on consumer expenditure data prepared for the Milwaukee Department of City Development by the Employment and Training Institute of the University of Wisconsin–Milwaukee’s School of Continuing Education and on data from the Wisconsin Department of Revenue. Our assumptions and other information used in calculating these forecasts are listed in Appendix N.

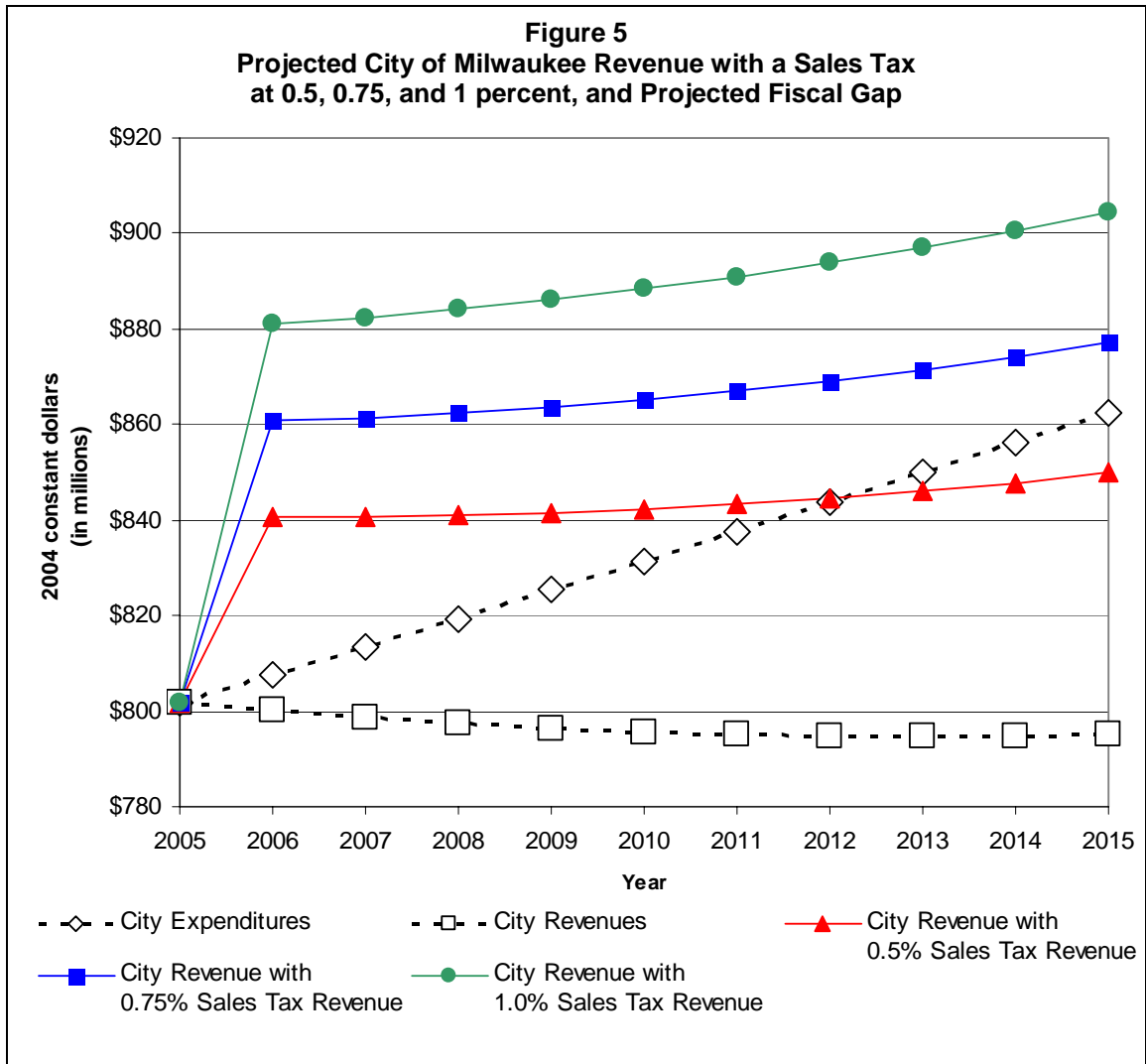
Forecasting sales tax revenue requires a number of assumptions based on the current economic and political climate as well as the purchasing behavior of consumers. For example, errors in forecasting tend to be largest during unstable economic times (Mantell and Rubin, 2003). Therefore, the possibility of error is always present. In Table 5, revenue forecasts of a city sales tax are displayed for potential rates of 0.5 percent, 0.75 percent, and 1 percent for 2006 to 2015. All forecasts are in 2004 dollars.

**Table 5**  
**Estimated Sales Tax Revenues for the City of Milwaukee**  
**in Millions of CPI Adjusted 2004 Dollars**

Year	Sales Tax Rate		
	0.50 percent	0.75 percent	1 percent
2006	\$41	\$61	\$81
2007	\$42	\$63	\$84
2008	\$43	\$65	\$86
2009	\$45	\$67	\$89
2010	\$46	\$69	\$92
2011	\$48	\$72	\$96
2012	\$50	\$74	\$99
2013	\$51	\$77	\$102
2014	\$53	\$79	\$106
2015	\$55	\$82	\$109

Source: authors' calculations.

Figure 5 shows the impact of a city sales tax at various rates would have on Milwaukee’s projected fiscal gap. Estimated sales tax collections at 0.5, 0.75, and 1 percent are added to anticipated general city revenues for the corresponding years to illustrate the effect that a sales tax would have on total city revenues. Our estimates indicate that a city sales tax rate of 0.75 percent would ensure that Milwaukee’s revenues exceed the projected costs of current public services for every year through 2015. If the City had a sales tax of 0.75 percent, we estimate that approximately 7 percent of total revenues would come from sales tax revenues.



## Conclusion

On the basis of our analysis, we conclude that a city sales tax, levied at a modest rate, is an economically feasible option for the City of Milwaukee. We find that a sales tax would have few deleterious effects and would enable the City of Milwaukee to close the gap between the projected cost of providing current public services and the revenue from existing sources. We predict that a city sales tax rate of 0.75 percent would fill the City's projected fiscal gap for at least the next 10 years.

A city sales tax would diversify revenue sources. Any city government with more revenue sources has more fiscal flexibility than a city with fewer sources. A city sales tax would help the City of Milwaukee reach this goal. Using a 0.75 percent rate, sales tax would account for 7 percent of the City's total revenue sources.

We project a growing fiscal gap between Milwaukee's revenues and expenditures that will reach \$67 million (in 2004 dollars) by 2015. Levying a 0.75 percent sales tax rate would close the fiscal gap while bringing Milwaukee's tax policy in line with most other large cities. Two out of three large cities in the United States use a local sales tax, with the most common rate being 1 percent.

We also consider the economic competitiveness and tax burden issues of levying a sales tax. We find that levying a 0.75 percent sales tax rate would decrease total sales in the City by 0.59 percent. Based on the large amount of business and consumer expenditures made by non-residents of the City, we estimate that approximately 42 percent of a city sales tax would be exported to non-residents, compared with 25 percent of the property tax that is exported. We also find that, overall, the sales tax is no more regressive than the property tax.

Raising any amount of revenue, say \$25 million, from the sales tax would allow a larger share of the tax to be exported to non-residents as compared to the property tax. If Milwaukee were able to levy a city sales tax, the funds raised would meet the increasing costs of public services and allow the city to avoid cuts in the current level of public services. Our analysis indicates that the City of Milwaukee could enact a city sales tax without creating serious harm to Milwaukee businesses or undue hardship on Milwaukee residents. It is important to note that if many (or all) of Milwaukee's suburbs enacted city sales taxes, any negative impacts of a city sales tax would be largely mitigated. Regardless of whether Milwaukee's suburbs decide to seek to levy a city sales tax, we conclude that a city sales tax is a practical policy option for the City of Milwaukee.

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## Appendix A: Descriptions of 68 Cities with Populations More Than 250,000

City	State	Population	City Rate	State Rate	Total Rate
New York	New York	8,085,742	4.13%	4.25%	8.38%
Los Angeles	California	3,819,951	1.00%	6.25%	8.25%
Chicago	Illinois	2,869,121	1.00%	6.25%	8.75%
Houston	Texas	2,009,690	2.00%	6.25%	8.25%
Philadelphia	Pennsylvania	1,479,339	1.00%	6.00%	8.00%
Phoenix	Arizona	1,388,416	1.80%	5.60%	8.10%
San Diego	California	1,266,753	1.00%	6.25%	7.75%
San Antonio	Texas	1,214,725	1.75%	6.25%	7.75%
Dallas	Texas	1,208,318	2.00%	6.25%	8.25%
Detroit	Michigan	911,402		6.00%	6.00%
San Jose	California	898,349	1.00%	6.25%	8.25%
Indianapolis	Indiana	783,438		6.00%	6.00%
Jacksonville	Florida	773,781		6.00%	7.00%
San Francisco	California	751,682	1.00%	6.25%	8.50%
Columbus	Ohio	728,432		6.00%	6.75%
Austin	Texas	672,011	2.00%	6.25%	8.25%
Memphis	Tennessee	645,978	2.25%	7.00%	9.25%
Baltimore	Maryland	628,670		6.00%	6.75%
Milwaukee	Wisconsin	596,974		5.00%	5.60%
Fort Worth	Texas	585,122	2.00%	6.25%	8.25%
Charlotte	North Carolina	584,658		4.50%	7.50%
El Paso	Texas	584,113	1.00%	6.25%	8.25%
Boston	Massachusetts	581,616		5.00%	5.00%
Seattle	Washington	569,101	1.90%	6.50%	8.80%
Washington, D.C.		563,384	5.75%		5.75%
Denver	Colorado	557,478	3.50%	2.90%	7.60%
Nashville-Davidson	Tennessee	544,765	2.25%	7.00%	9.25%
Portland	Oregon	538,544			
Oklahoma City	Oklahoma	523,303	3.88%	4.50%	8.38%
Las Vegas	Nevada	517,017		6.50%	6.50%
Tucson	Arizona	507,658	2.00%	5.60%	7.60%
Long Beach	California	475,460	1.00%	6.25%	8.25%
Albuquerque	New Mexico	471,856	1.19%	5.00%	6.19%
New Orleans	Louisiana	469,032		4.00%	4.00%
Fresno	California	451,455	1.01%	6.25%	7.98%

City	State	Population	City Rate	State Rate	Total Rate
Sacramento	California	445,335	1.00%	6.25%	7.75%
Kansas City	Missouri	442,768	2.38%	4.23%	7.48%
Virginia Beach	Virginia	439,467	1.00%	4.00%	5.00%
Mesa	Arizona	432,376	1.50%	5.60%	7.80%
Atlanta	Georgia	423,019	1.00%	4.00%	8.00%
Omaha	Nebraska	404,267	1.50%	5.50%	7.00%
Oakland	California	398,844	1.50%	6.25%	8.75%
Tulsa	Oklahoma	387,807	3.00%	4.50%	8.52%
Honolulu	Hawaii	380,149		4.00%	4.00%
Miami	Florida	376,815		6.00%	6.00%
Minneapolis	Minnesota	373,188	0.50%	6.50%	7.00%
Colorado Springs	Colorado	370,448	2.50%	2.90%	5.40%
Arlington	Texas	355,077	1.75%	6.25%	8.00%
Wichita	Kansas	354,617		5.30%	6.30%
Santa Ana	California	342,510	1.00%	6.25%	7.75%
Anaheim	California	332,361	1.00%	6.25%	7.75%
St. Louis	Missouri	332,223	3.39%	4.23%	7.62%
Pittsburgh	Pennsylvania	325,337		6.00%	7.00%
Tampa	Florida	317,647		6.00%	6.00%
Cincinnati	Ohio	317,361		6.00%	7.00%
Raleigh	North Carolina	316,802		4.50%	7.00%
Toledo	Ohio	308,973		6.00%	7.25%
Aurora	Illinois	290,418	0.75%	6.25%	7.50%
Buffalo	New York	285,018		4.25%	4.25%
Riverside	California	281,514	1.00%	6.25%	7.75%
St. Paul	Minnesota	280,404	0.50%	6.50%	7.00%
Corpus Christi	Texas	279,208	2.00%	6.25%	8.25%
Newark	New Jersey	277,911		6.00%	6.00%
Stockton	California	271,466	1.25%	6.25%	8.00%
Bakersfield	California	271,035	1.00%	6.25%	7.25%
Anchorage	Alaska	270,951			0.00%
Lexington-Fayette	Kentucky	266,798		6.00%	6.00%

## **Appendix B: Key Assumptions in Calculating the Economic Competitiveness Model, Detailed Sales Data by ZIP Code**

Fifty percent of city residents who would benefit from doing so will consider traveling to the suburbs to avoid the sales tax. The other 50 percent will make their purchases as they currently do: they do not consider traveling to the suburbs or are unable to do so. These two groups are equal across location and income demographics.

People will only alter their spending patterns regarding the four categories chosen. While this is not true, other categories consisted mostly of lower-cost items.

The items in these four categories are only available for sale at or near major shopping areas and Wal-Marts. The shopping areas in the City are: South 27th Street between West Oklahoma Avenue and West College Avenue, West Brown Deer Road between North 68th Street and North 91st Street, West Capitol Drive and West Fond Du Lac Avenue, and the Shops at Grand Avenue at West Washington Avenue. Wal-Marts are located in the City at 401 E. Capitol Drive, 3355 S. 27th St., 5825 W. Hope Ave., and 8700 N. Servite Drive. Shopping areas outside the City are around the Mayfair Mall in Wauwatosa, Brookfield Square in Brookfield, and the Southridge Mall in Greendale. Wal-Marts outside of the City are located at 6701 S. 27th St. in Franklin, 4500 S. 108th St. in Greenfield, and 15333 W. National Ave. in New Berlin.

All people in a ZIP code make purchases with regard to the median family income of their ZIP code, and not with regard to their actual income. While this is clearly untrue, eliminating this assumption would make such a model impossible to create.

Besides the designated shopping areas, all locations in a ZIP code are dealt with as if they are in the center of the ZIP code. While, again, this is clearly untrue, eliminating this assumption would make such a model difficult to create.

Median family income for each ZIP code is directly proportional to the opportunity cost of travel for residents of that ZIP code. This means that the ratio of median family income in a chosen ZIP code to nationwide median family income is directly proportional to the ratio of the opportunity cost of travel for chosen ZIP code to 68 cents, the determined average opportunity cost of traveling one mile and back.

Milwaukee residents who live in a ZIP code that has significant parts of other cities, villages, or towns in it will divert their business to the part of the ZIP code outside city limits for all such purchases.

Our estimates of the percentage of land that is part of the City in each ZIP code are correct.

The money spent on the average purchase of each the four categories of television equipment, furniture, major appliances, and computer hardware and software, in each ZIP code is directly proportional to the median family income in that ZIP code.

## Appendix C: Determining the Cost of Travel

The first step in modeling the consumer response to a city sales tax is to determine the real and opportunity costs of transportation from within city limits to the suburbs. Several studies have attempted to quantify the savings necessary for consumer travel, with estimates ranging 56 cents to \$3.16 per mile (back and forth) (Manuszak and Moul 2004).<sup>14</sup> This is a wide range, and would be of no help whatsoever if we are not able to narrow it.

In the most recent of the three working papers making such estimates, Mark Manuszak and Charles Moul estimate the two-way travel cost to be 60 cents per mile. This is a logical estimate because, as the authors rationalize, an average speed of 30 miles per hour would allow a consumer to visit and return from her or his destination 15 times in one hour, implying an hourly opportunity cost of \$9.

We may have to reconsider this estimate, though, as the layout of the City of Milwaukee appears to allow city residents to reach suburban shopping areas at speeds faster than 30 miles per hour. However, we will assume that this is not the case. The authors do not account for the cost of gasoline, though. We assume that at roughly \$2 per gallon, and a yield of 25 miles per gallon, gasoline costs are 8 cents per mile. Adding the cost of gasoline to the personal cost of travel, we arrive at a round-trip estimate of 68 cents per mile.

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<sup>14</sup> We also gain information on other studies from their appendix: Manuszak estimated the cost of two-way travel to be 13 cents per mile, but in their paper, Manuszak and Moul reject a figure as high as 23 cents per mile. Peter Davis (2001) estimated the cost per mile to be 58 cents minus 2 cents for each mile (so that the cost for one mile would be 56 cents, for two miles would be \$1.08, and so on. This formula only works up to 15 miles, as the total cost of travel starts to decline at 16 miles.). Finally, Raphael Thomadsen (2003) estimated the cost to be between \$2.71 and \$3.16.

## Appendix D: Assumed Shopping Venues of City Residents

ZIP Code	Population (1999)	Closest Shopping in the City or Outside the City	Distance to this shopping (in miles)^	Closest Shopping Outside the City	Distance to this shopping (in miles)	Difference in Distances (miles)
53202	21,018	275 W. Wisconsin Ave.	1.0	2500 N. Mayfair Road, Wauwatosa	11.0	10.0
53203	357	275 W. Wisconsin Ave.	0.0	2500 N. Mayfair Road, Wauwatosa	9.8	9.8
53204	42,331	27th Street, Oklahoma Avenue to College Avenue	2.8	2500 N. Mayfair Road, Wauwatosa	10.6	7.8
53205	10,697	275 W. Wisconsin Ave.	1.8	2500 N. Mayfair Road, Wauwatosa	10.7	8.9
53206	33,095	W. Capitol Dr. at W. Fond Du Lac Ave.	2.8	2500 N. Mayfair Road, Wauwatosa	8.2	5.3
53207	36,357	27th Street, Oklahoma Avenue to College Avenue	2.7	5300 S. 76th St., Greendale	7.3	4.5
53208	35,283	West Capitol Drive at West Fond Du Lac Avenue	3.9	2500 N. Mayfair Road, Wauwatosa	8.9	5.0
53209	48,923	West Capitol Drive at West Fond Du Lac Avenue	4.0	2500 N. Mayfair Road, Wauwatosa	10.2	6.2
53210	30,781	West Capitol Drive at West Fond Du Lac Avenue	2.5	2500 N. Mayfair Road, Wauwatosa	4.7	2.2
53211	35,280	401 E. Capitol Drive	1.5	2500 N. Mayfair Road, Wauwatosa	15.2	13.7
53212	30,836	401 E. Capitol Drive	0.0	2500 N. Mayfair Road, Wauwatosa	12.3	12.3
53215	54,914	27th Street, Oklahoma Avenue to College Avenue	0.0	5300 S. 76th St., Greendale	6.6	6.6
53216	33,470	West Capitol Drive at West Fond Du Lac Avenue	0.0	2500 N. Mayfair Road, Wauwatosa	4.8	4.8
53218	40,431	West Capitol Drive at West Fond Du Lac Avenue	2.1	2500 N. Mayfair Road, Wauwatosa	5.9	3.9
53219	33,866	27th Street, Oklahoma Avenue to College Avenue	2.6	5300 S. 76th St., Greendale	3.8	1.2
53221	35,669	27th Street, Oklahoma Avenue to College Avenue	2.6	5300 S. 76th St., Greendale	4.7	2.1
53222	25,023	2500 N. Mayfair Road, Wauwatosa*	2.0	2500 N. Mayfair Road, Wauwatosa	2.0	0.0
53223	29,757	Brown Deer Road at 68th Street	0.0	2500 N. Mayfair Road, Wauwatosa	10.5	10.5
53224	19,720	Brown Deer Road at 91st Street	0.0	2500 N. Mayfair Road, Wauwatosa	7.5	7.5
53225	26,109	Brown Deer Road at 91st Street	5.4	2500 N. Mayfair Road, Wauwatosa	6.1	0.7
53233	15,460	275 W. Wisconsin Ave.	1.2	2500 N. Mayfair Road, Wauwatosa	9.2	8.0

# Source: U.S. Census Bureau

\*The closest shopping area for 53222 is out of the City.

^Mileage provided by Mapquest.com

## Appendix E: Purchase Price Needed to Divert Consumer Spending Outside the City

ZIP Code	Difference in the Distances (miles)^	Median Family Income (1999) (2004 dollars)	Savings needed to make trip (with wealth adjusted)*	Purchase Needed for These Savings		
				0.5% tax (in dollars)	0.75% tax (in dollars)	1% tax (in dollars)
53202	10.0	61,045	7.56	1,511	1,007	756
53203	9.8	106,026	12.94	2,588	1,725	1,294
53204	7.8	28,941	2.81	561	374	281
53205	8.9	20,845	2.30	460	307	230
53206	5.3	24,071	1.59	319	213	159
53207	4.5	53,198	2.98	596	398	298
53208	5.0	31,392	1.95	391	261	195
53209	6.2	42,157	3.22	644	429	322
53210	2.2	36,763	1.00	200	133	100
53211	13.7	77,930	13.27	2,654	1,769	1,327
53212	12.3	26,579	4.05	810	540	405
53215	6.6	41,513	3.42	684	456	342
53216	4.8	40,650	2.41	483	322	241
53218	3.9	39,013	1.86	373	248	186
53219	1.2	56,190	0.86	171	114	86
53221	2.1	55,665	1.45	290	193	145
53222	0.0	60,350	0.00	-	-	-
53223	10.5	57,918	7.53	1,506	1,004	753
53224	7.5	50,456	4.67	934	622	467
53225	0.7	47,866	0.42	84	56	42
53233	8.0	21,319	2.10	420	280	210

^Calculated from Appendix E

\*The wealth adjustment weights the 68 cents proportionally to median family income as compared to the U.S. Average of \$54,830- Source, U.S. Census Bureau

## Appendix F: Percentage of Spending on Items Above Price Needed for Travel with 0.5% Sales Tax

ZIP Code	Median Family Income (1999) (2004 dollars)	Total Spending in Dollars on				Price in Dollars Needed For Travel	Percentage of Spending on Purchases above Price Needed for Travel			
		Television Equipment	Furniture	Major Appliances	Computer Hardware, Software		Television Equipment	Furniture	Major Appliances	Computer Hardware, Software
53202	61,045	5,609,416	3,412,998	1,611,778	1,664,319	1,511	2.5%	2.5%	2.5%	10.0%
53203	106,026	142,602	122,685	48,890	43,281	2,588	5.0%	5.0%	5.0%	10.0%
53204	28,941	5,305,569	2,690,985	1,395,642	1,306,456	561	20.0%	15.0%	30.0%	80.0%
53205	20,845	1,554,729	729,706	393,910	342,363	460	20.0%	12.5%	35.0%	60.0%
53206	24,071	4,641,375	2,263,086	1,212,378	1,058,088	319	40.0%	30.0%	70.0%	90.0%
53207	53,198	9,214,139	5,795,212	2,791,712	2,620,614	596	40.0%	40.0%	35.0%	95.0%
53208	31,392	5,721,499	3,208,902	1,580,553	1,543,795	391	40.0%	25.0%	60.0%	85.0%
53209	42,157	9,967,685	5,736,610	2,855,311	2,620,618	644	30.0%	20.0%	30.0%	90.0%
53210	36,763	5,316,451	2,953,446	1,456,526	1,395,421	200	70.0%	70.0%	70.0%	70.0%
53211	77,930	7,923,514	5,822,631	2,570,262	2,505,165	2,654	2.5%	2.5%	0.0%	10.0%
53212	26,579	5,179,205	2,686,141	1,371,136	1,333,017	810	2.5%	2.5%	0.0%	70.0%
53215	41,513	10,172,781	5,716,929	2,889,267	2,648,102	684	25.0%	20.0%	25.0%	80.0%
53216	40,650	6,841,401	3,855,055	1,925,316	1,830,914	483	50.0%	30.0%	40.0%	90.0%
53218	39,013	7,957,623	4,395,749	2,219,269	2,080,802	373	50.0%	30.0%	70.0%	90.0%
53219	56,190	8,911,499	5,639,002	2,755,663	2,451,824	171	90.0%	90.0%	90.0%	90.0%
53221	55,665	8,885,262	5,726,257	2,755,718	2,496,117	290	75.0%	60.0%	100.0%	95.0%
53222	60,350	6,657,597	4,317,800	2,065,018	1,856,892	-	0.0%	0.0%	0.0%	0.0%
53223	57,918	6,744,898	4,267,088	2,060,773	1,862,262	1,506	2.5%	2.5%	2.5%	10.0%
53224	50,456	4,164,876	2,626,703	1,240,211	1,178,256	934	10.0%	10.0%	10.0%	80.0%
53225	47,866	5,634,689	3,346,061	1,668,643	1,519,459	84	95.0%	95.0%	95.0%	95.0%
53233	21,319	1,110,802	502,858	270,583	278,401	420	25.0%	15.0%	40.0%	70.0%

\*Source: ZIP code Purchasing Power Profiles prepared by Employment and Training Institute, School of Continuing Education, University of Wisconsin-Milwaukee, 2004.

## Appendix G: Percentage of Spending on Items Above Price Needed for Travel with 0.75% Sales Tax

ZIP Code	Median Family Income (1999) (in 2004 Dollars)	Total Spending in Dollars on				Price Needed for Travel (in Dollars)	Percentage of Spending on Purchases above Price Needed for Travel			
		Television Equipment	Furniture	Major Appliances	Computer Hardware, Software		Television Equipment	Furniture	Major Appliances	Computer Hardware, Software
53202	61,045	5,609,416	3,412,998	1,611,778	1,664,319	1,007	15.0%	15.0%	15.0%	80.0%
53203	106,026	142,602	122,685	48,890	43,281	1,725	10.0%	10.0%	10.0%	40.0%
53204	28,941	5,305,569	2,690,985	1,395,642	1,306,456	374	40.0%	25.0%	65.0%	85.0%
53205	20,845	1,554,729	729,706	393,910	342,363	307	40.0%	30.0%	70.0%	90.0%
53206	24,071	4,641,375	2,263,086	1,212,378	1,058,088	213	80.0%	60.0%	90.0%	100.0%
53207	53,198	9,214,139	5,795,212	2,791,712	2,620,614	398	60.0%	45.0%	65.0%	95.0%
53208	31,392	5,721,499	3,208,902	1,580,553	1,543,795	261	45.0%	35.0%	75.0%	90.0%
53209	42,157	9,967,685	5,736,610	2,855,311	2,620,618	429	45.0%	25.0%	60.0%	90.0%
53210	36,763	5,316,451	2,953,446	1,456,526	1,395,421	133	80.0%	80.0%	80.0%	80.0%
53211	77,930	7,923,514	5,822,631	2,570,262	2,505,165	1,769	7.5%	7.5%	7.5%	40.0%
53212	26,579	5,179,205	2,686,141	1,371,136	1,333,017	540	20.0%	15.0%	30.0%	80.0%
53215	41,513	10,172,781	5,716,929	2,889,267	2,648,102	456	42.5%	22.5%	62.5%	90.0%
53216	40,650	6,841,401	3,855,055	1,925,316	1,830,914	322	50.0%	30.0%	70.0%	90.0%
53218	39,013	7,957,623	4,395,749	2,219,269	2,080,802	248	70.0%	70.0%	80.0%	95.0%
53219	56,190	8,911,499	5,639,002	2,755,663	2,451,824	114	92.5%	92.5%	92.5%	92.5%
53221	55,665	8,885,262	5,726,257	2,755,718	2,496,117	193	85.0%	85.0%	85.0%	85.0%
53222	60,350	6,657,597	4,317,800	2,065,018	1,856,892	-	-	-	-	-
53223	57,918	6,744,898	4,267,088	2,060,773	1,862,262	1,004	15.0%	15.0%	15.0%	80.0%
53224	50,456	4,164,876	2,626,703	1,240,211	1,178,256	622	35.0%	25.0%	25.0%	90.0%
53225	47,866	5,634,689	3,346,061	1,668,643	1,519,459	56	97.0%	97.0%	97.0%	97.0%
53233	21,319	1,110,802	502,858	270,583	278,401	280	45.0%	35.0%	75.0%	90.0%

\*Source: ZIP code Purchasing Power Profiles prepared by Employment and Training Institute, School of Continuing Education, University of Wisconsin-Milwaukee, 2004.

## Appendix H: Percentage of Spending on Items Above Price Needed for Travel with 1% Sales Tax

ZIP Code	Median Family Income (1999) (in 2004 dollars)	Total Spending in Dollars on				Price Needed For Travel	Percentage of Spending on Purchases above Price Needed for Travel			
		Television Equipment	Furniture	Major Appliances	Computer Hardware & Software		Television Equipment	Furniture	Major Appliances	Computer Hardware & Software
53202	61,045	5,609,416	3,412,998	1,611,778	1,664,319	756	40.0%	35.0%	40.0%	90.0%
53203	106,026	142,602	122,685	48,890	43,281	1,294	15.0%	15.0%	20.0%	80.0%
53204	28,941	5,305,569	2,690,985	1,395,642	1,306,456	281	40.0%	30.0%	70.0%	90.0%
53205	20,845	1,554,729	729,706	393,910	342,363	230	75.0%	55.0%	85.0%	95.0%
53206	24,071	4,641,375	2,263,086	1,212,378	1,058,088	159	65.0%	65.0%	65.0%	65.0%
53207	53,198	9,214,139	5,795,212	2,791,712	2,620,614	298	75.0%	60.0%	100.0%	95.0%
53208	31,392	5,721,499	3,208,902	1,580,553	1,543,795	195	70.0%	70.0%	70.0%	70.0%
53209	42,157	9,967,685	5,736,610	2,855,311	2,620,618	322	50.0%	30.0%	70.0%	90.0%
53210	36,763	5,316,451	2,953,446	1,456,526	1,395,421	100	90.0%	90.0%	90.0%	90.0%
53211	77,930	7,923,514	5,822,631	2,570,262	2,505,165	1,327	10.0%	10.0%	15.0%	70.0%
53212	26,579	5,179,205	2,686,141	1,371,136	1,333,017	405	30.0%	20.0%	60.0%	70.0%
53215	41,513	10,172,781	5,716,929	2,889,267	2,648,102	342	50.0%	30.0%	70.0%	90.0%
53216	40,650	6,841,401	3,855,055	1,925,316	1,830,914	241	70.0%	70.0%	80.0%	95.0%
53218	39,013	7,957,623	4,395,749	2,219,269	2,080,802	186	80.0%	80.0%	80.0%	80.0%
53219	56,190	8,911,499	5,639,002	2,755,663	2,451,824	86	95.0%	95.0%	95.0%	95.0%
53221	55,665	8,885,262	5,726,257	2,755,718	2,496,117	145	90.0%	90.0%	90.0%	90.0%
53222	60,350	6,657,597	4,317,800	2,065,018	1,856,892	-	-	-	-	-
53223	57,918	6,744,898	4,267,088	2,060,773	1,862,262	753	35.0%	30.0%	35.0%	90.0%
53224	50,456	4,164,876	2,626,703	1,240,211	1,178,256	467	45.0%	50.0%	75.0%	90.0%
53225	47,866	5,634,689	3,346,061	1,668,643	1,519,459	42	99.0%	99.0%	99.0%	99.0%
53233	21,319	1,110,802	502,858	270,583	278,401	210	80.0%	60.0%	90.0%	100.0%

\*Source: ZIP code Purchasing Power Profiles prepared by Employment and Training Institute, School of Continuing Education, University of Wisconsin-Milwaukee, 2004

## Appendix I: Economic Activity Expected to be Lost Because of Sales Tax

ZIP Code	Estimated Sales in Dollars Lost to Suburbs (100 percent rationality)*			Estimated Sales in Dollars Lost to Suburbs (50 percent rationality)**		
	0.5% tax	0.75% tax	1.0% tax	0.5% tax	0.75% tax	1.0% tax
53202	432,287	2,926,584	5,580,914	216,143	1,463,292	2,790,457
53203	20,037	48,730	84,196	10,018	24,365	42,098
53204	2,928,619	4,812,629	5,082,283	1,464,309	2,406,314	2,541,141
53205	745,445	1,424,667	2,227,453	372,723	712,334	1,113,727
53206	4,336,420	7,220,180	5,963,703	2,168,210	3,610,090	2,981,851
53207	8,890,902	12,440,525	15,669,027	4,445,451	6,220,262	7,834,513
53208	5,351,383	6,272,621	8,438,324	2,675,691	3,136,310	4,219,162
53209	7,352,777	10,134,119	11,062,099	3,676,389	5,067,060	5,531,050
53210	7,785,291	8,897,475	10,009,660	3,892,645	4,448,738	5,004,830
53211	594,170	2,225,797	3,513,769	297,085	1,112,898	1,756,885
53212	1,129,746	2,916,517	3,846,783	564,873	1,458,258	1,923,392
53215	6,659,785	9,798,825	11,207,248	3,329,892	4,899,412	5,603,624
53216	6,995,166	7,572,761	10,767,140	3,497,583	3,786,380	5,383,570
53218	8,723,746	12,399,538	13,322,754	4,361,873	6,199,769	6,661,377
53219	17,782,189	18,276,139	18,770,089	8,891,095	9,138,069	9,385,044
53221	15,226,730	12,662,711	17,877,019	7,613,365	6,331,355	8,938,509
53222	-	-	-	-	-	-
53223	513,045	3,450,723	6,038,147	256,523	1,725,362	3,019,074
53224	1,745,784	3,484,866	5,178,134	872,892	1,742,433	2,589,067
53225	11,560,409	11,803,786	12,047,163	5,780,205	5,901,893	6,023,582
53233	656,243	1,129,359	1,712,282	328,122	564,680	856,141
Total	109,430,173	139,898,550	168,398,188	54,715,086	69,949,275	84,199,094
	Total Sales = 11,760,456,000			Percent of Total Sales		
				0.47%	0.59%	0.72%

\* 100 percent rationality means that 100 percent of people for whom it would make sense to travel to the suburbs to shop would do so.

\*\* We assume that 50 percent of Milwaukee's residents will act rationally about traveling farther away to shop and that 50 percent will continue to shop closest to their homes.

This model does not account for businesses in the City diverting their spending outside the City because of a city sales tax.

Our worst-case scenario estimate would double the loss in total sales.

## **Appendix J: Assumptions for Property Tax Exporting**

City of Milwaukee total assessed property values from 2002 (City of Milwaukee, Assessor's Office 2002) are used in this section, along with information from the Wisconsin Department of Revenue's 2004 *Tax Incidence Study*. In total, our assumptions listed below indicate that non-residents of the City pay approximately 24.7 percent of the property tax.

### **Residential Property**

Residential property is 61 percent of total assessed property value in the City of Milwaukee. Residential property, as defined by the city assessor, includes all property where the predominant use is for living purposes. Within the residential class of property, there are two sub-classes: (1) single-family, two-family, and three-family dwellings; and (2) condominiums. In Milwaukee, residential property consists of approximately 61 percent of the total assessed property value. The U.S. Census (2000) suggests that 45.3 percent of occupied housing units in the City of Milwaukee are owner-occupied, while the remaining 54.7 percent is renter-occupied housing. Of housing that is renter-occupied, the *Tax Incidence Study* states that 35 percent of the property tax is borne by the landlord, while 65 percent is borne by the tenant (Wisconsin Department of Revenue, Division of Research and Policy. 2004). We assume that 5 percent of tenants in renter-occupied housing are non-residents of Milwaukee that temporarily live in the City during some portion of the year due to business or personal commitments. We then assume that 25 percent of the landlord's portion is exported. Based on our calculations, this amounts to an exported portion of 4 percent of the total property tax to non-residents.

### **Commercial Property**

Commercial property in the City represents 32 percent of the total assessed property value. Within the commercial class of property, three sub-classes exist:

- (1) 10 percent of total assessed value in the City includes apartments of four or more units;
- (2) 5 percent includes smaller storefront properties and taverns; and
- (3) 17 percent includes special function property types, such as hotels, fast food franchises, shopping centers, and office buildings.

In the first sub-class, we again assume that 35 percent of the tax burden is borne by landlords, and 65 percent by tenants. Of the landlord portion, we propose that 25 percent is exported; and of the tenant portion, we assume that 5 percent is exported. In the second sub-class, we assume that 5 percent of the assessed property value is exported. As the third sub-class is likely to include many national chains and national or multi-national corporations, we assume that approximately 75 percent of the property value is attributable to non-residents of the City. Based on these assumptions, we calculate that about 45.2 percent of total assessed commercial value is exported to non-residents.

## **Manufacturing Property**

Manufacturing property is 3.5 percent of the total assessed property value of the City of Milwaukee. Manufacturing property, as defined by the city assessor, consists of all property that is used in the manufacturing, assembling, processing, or fabricating tangible personal property for a profit. Manufacturing property also includes the establishments involved in assembling parts of the manufactured products. The *Tax Incidence Study*, under its “plausible” variant, assumes that tax on business properties are borne by owners and consumers (Wisconsin Department of Revenue, Division of Research and Policy, 2004). At the state level, Wisconsin consumers pay 1 percent and Wisconsin business owners pay 33 percent of business property taxes. The Department of Revenue assumes that the remaining 66 percent is exported outside the State. For Milwaukee, we assume that this exported portion to non-residents of the City is approximately 80 percent. Therefore, our calculations indicate that about 2.8 percent of total assessed property value is exported to non-resident owners of real manufacturing property.

## **Personal Property**

The remaining amount of assessed property value consists of 3.4 percent non-manufacturing personal property and 1.2 percent manufacturing personal property. We again elect to use the assumption that approximately 80 percent of manufacturing and non-manufacturing property value is exported to non-residents. We estimate that about 3.7 percent of the total assessed property value for the City is exported to non-residents that own manufacturing and non-manufacturing personal property.

## Appendix K: Assumptions for City of Milwaukee Commuter Expenditures

We used Green's average weekly expenditure amount for Racine commuters, adjusted to 2004 dollars, to project 2002 to 2006 commuter expenditures (Green 2001b). As most food items are tax-exempt, grocery expenditures were taken out of these estimates. A 52-week year is applied to annualize the data. Forecasted growth in real personal income from 2002 to 2006 appears in Table 6 and is used for the estimations (Wisconsin Department of Revenue, Division of Research and Policy, 2005b.). A total Milwaukee in-commuter population of 134,000 is assumed based on U.S. Census data in 2000 (U.S. Census Bureau 2000e).

**Table 6**  
**Wisconsin Real**  
**Personal Income**

Year	Annual Growth Rate
2002	1.40%
2003	1.20%
2004	2.9%
2005*	4.10%
Beyond 2005*	3.4%

\*2005 and Beyond 2005 are forecasted rates.  
Source: Wisconsin Department of Revenue,  
Division of Research and Policy's  
Wisconsin Economic Outlook, 2005.

## **Appendix L: Assumptions for City of Milwaukee Visitor Expenditures**

The Department of Tourism releases estimated annual visitor expenditures for Wisconsin counties, and the latest available year is 2003. Visitor expenditures include shopping, lodging, recreation, food, and transportation. Shopping is the largest category, with approximately two-thirds of total expenditures. To estimate city visitor expenditures, we used the percentage of city population attributable to the county population as indicated by the 2000 U.S. Census, and multiplied it by Milwaukee County visitor expenditures. This population percentage is approximately 60 percent (U.S. Census Bureau 2000b.). To forecast visitor expenditures in the City to 2006, we use growth rates for real personal income in Wisconsin (Wisconsin Department of Revenue, Division of Research and Policy 2005b).

## Appendix M: Assumptions for Sales Tax Exporting

The Wisconsin Department of Revenue's *Tax Incidence Study* estimates that approximately 66.8 percent of sales and use taxes collected by the State are borne by consumers, 26.5 percent are borne by non-manufacturing businesses, and 6.74 percent are borne by manufacturing businesses (Wisconsin Department of Revenue, Division of Research and Policy 2004). Though the City of Milwaukee has more consumers and more businesses as compared to other municipalities in the State, we assume that the general ownership structure of the sales tax in Milwaukee is the same. Table 7 shows our incidence and exportation assumptions for these three groups. How we came to our assumptions for each group is described in the following paragraphs.

**Table 7**  
**Incidence Assumptions for a City of Milwaukee Sales and Use Tax**

		Manufacturers			Non-Manufacturers			Consumers
Ownership Structure		6.74%			26.50%			66.80%
		Labor	Customers	Business Owners	Labor	Customers	Business Owners	Consumer
Incidence Assumptions		70%	17%	13%	17%	67%	16%	100%
Percent Exported		45%	99%	45%	45%	50%	85%	34%

Source: Authors' calculations and Wisconsin Department of Revenue, Division of Research and Policy, 2004.

### Commuters and Tourists

The Wisconsin Department of Revenue reports that retail trade accounts for approximately 61 percent of total state sales taxes collected (Wisconsin Department of Revenue 2003). According to the U.S. Census, City of Milwaukee retail trade in 1997 totaled approximately \$3.9 billion in 2004 CPI adjusted dollars (U.S. Census Bureau 1997). In our calculation of the portion of city sales tax that is attributable to commuters and visitors to the City, we use retail sales as a proxy for total taxable consumer sales. We assume that the majority of purchases made by commuters and visitors are retail sales, making this a reasonable claim.

To project retail sales for the City of Milwaukee, we use the Department of Revenue's forecasted growth in real personal income (Wisconsin Department of Revenue, Division of Research and Policy 2004). Estimated visitor and commuter expenditures were then divided by the projected city retail sales from 2001 to 2006. We assume that this ratio is roughly representative of the exported portion of taxable consumer sales attributable to commuters and visitors. We estimate that of total consumer sales taxes collected in the City of Milwaukee, 21 percent is exported to visitors, and 13 percent to commuters. Of the total sales and use taxes collected, this translates into 14 percent and 9 percent, respectively.

## **Business**

The Department of Revenue divides businesses into two groups: manufacturers and non-manufacturers. The department assumes that for manufacturing businesses, 70 percent of the burden of the sales tax is borne by labor, 13 percent is borne by business owners, and 17 percent is borne by manufacturing customers. For non-manufacturing businesses, 17 percent of the sales tax is borne by labor, 67 percent by customers, and 16 percent by business owners (Wisconsin Department of Revenue, Division of Research and Policy 2004). We assume that these divisions between labor, customers, and owners of business capital were transferable to Milwaukee manufacturers and non-manufacturers.

Revenue's study assumes that none of the burden of the sales tax on labor is exported. The total employed population of City of Milwaukee residents is 256,244 (U.S. Census Bureau 2000d). Out of this total, approximately 94,000 commute to work outside of the City every day, bringing the total city residents working in the City down to 162,244 (U.S. Census Bureau 2000f). However, there are approximately 134,000 workers that commute to the City of Milwaukee from other municipalities each day, bumping the total number of workers in the City to 296,244 each day. Therefore, due to the number of commuters who work in the City each day, we assume that approximately 45 percent of the sales tax burden on labor is exported. We make this assumption for both manufacturing and non-manufacturing businesses.

The Department of Revenue study assumes that about 96.8 percent of taxable customer purchases of manufacturing products are exported, and that 6.7 percent of taxable customer purchases on non-manufacturing products are exported in Wisconsin. (Wisconsin Department of Revenue, Division of Research and Policy 2004). However, since the City of Milwaukee is the State's main center for commercial activity, we believe that the percentage of sales tax on business purchases exported to be much higher. In the City of Milwaukee, we assume these percentages to be 98 percent and 50 percent, respectively.

Finally, the Department of Revenue suggests that in Wisconsin, approximately 68 percent of the sales tax on non-manufacturing businesses is borne by non-manufacturing owners who reside outside of the City of Milwaukee, and that about 99 percent of the sales tax on manufacturing businesses is borne by non-city manufacturing owners. (Wisconsin Department of Revenue, Division of Research and Policy 2004). In Milwaukee, we also assume that approximately 99 percent of the sales tax on manufacturing businesses is borne by non-resident manufacturing owners. For non-manufacturing businesses, we assume that the percentage of sales tax exported to non-resident business owners of Milwaukee is approximately 85 percent.

In total, approximately 19 percent of the sales tax is exported to non-Milwaukee businesses, shared by labor, customers, and business owners.

## **Appendix N: Assumptions for Forecasting City of Milwaukee Sales Tax Revenues**

The Employment and Training Institute of the School of Continuing Education at the University of Wisconsin–Milwaukee’s methodology employs the most recent data available from the U.S. Census Bureau’s Consumer Expenditure Survey and from detailed state income tax files. The institute’s analysis produced a series of Purchasing Power Profiles for each Wisconsin ZIP code, analyzing 16 categories of expenditures, including: (1) food at home; (2) food away from home; (3) apparel and related services; (4) television equipment, tapes, and discs; (5) audio equipment, CDs, and tapes; (6) household textiles; (7) furniture; (8) floor coverings; (9) major appliances; (10) small appliances and housewares; (11) computer hardware and software; (12) miscellaneous household equipment; (13) non-prescription drugs and supplies; (14) housekeeping supplies; (15) personal products; and (16) home repair commodities (City of Milwaukee Department of City Development 2004).

In these reports, estimated total annual consumer expenditures by ZIP code are reported, along with expenditure amounts for the categories listed above. For our sales tax revenue estimates, we exclude the “food at home” category as most food consumed at home is exempt from the Wisconsin sales tax. There are 35 ZIP codes in Milwaukee County, with 21 of them in the City of Milwaukee. Taxable consumer expenditures by ZIP code and county and city totals appear in Table 8. The expenditure data indicate that 60.5 percent of taxable expenditures in Milwaukee County occur within the City of Milwaukee.

**Table 8  
Milwaukee ZIP Code Data, 2002**

ZIP Code	Total Annual Retail Expenditures (\$)	"Food at Home" (\$)	Estimated Taxable Retail Sales (\$) (Expenditures - Food at Home)
<i>53202</i>	85,907,434	31,564,661	54,342,773
<i>53204</i>	91,340,140	42,174,185	49,165,955
<i>53205</i>	25,902,680	11,971,332	13,931,348
<i>53206</i>	78,196,292	35,756,215	42,440,077
<i>53207</i>	151,901,580	60,208,340	91,693,240
<i>53208</i>	95,095,320	40,634,253	54,461,067
<i>53209</i>	166,754,659	70,748,146	96,006,513
<i>53210</i>	88,995,188	38,733,108	50,262,080
<i>53211</i>	133,000,237	49,061,610	83,938,627
<i>53212</i>	84,602,128	36,671,157	47,930,971
<i>53215</i>	171,646,608	74,427,659	97,218,949
<i>53216</i>	113,941,851	48,645,741	65,296,110
<i>53218</i>	133,688,825	58,024,598	75,664,227
<i>53219</i>	147,742,345	58,780,255	88,962,090
<i>53221</i>	149,219,703	59,448,547	89,771,156
<i>53222</i>	111,238,813	43,868,019	67,370,794
<i>53223</i>	112,893,008	45,550,824	67,342,184
53224	70,374,571	28,933,057	41,441,514
53225	94,366,754	39,450,932	54,915,822
53233	17,606,974	7,806,844	9,800,130
53110	72,530,163	28,767,262	43,762,901
53129	65,263,171	24,166,539	41,096,632
53130	33,680,105	12,592,240	21,087,865
53132	125,899,937	45,686,198	80,213,739
53154	121,074,302	45,750,249	75,324,053
53172	84,088,506	32,834,790	51,253,716
53213	118,140,251	43,722,647	74,417,604
53214	139,791,338	55,249,606	84,541,732
53217	150,037,556	52,040,313	97,997,243
53220	104,004,862	40,337,389	63,667,473
53226	87,923,581	32,225,813	55,697,768
53227	98,986,989	38,648,195	60,338,794
53228	62,268,709	23,190,324	39,078,385
53235	36,320,834	14,203,351	22,117,483
		<b>County Total</b>	<b>2,052,551,015</b>
		<b>City Total</b>	<b>1,241,955,627</b>
		<b>City/County Ratio</b>	<b>60.51%</b>

\* ZIP codes in bold, italic are in the City of Milwaukee.

Source: City of Milwaukee, "Purchasing Power" 2004.

We generate an estimate of sales tax revenue from a 0.5 percent city sales tax by applying this ratio of city to county taxable expenditures to Department of Revenue data on the actual sales and use taxes collected in Milwaukee County (Department of Revenue, Division of Research and Policy 2005a). Table 5 in the body of the report presents our sales tax revenue estimates for every year between 2005 and 2015. For future years, we make that assumption that sales tax revenue will increase in proportion to the growth in real personal income (Department of Revenue, Division of Research and Policy 2005b).

We also assume that with higher sales tax rates, some economic activity is lost as a portion of consumers decide to shop outside of the city. Economic activity expected to be lost due to a sales tax appears in Appendix I.