Local Option Sales Tax: A Louisville Perspective

An Urban Studies Institute Research Report

by

Janet M. Kelly, Ph.D.
Executive Director
and
Alex Narang, MPA

Urban Studies Institute
University of Louisville
426 West Bloom Street
Louisville KY 40208
usi.louisville.edu

The authors are grateful to Emeritus Professor Paul Coomes for his advice and suggestions and to Sam Yung, Graduate Research Assistant, for her help in preparing this report.

Table of Contents

Preface

This report was prepared at the request of Councilman Ken Fleming of the 7th District of Louisville Metro Government and funded through Neighborhood Development Funds from District 7. A copy of Ordinance Number 39 that appropriated the funds can be found in Appendix A.

The purpose of the research is to examine how the Local Option Sales Tax (LOST) is used by cities in states that authorize it, especially Louisville's peer cities, and prospectively estimate the yield and incidence if the LOST were implemented in Louisville Metro. Other pertinent issues related to the LOST are also addressed.

Some assumptions were necessary to move the analysis forward. The most critical of these assumptions is that the Kentucky Legislature would modify the Constitution to allow cities in Kentucky to impose a LOST by referendum, that Louisville Metro would choose a 1% LOST rate, and that citizens would approve the issue at referendum.

Further, that the base of the LOST would be identical to the base of the general sales and use tax currently levied at 6% by the state. That is, all exemptions that apply to the state sales and use tax would apply equally to the LOST.

Finally, that the historic patterns of consumer spending that produce state sales tax receipts are the best indicator of receipts under the LOST. Where these assumptions are suspended in order to address issues like cross-border spending, the analysis states so explicitly.

This report is best viewed online if the reader is interested in reviewing data sources and citations.

Attribution is presented in an unusual manner in the report. Where the source document is publicly available, a hyperlink is included for the reader's convenience. In some cases, primarily scholarly journal articles, availability to the public is limited. These are included in a reference section immediately following the report.

We are grateful to Councilman Fleming and the entire Louisville Metro Council for the opportunity to prepare this report. The contents of the report and any opinions therein are the responsibility of the principal author.

Executive Summary

The local option sales tax (LOST) is not available to Kentucky local governments. A Constitutional amendment would be required to permit the Kentucky Department of Revenue (DOR) to collect local sales taxes along with state sales taxes. When Kentucky last enacted comprehensive tax reform in 2005, the Task Force on Local Taxation recommended allowing local governments more tax flexibility, but acknowledged that most revenue sharing alternatives would be prohibited under the current language of the Kentucky Constitution.

Thirty-seven states have some sort of sales tax sharing arrangement with their local governments. In 32 states it takes the form of a local general sales tax. Twenty-three states have a LOST similar in structure to that advocated by Louisville Metro Mayor Greg Fischer.

A LOST is usually subject to approval by local voters after it has been authorized by the state legislature. The approval may or may not have time limits. When the LOST is earmarked or designated for a particular purpose, the LOST usually expires after some time period by which it is estimated the project will be complete. If the government wants to undertake another project with the LOST, another voter approval must be secured.

All state sales tax exemptions and most limitations apply to the LOST. Limitations usually take the form of a dollar cap on vehicles or other big-ticket purchases like furniture and appliances.

LOST revenue can be a used for general or specific purposes. LOST collections can go into a local government's general fund – the fund that is used to pay for most public services – or to a special revenue fund that is earmarked for limited purposes. The limitation on the purpose can be more or less specific.

In most states both cities and counties participate in the LOST. The distribution system for LOST revenue takes one of three forms. The first is stacked, where the city rate and the county rate are added to the state rate. The second is point of sale, which returns the LOST revenue to the jurisdiction in which in the transaction occurred. The third is a split (or formula) distribution that is often population based.

Some states use proceeds from a LOST to roll back property taxes. A 0.5% LOST could entirely supplant general purpose property tax revenue (not including schools or the urban services district) in Louisville Metro. It would take a 1.6% LOST to supplant occupational license tax revenue (not including TARC and the school board).

The most common rate for a LOST is 1%. According to records of sales tax collections by county furnished by the Kentucky Department of Revenue (DOR) a 1% LOST might raise approximately $95 million for Louisville Metro.

However, the DOR numbers do not include all sales taxes collected as reported by the Office of the State Budget Director (OSBD) in the monthly tax receipts report. A formula that imputes unallocated sales taxes back to counties estimated LOST receipts of approximately $138 million for Jefferson County in calendar 2012. Revenue could potentially increase by another $6 million if the Marketplace Fairness Act (SB 743) becomes law. The Act would grant Kentucky the authority to compel remote vendors such as online and catalog retailers to collect sales tax on each transaction.

Of the 14 peer cities to which Louisville typically benchmarks its performance, only Indianapolis does not have the local option sales tax. A comprehensive examination of the property, income and sales tax structures in the peer cities based on a hypothetical family of four with two earners and a home in the urban services district permitted a ranking of the peer cities by total current tax burden.

City	Property Tax	Income Tax	Sales Tax	Total
Dayton	$6,896	$5,577	$1,268	$13,741
Columbus	$4,423	$5,827	$1,268	$11,518
Louisville	$2,630	$7,724	$1,127	$11,481
Omaha	$4,959	$4,508	$1,774	$11,241
Cincinnati	$4,415	$5,427	$1,268	$11,110
Charlotte	$2,765	$6,368	$1,706	$10,839
Greensboro	$2,600	$6,368	$1,706	$10,674
Indianapolis	$3,930	$4,850	$1,751	$10,531
Kansas City	$2,859	$5,695	$1,907	$10,461
Birmingham	$1,110	$6,404	$2,518	$10,032
Raleigh	$1,688	$6,368	$1,706	$9,761
Richmond	$2,165	$4,934	$1,508	$8,607
Nashville	$3,576	$0	$2,016	$5,592
Memphis	$3,352	$0	$2,016	$5,368
Jacksonville	$2,442	$0	$1,404	$3,846

When a 1% LOST was added to the sales tax burden calculation, Louisville moved up to second place in the ranking and the tax burden increased from $11,481 to $11,669.

There are two primary concerns regarding sales taxes among policy makers: they are regressive and they shift economic activity away from the taxing jurisdiction. The regressivity argument is that citizens with lower incomes spend more of their incomes on purchases subject to the tax and therefore face a higher effective tax rate. An analysis of Consumer Expenditure Survey data demonstrates that persons with lower incomes spend a greater proportion of their incomes on

essential purchases like food, housing, utilities and transportation. When food and utilities are exempt from sales tax, regressivity is diminished.

As to economic effects, research on tax rate differentials between contiguous states conclude that there is some decrease in sales in the higher tax jurisdiction and some increase in sales in the lower tax jurisdiction, but the magnitude varies with characteristic of the product and the proximity of the purchaser.

Louisville Metro should not expect any shoppers to go to Indiana for purchases because the sales tax rate would be 7% in both places. However, some Indiana shoppers who drove to Kentucky for tax price savings would no longer have a reason to do so. Similarly, Kentucky could lose Tennessee shoppers who had previously taken advantage of tax price savings, as a narrowing of the tax price gap would occur.

The gap between Virginia's 5% sales tax and a potential LOST rate adoption for a combined 7% sales tax in Kentucky might induce Kentucky shoppers to cross the Virginia border to shop if the merchandise they want is available in the border county. Fortunately for Kentucky, there is no major retail center located in the border county.

The few intrastate studies examining on the relationship between adoption of the LOST and resulting impacts on economic activity focus on the issue of tax exportation and regional trading centers. When shoppers leave their home county to shop or dine in Louisville, the sales tax they pay is "exported." The economic effect of an exported tax is to provide public goods and services to Louisville citizens at a reduced tax price. This is less a consideration when the projects undertaken from LOST proceeds have regional impact.

Microeconomic theory says that a rational individual will prefer to make a purchase in a jurisdiction with a lower tax rate than in a jurisdiction with a higher tax rate when the transaction cost of the purchase is zero. When the transaction cost is not zero, cross-border effects are not well understood. How far would a person be willing to drive to save 1% of purchase price on taxable items? The unsatisfying answer is that it depends on many factors including brand affinity, store loyalty, and credit arrangements. Something as simple as familiarity with the merchandise can cause a shopper to inflate the transaction cost of shopping at a different location to take advantage of tax differences.

Even though a LOST would amount to a revenue windfall for Louisville Metro, current sales tax bases are shrinking as consumption patterns shift from goods to services. An examination of a hypothetical sales tax in Louisville from 2002-2012 shows that revenues have grown by about 3% per year. Unless the base is expanded to reflect changes in consumption, which includes remote vendor sales, LOST revenues may not grow as fast in the future, or may not grow at all.

Background

Sales and income taxes are the workhorses of most state revenue systems. Some states, notably Kentucky's neighboring state of Tennessee, do not have a personal income tax on wages and salaries and rely almost exclusively on general and selective sales taxes to fund state government. Nationally, the picture is more balanced. Kentucky state tax structure is much like the rest of the nation, but local governments rely more heavily on income taxes than property taxes and do not have access to general sales taxes.

Table 1. Tax Revenue by Type, All US States and Local Governments and Kentucky, 2011.

	US		Kentucky	
	State	Local	State	Local
Property	2.1%	75.1%	5.4%	57.8%
Sales and gross receipts	48.8%	15.7%	49.1%	13.1%
General sales	31.7%	11.0%	29.3%	0.0%
Selective sales	17.1%	4.7%	19.8%	13.1%
Individual income	33.7%	4.3%	33.1%	24.4%
Corporate income	5.2%	1.1%	4.0%	2.3%
Motor vehicle license	3.0%	0.3%	2.1%	1.0%
Other taxes	7.2%	3.6%	6.3%	1.4%

Source: 2011 Annual Survey of State Government Finances, US Census Bureau

Examining the tax structures of the states, especially border states to Kentucky, reveals similarities in the types of taxes levied as well as in tax rates, tax bases and taxing jurisdictions. One might reasonably conclude that the states have a sustainable revenue structure. However, a casual review of media reports finds dozens of states dealing with a structural deficit, or a situation where state revenues are not keeping pace with the cost of government. A recent report by the Center on Budget and Policy Priorities suggested that as many as eighteen states are at a high risk of structural deficit, including Kentucky.

A structural deficit forces one of two options: increase revenue or reduce the cost of government. States have been able to use one-time revenues and tap rainy-day funds to produce a constitutionally-required balanced budget in years where revenues were insufficient to meet expenditures. States have been able to reduce their expenditures in a variety of ways, including freezes, furloughs, rescissions and cuts. State tax commissions and blue ribbon panels charged with comprehensive tax reform (see the National Conference of State Legislatures) have rarely been able to produce a reform other than an increase in the general sales tax rate. According to a National Tax Foundation report, 12 states raised their general sales tax rate during the period 2007-2011, including Indiana, which now has a 7% rate (up from 6%).

While helpful in the short term, raising rates on a shrinking base is not an effective long term revenue strategy. Howe and Reeb (1997) noted that state tax systems innovate when political willingness meets economic reality. Though modern consumption patterns have shifted to include services as well as goods, most state tax systems did not expand their sales tax bases to include services. The exceptions are Hawaii and New Mexico, both of which have broad-based taxes on services. A handful of states tax selected services, but largely leave professional services untaxed. Florida's disastrous attempt to expand the tax base to services (enacted July 1987, repealed December 1987) discouraged many reformers from seriously entertaining the idea of an expansion of sales and use taxes to services (for an insightful analysis of what went wrong with the Florida sales tax on services, see an article by James Francis).

Kentucky's Blue Ribbon Commission on Tax Reform considered broadening the sales tax base to include services, noting that selective base narrowing (or adding more exemptions to the existing taxable base) has been taking place since the general sales and use tax rate was increased to 6% in 1990. Other options included raising the sales tax rate by 1% and revisiting certain exemptions such as food and prescription drugs. In the final recommendations to the Governor, the Commission recommended base broadening in general, but did not include any specific base broadening except to endorse efforts to increase collection of out-of-state and internet sales, a matter treated at some length in a later section.

The reader might be mystified at the purpose of this discussion of state structural deficits and sales taxes when the report is supposed to be focused on local option sales taxes in Louisville Metro. State structural deficits have local consequences. Two common ones are reductions in revenue shared with local governments and a shifting of service responsibilities from the state to local governments. State government may provide for certain services without producing them by the imposition of an unfunded mandate to local governments.

Local governments would then have to look at their taxing options, which now include property taxes (urban-county governments are limited to an annual increase of 4%), occupational license fees (income taxes), insurance premium taxes and a variety of charges and fines. Natural growth in these taxes is unlikely to produce a revenue stream sufficient to keep up with the rising cost of existing service demands and new service demands that have yet to emerge. Kentucky's local governments are unusual in that they rely heavily on local income taxes, which are imposed on earnings at the site of employment. When combined with state taxes on income, some economists consider Kentucky's cities and counties at a competitive disadvantage relative to other states that permit their local governments to tax consumption rather than labor.

Access to sales tax revenue would be a significant fiscal boon to Louisville Metro and all cities and counties that avail themselves of a LOST were it available. However, a LOST will have the

same base as the state sales and use tax, and will face the same difficulties as the state sales tax when it comes to the long term revenue outlook. Moreover, if the state does look for additional revenue in the form of sales taxes, recent evidence suggests that changes will not involve broad expansion of the base to professional and business services.

In 2005 the General Assembly passed House Bill 272, the most recent reform of Kentucky's tax code. While mostly silent on the issue of local tax options, the bill established the Tax Force on Local Taxation, which issued its Final Report in June 2006. Its first recommendation reads, in part:

> The members of the task force determined that the most necessary and significant change that must be made for Kentucky to develop a modern, efficient local tax system is the amendment of the Constitution of Kentucky to allow more flexibility in local taxation and in the fiscal relationship between the state and local governments. Most recommendations offered by task force members or those testifying before the task force regarding alternative revenue source of state/local revenue sharing would be prohibited under the current language of the Kentucky Constitution. Thus, amending the Constitution is a necessary first step (p.9).

It is also a very high hurdle. Pagano and Johnson (2000) note that cities are at the "bottom of the fiscal food chain," often lacking needed authority to diversify revenue sources even as they absorb additional service responsibilities. In general, revenue diversification can help insulate local governments against economic shocks the same way a diversified portfolio helps investors weather downturns in certain market sectors. A LOST would add diversity and hence strength to the revenue portfolio of Kentucky local governments. However, earmarking the tax for a special purpose would limit the benefit afforded by revenue diversity.

LOST Revenue Potential

Brunori (2007) noted that in the past fifty years the LOST has gone from being practically nonexistent to generating more revenue for local governments than any other tax except the property tax. The LOST is imposed on the same base as the state sales taxes and collected at the same time as the sales tax, using the same process and usually by the same authority. It is sometimes referred to as a "piggyback" tax because it rides on the administrative systems used to collect the state sales tax. The most common rate for a LOST is 1%.

How much would the LOST generate for Louisville Metro? The answer is not as simple as it might seem. The Kentucky Department of Revenue (DOR) furnishes sales tax collections by county with the caveat that the county remitting the tax might not be the same county where

the sale took place. Because sales taxes are not shared with local governments in Kentucky, there is no reason for DOR to be concerned about the physical point of sale.

It is not unusual for a business to have multiple retail locations and perform their central data processing and payroll functions at one centralized location. For example, if there were ten retail locations in the region, or even the state, and the administrative functions were performed in downtown Louisville, the sales tax remittance would be credited to Jefferson County even though some percentage of the sales took place outside the county. The resulting tax revenue collections could be overestimated. On the other hand, if central processing took place outside Jefferson County but the retail activity took place in Jefferson County, the revenue collections could be underestimated.

With that caveat, working backward from DOR's reported collections for Jefferson County to the estimated base, a 1% LOST would have yielded approximately $95 million in 2012. Table 2 also demonstrates that sales taxes are quite responsive to changes in the economy. In general, one might expect an average 3% rate of growth over time.

Table 2. Sales Tax Collections for Jefferson County, 2001-2012.

Year	Collections per KY DOR	Estimated Tax Base	1% LOST on Estimated Base	% Change from Previous Year
2001	$389,284,501	$6,488,075,017	$64,880,750	
2002	$422,411,775	$7,040,196,250	$70,401,963	8.51%
2003	$430,763,701	$7,179,395,017	$71,793,950	1.98%
2004	$475,060,040	$7,917,667,333	$79,176,673	10.28%
2005	$460,083,699	$7,668,061,650	$76,680,617	-3.15%
2006	$473,870,617	$7,897,843,617	$78,978,436	3.00%
2007	$484,926,170	$8,082,102,833	$80,821,028	2.33%
2008	$519,220,461	$8,653,674,350	$86,536,744	7.07%
2009	$526,645,581	$8,777,426,350	$87,774,264	1.43%
2010	$524,908,383	$8,748,473,050	$87,484,731	-0.33%
2011	$549,253,022	$9,154,217,033	$91,542,170	4.64%
2012	$570,364,334	$9,506,072,233	$95,060,722	3.84%

However, the DOR report underestimates LOST revenues because not all transactions are allocated back to counties. Some large corporations (Wal-Mart, for example) may have centralized financial and administrative operations at their home office (Bentonville, Arkansas) and e-file monthly to DOR for their consolidated retail activities in Kentucky. These transactions are not allocated back to counties; again, because the revenue is not shared with local government DOR has no reason to allocate receipts back to point of sale. Comparing the

amounts allocated by county and the state total sales and use tax receipts reveals that 29% of 2011 collections were not allocated to counties and 31% of 2012 collections were not allocated to counties.

How would the unallocated portion affect potential LOST receipts? Since all sales in the state occur in counties, one might impute the added LOST revenue by assuming that Jefferson County's percentage of all allocated sales tax receipts would be approximately the same percentage of the unallocated sales tax receipts. That is, the allocated receipts as reported by DOR in 2012 could be applied to the unallocated share, calculated by subtracting the total receipts reported by the Office of the State Budget Director (OSBD) in the monthly tax receipts report from the total county allocations as reported by DOR.

Table 3. Author's Imputation of LOST Revenue by Allocation Method, Calendar 2012.

Total per OSBD monthly reports:	$3,053,125,454
Total per DOR county receipts	$2,101,259,406
Unallocated share:	$951,866,048
Unallocated share as percent of total	31%
Metro's total collections	$570,364,334
Metro's percent of allocated state total	27%
Metro's percent times unallocated share	$258,373,832
Total allocated and imputed Metro	$828,738,166
Total divided by rate (.06) = base	$13,812,302,765
1% of base = LOST	$138,123,028

Sources: Kentucky Department of Revenue, Kentucky Office of State Budget Director

Comparing 2011 and 2012 LOST receipts using the allocation and imputation method reveals a considerable difference in ***potential*** LOST revenue if all sales were tracked by county.

Table 4. Comparison of Allocation and Imputation Method of LOST Revenue 2011-12.

	Allocation Method	Imputation Method	Percent Difference
Calendar Year 2011	$91,542,170	$129,376,409	71%
Calendar Year 2012	$95,060,722	$138,123,028	69%

Special Case: Taxing Remote Vendors

The Marketplace Fairness Act (SB 743) passed on May 6, 2013 with bipartisan approval and is currently headed for the US House of Representatives, where it faces a tough battle according to various media reports. The Act grants states the authority to compel remote vendors such as

online and catalog retailers to collect sales tax on each transaction, if the states have adopted the Streamlined Sales and Use Tax Agreement (SSUTA). Kentucky became a full member of Streamlined Sales Tax group on October 1, 2005. Twenty three other states have also voluntarily adopted the SSUTA. Kentucky, along with the other member states, will have collection authority on the first day of the calendar quarter that is at least 90 days after enactment.

The SSUTA gives member states considerable discretion in determining which services are taxed based on their existing statutes. For example, since grocery purchases are not taxed in Kentucky, Kentucky might elect to make food purchases from out of state nontaxable as well. Kentucky would receive sales tax revenue when Kentucky residents purchase products online since the tax would be at the point of consumption. If the seller and the purchaser are both from Kentucky and the state had local tax districts, the state can send those taxes to the local district.

The National Conference of State Legislatures estimates that Kentucky lost $224.5 million in uncollected sales and use taxes in fiscal 2012. Applying the same imputation methodology that was used to estimate LOST revenue for Louisville Metro in the previous section, Jefferson County's portion of remove vendor taxes could amount to an additional $6 million in LOST revenue if the bill clears the US House of Representatives and remains relatively intact through conference committee.

LOST in the United States

Four states, Delaware, Montana, New Hampshire and Oregon do not tax sales at the state or local level. Fourteen states do not have a local general tax on retail sales: Alaska, Connecticut, Idaho, Indiana, Kentucky, Maine, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, Rhode Island, Vermont, and West Virginia. They may have selective sales taxes, such as restaurant meals and accommodations, but not a general sales tax.

California, Illinois, Washington, Utah and Virginia do not allow their localities to determine either the rate or the base for a local sales tax, calling into question whether they should really be considered "local option." The sales taxes in Hawaii, New Mexico and South Dakota have broad bases that include many services, so their structures and rates are not really comparable to other states.

Pennsylvania's local sales tax is limited to purchases in Allegheny County (1%) and Philadelphia (2%), making it not comparable as well. That leaves 23 states with a traditional LOST arrangement. Table 5 sorts the 23 states from the highest sales tax state (Tennessee) to the lowest (Wyoming).

Table 5. State and Local Sales Tax Rates, 2013.

State	State Rate	Average Local Rate[1]	Combined Rate
Tennessee	7.00%	2.44%	9.44%
Arizona	6.60%	2.56%	9.16%
Louisiana	4.00%	4.87%	8.87%
Oklahoma	4.50%	4.17%	8.67%
Arkansas	6.00%	2.61%	8.61%
New York	4.00%	4.48%	8.48%
Alabama	4.00%	4.45%	8.45%
Kansas	6.30%	1.95%	8.25%
Texas	6.25%	1.89%	8.14%
Nevada	6.85%	1.08%	7.93%
Missouri	4.23%	3.23%	7.46%
Colorado	2.90%	4.49%	7.39%
Minnesota	6.88%	0.29%	7.16%
South Carolina	6.00%	1.08%	7.08%
Georgia	4.00%	2.99%	6.99%
North Carolina	4.75%	2.12%	6.87%
Iowa	6.00%	0.82%	6.82%
Ohio	5.50%	1.30%	6.80%
Nebraska	5.50%	1.28%	6.78%
Florida	6.00%	0.62%	6.62%
North Dakota	5.00%	1.52%	6.52%
Wisconsin	5.00%	0.43%	5.43%
Wyoming	4.00%	1.34%	5.34%

[1]Average of all local rates, weighted by personal income

Source: National Tax Foundation (http://taxfoundation.org/article/state-and-local-sales-tax-rates-2013).

Exemptions and Limitations

With almost no exceptions, state sales tax exemptions and limitations apply to the LOST. For example, if grocery food is exempt from the state sales tax, the LOST cannot apply to grocery food sales. The arrangement is useful because merchants need only comply with one set of rules and remit to one authority, the state department of revenue that collects all sales and use taxes and distributes the local portion back to the local taxing jurisdiction.

Limitations are a special problem for the LOST. Most states have some special arrangement for vehicle purchases and some have a dollar cap (usually called a single article limitation) on big-ticket purchases like furniture and appliances. For example, South Carolina caps the sales tax on a vehicle purchase at 5% or $300, whichever is lower. All sales taxes from the transaction go to the state and the local government does not receive its portion of the tax. Very rarely will a state share a cap or limitation with a local government under a LOST.

Tennessee's experience with the single article limitation is interesting. According to a report by the Tennessee Advisory Commission on Intergovernmental Relations the original cap on the bill that authorized the LOST in Tennessee in 1963 was $5. Folklore suggests that the automobile dealers in Tennessee counties, concerned about losing cross-border car sales, were able to get the cap placed on the bill just days before the bill would become law. The single article cap currently applies to the first $1,600 of an article purchased.

Adoption and Implementation of the LOST

LOST revenue can be used for general or specific purposes. LOST collections can go into a local government's general fund – the fund that is used to pay for most public services – or to a special revenue fund that is earmarked for limited purposes. The limitation on the purpose can be more or less specific. For example, a LOST for infrastructure could be used to fund any infrastructure project (but not used for any other purpose) where a LOST for public transit could only be used for that purpose.

A LOST is usually subject to approval by local voters after it has been authorized by the state legislature. The approval may or may not have time limits. When the LOST proceeds go to the general fund of a local government, time limits are less common. However, when the LOST is earmarked or designated for a particular purpose, the LOST usually expires after some time period by which it is estimated the project will be complete. If the government wants to undertake another project with the LOST, another voter approval must be secured.

Structure of the LOST in Other States

The earliest state to adopt the LOST was Kansas in 1961 and the latest was Louisiana in 1996. Typically the LOST is structured where both cities and counties can participate, and in most states the majority of the eligible jurisdictions do participate. There is some variation in how they distribute the proceeds of the LOST.

Distribution of Proceeds

When cities and counties both have a LOST, the distribution of revenue can be simple or complicated. The simplest is a stacked system where the city rate and the county rate are added to the state rate. For example, Birmingham, Alabama adds a local rate of 5% to the state

tax rate of 4% and Jefferson County (where Birmingham is located) adds its rate of 1% for a total of 10% sales tax, currently the highest in the nation. Thus, a $100 retail sale in the city of Birmingham would yield $5 to the city and $1 to Jefferson County. If the sale took place in Jefferson County but not in Birmingham, Jefferson County would get $1 and Birmingham would not receive any proceeds.

Table 6. Enactment, Participation and Distribution Features of States with a General LOST.

State	Enacted	Entity	Current Participation	Distribution
Alabama	1975	Both	442 cities	Stack
Arizona	1985	Both	15 out of 15 counties	Stack
Arkansas	1981	Both	73 out of 75 counties and 295 cities	Stack
Colorado	1968	Both	51 out of 64 counties and223 cities	Stack
Florida	1976	Both	56 out of 67 counties	Split
Georgia	1975	Both	154 out of 159 counties	Split
Iowa	1986	Both	99 out of 99 counties	Split
Kansas	1961	Both	86 out of 105 counties, 676 cities	Stack
Louisiana	1996	Parish	63 out of 64 parishes	
Minnesota	1969	Both	2 metro counties, 38 cities	Stack
Missouri	1971	Both	43 out of 114 counties and 99 cities	Stack
Nebraska	1969	Both	130 cities and 1 county	Split
Nevada	1985	Both	12 out of 17 counties and 107 cities	POS/Split
New York	1965	Both	62 counties, 34 cities	Stack
North Carolina	1967	Both	100 out of 100 counties	Split
North Dakota	1985	Both	3 out of 53 counties and 131 cities	POS
Ohio	1967	County	88 out of 88 counties	
Oklahoma	1983	Both	76 out of 77 counties and 315 cities	Stack
South Carolina	1983	Both	40 out of 46 counties	POS/Split
Tennessee	1963	Both	95 out of 95 counties	Split
Texas	1978	Both	123 out of 254 counties and 2339 cities	Stack
Wisconsin	1985	County	62 out of 72 counties	
Wyoming	1989	Both	21 out of 23 counties and 364 cities	Split

Source: USI review of state and local government websites

A point of sale (POS) distribution returns the LOST revenue to the jurisdiction in which the transaction occurred. If the transaction took place within city limits, LOST revenue goes to the city; if it took place outside the city limits LOST revenue goes to the county. In Nevada, in-state sales tax revenues are distributed by point of sale but taxes from out-of-state sales are distributed by formula.

Split (formula) distributions can take a variety of forms depending on the participation of cities within the county. If only counties can impose a LOST, they may be required by state law to share their proceeds with cities within the county. Florida and North Carolina use population as the basis for splitting LOST revenue between county and city governments. Missouri uses both population and property values in its formula, with three-fourths of the LOST distributed by each city's share of county population and one fourth by each city's share of county property value. Minnesota prefers a simple 60% to city and 40% to county permanent split. Population-based formulas are often revisited every ten years after the decennial Census.

Almost all states that authorize local governments to raise revenue through sales taxes require a local referendum on the matter prior to implementation. Six states do not have to seek reauthorization of the LOST, though the LOST can be repealed by petition. Local governments in many states must reauthorize the LOST periodically. Common reauthorization intervals are 5, 7 and 10 years. In some states the LOST is reauthorized by a simple majority, in others the threshold for reauthorization is higher. In general, it appears when LOST proceeds go to the general fund, periodic reauthorization is less likely to be required.

Earmarking

It is important to distinguish between an earmark and a designation. If the state legislature permits local governments to enact a LOST after a successful referendum and does not specify the purpose for which the LOST can be used, there is no earmark, even if the local government by ordinance only uses the proceeds for infrastructure, education or any other purpose. The local government can, by ordinance, redirect the LOST to their general fund if they choose to do so. For example, Texas local governments use LOST proceeds for health care, crime control, emergency services and public transit but they are not required by state law to put the proceeds toward those uses.

Some states earmark only a portion of the LOST. Wyoming collects the statewide 4% sales tax and shares 31% with local governments. County governments may add as much as 1% for general purposes (subject to a successful referendum). Further, counties may add as much 1% for a specific purpose which cannot include county operations. Wyoming refers to these county LOST increments as the "5th penny" and the "6th penny." The 5th penny is not earmarked, the 6th penny is.

Texas offers its cities a number of sales tax options in addition to the 1% LOST for general purposes. Texas cities may adopt a special sales tax for economic development (up to .5%), street maintenance (up to .25%), education-related purposes (up to .5%), special development districts (up to .5%) and emergency fire and medical services (up to .5%), crime control (up to .5%) and property tax relief (up to .5%). Austin, Texas adds the maximum of 2% to the Texas state sales tax rate of 6.25 for a combined total rate of 8.25%.

Table 7. Structural Features of the LOST in Selected States.

State	Referendum?	LOST Revenue	Earmark Purpose	Reauthorization
Alabama	Yes	Earmarked	Infrastructure	Yes
Arizona	Yes	Earmarked	Transportation	Yes
Arkansas	Yes	Earmarked	Infrastructure	Yes
Colorado	Yes	General Fund		Yes
Florida	Yes	General Fund		Yes
Georgia	Yes	Earmarked	Infrastructure	Yes
Iowa	Yes	General Fund		Yes
Kansas	Yes	General Fund		Yes
Louisiana	Yes	Earmarked	Infrastructure	Yes
Minnesota	Yes	Earmarked	Infrastructure	Yes
Missouri	Yes	Earmarked	Economic Development	No
Nebraska	Yes	General Fund		No
Nevada	Yes	Earmarked	Various	No
New York	Yes	General Fund		Yes
N. Carolina	Yes	General Fund		No
N. Dakota	Yes	General Fund		Yes
Ohio	Yes	General Fund		Yes
Oklahoma	Yes	General Fund		Yes
S. Carolina	Yes	General Fund		No
Tennessee	Yes	General Fund		No
Texas	Yes	General Fund		Yes
Wisconsin	Yes	General Fund		Yes
Wyoming	Yes	General Fund		Yes

Source: USI review of state and local government websites

In general, public finance professionals do not favor earmarking general tax revenue as it can lead to two undesirable situations. The first is when the local government has an unexpected and pressing financial need to which the revenue cannot be applied. These needs can take the form of weather events, man-made crises and unfavorable outcomes to litigation. The second is when the designation of funds for a particular purpose exceeds the need for the purpose or, perhaps more likely, reduces the scrutiny that should be applied to all public expenditures for that purpose. For example, if revenues available for road maintenance were more than adequate to meet maintenance needs, one might not feel compelled to examine maintenance expenditures carefully for potential cost savings.

Tax Offsets

Some states use proceeds from a LOST to replace property tax revenues, perhaps to make the LOST question on the ballot a bit more appealing to voters. These arrangements are typically called tax offsets, indicating that one revenue source has been supplanted by another revenue source. The offset is never a one-to-one swap, and may be combined with a distributional arrangement between cities and counties.

South Carolina is an example of a complicated distribution arrangement with a property tax offset. In 1990 the state legislature amended the original distribution formula (which included a feature that compelled counties that implemented the LOST to contribute to a fund for counties that did not) to a property tax rollback system that reduced the amount of LOST revenue any jurisdiction could use for general purposes.

Of the total LOST sales tax collected in the South Carolina counties, 71% must be used to roll back property taxes and 29% can be used for city and county general revenue funds. Of the 71% distributed to county government, 33% is distributed to municipal governments in the county on the basis of the municipality's percentage of total county population. However, the municipalities must use their portion of the 71% for a property tax rollback as well. Of the 29% distributed to counties for general revenue funds, half is distributed back to cities by POS and the other half is distributed based on county population. Cities may use their portion of the 29% for general fund purposes.

Amendments to South Carolina's original LOST legislation effectively replaced a significant portion of the unpopular property tax with the more popular sales tax. Several states use a portion of the LOST to displace property taxes. Georgia counties that impose the LOST must show on the property tax bill the amount of reduction in the city and county millage rate attributable to the LOST. After the property tax rollback has been applied, Georgia may use the remaining LOST revenues to fund infrastructure projects and maintenance and operations on existing infrastructure.

Substituting a portion of a more popular tax for a portion of a less popular tax is sensible if the resulting revenue mix is adequate. It might also be desirable to substitute a tax on labor for a tax on consumption, depending on one's assessment of the economic benefits of doing so. A reduction of taxes on labor increases the after-tax wage and should theoretically increase labor supply and output. However, labor supply is relatively inelastic; workers are usually constrained to a 40-hour workweek and overtime opportunities may be limited. With limited ability to adjust hours worked, a tax policy shift from labor to consumption may not have much impact on the local economy.

Table 8 illustrates possible offset mixes for property and occupational taxes in Louisville Metro.

Table 8. Offsets for Real Property Taxes – Metro Rate Only - With a 1% LOST.

Using the DOR Allocation Method:

Levy Rate	Yield	LOST Rate	Yield
0.00		1.00%	$95,060,722
0.01	$5,148,020	0.90%	$85,554,650
0.02	$10,296,041	0.80%	$76,048,578
0.03	$15,444,061	0.75%	$71,295,542
0.04	$20,592,082	0.70%	$66,542,505
0.05	$25,740,102	0.65%	$61,789,469
0.06	$30,888,123	0.60%	$57,036,433
0.07	$36,036,143	0.50%	$47,530,361
0.08	$41,184,164	0.40%	$38,024,289
0.09	$46,332,184	0.30%	$28,518,217
0.10	$51,480,205	0.25%	$23,765,181
0.11	$56,628,225	0.20%	$19,012,144
0.12	$61,776,246	0.10%	$9,506,072
0.13	$66,924,266	0.00%	$0

Using the Author's Imputation Method:

Levy Rate	Yield	LOST Rate	Yield
0.00		1.00%	$138,123,028
0.01	$5,148,020	0.90%	$124,310,725
0.02	$10,296,041	0.80%	$110,498,422
0.03	$15,444,061	0.75%	$103,592,271
0.04	$20,592,082	0.70%	$96,686,120
0.05	$25,740,102	0.65%	$89,779,968
0.06	$30,888,123	0.60%	$82,873,817
0.07	$36,036,143	0.50%	$69,061,514
0.08	$41,184,164	0.40%	$55,249,211
0.09	$46,332,184	0.30%	$41,436,908
0.10	$51,480,205	0.25%	$34,530,757
0.11	$56,628,225	0.20%	$27,624,606
0.12	$61,776,246	0.10%	$13,812,303
0.13	$66,924,266	0.00%	$0

Certain assumptions were required to produce Table 8. First, the property tax rate example is based on the assessed value of taxable real property in the Metro as reported in the 2012 Comprehensive Annual Financial Report. The 2012 property tax rate, .1255 per $100 of assessed value, is the Metro general purpose rate only and does not include the Urban Services District or School Board.

Tax revenue estimates were generated by applying the rate to the base and does not reflect uncollectible and delinquent taxes, which slightly depress receipts. Using the conservative DOR estimate, a 0.7% LOST could have supplanted property tax revenue receivables in 2012. Using the author's imputation method estimate, a 0.5% LOST could have supplanted property tax revenue receivables in 2012.

Table 9 applies the same methodology to a hypothetical offset of the LOST with Metro occupational license taxes (OLT). Here the calculation of the tax base was predicated on the actual tax revenues for calendar 2012 divided by the tax rate of 1.25%. The 1.25% rate is for employee withholding tax alone; it does not include the portion of the tax that goes to TARC or the school board. LOST proceeds are not sufficient to supplant OLT revenue at 1%. In order to supplant OLT revenue, the LOST rate would have to be 2.35% (using the conservative DOR estimate) or 1.62% (using the author's imputation method estimate).

Table 9. Offsets for Occupational Taxes (OLT) - Employee Withholding Only - With a 1% LOST.

Using the DOR Allocation Method:			
OLT Rate	Yield	LOST Rate	Yield
1.25%	$223,867,829	1.00%	$95,060,722
1.20%	$214,913,116	0.90%	$85,554,650
1.10%	$197,003,690	0.80%	$76,048,578
1.00%	$179,094,263	0.75%	$71,295,542
0.90%	$161,184,837	0.70%	$66,542,505
0.80%	$143,275,411	0.65%	$61,789,469
0.70%	$125,365,984	0.60%	$57,036,433
0.75%	$134,320,697	0.50%	$47,530,361
0.60%	$107,456,558	0.40%	$38,024,289
0.50%	$89,547,132	0.30%	$28,518,217
0.40%	$71,637,705	0.25%	$23,765,181
0.30%	$53,728,279	0.20%	$19,012,144
0.20%	$35,818,853	0.10%	$9,506,072
0.10%	$17,909,426	0.00%	$0

Using the Author's Imputation Method:			
OLT Rate	Yield	LOST Rate	Yield
1.25%	$223,867,829	1.00%	$138,123,028
1.20%	$214,913,116	0.90%	$124,310,725
1.10%	$197,003,690	0.80%	$110,498,422
1.00%	$179,094,263	0.75%	$103,592,271
0.90%	$161,184,837	0.70%	$96,686,120
0.80%	$143,275,411	0.65%	$89,779,968
0.70%	$125,365,984	0.60%	$82,873,817
0.75%	$134,320,697	0.50%	$69,061,514
0.60%	$107,456,558	0.40%	$55,249,211
0.50%	$89,547,132	0.30%	$41,436,908
0.40%	$71,637,705	0.25%	$34,530,757
0.30%	$53,728,279	0.20%	$27,624,606
0.20%	$35,818,853	0.10%	$13,812,303
0.10%	$17,909,426	0.00%	$0

LOST in Louisville's Peer Cities

Louisville traditionally benchmarks economic performance and other demographic and social characteristics to 14 peer cities. Benchmarking is useful because it allows Louisville to compare its performance to other cities, not just monitor its own progress over time. Benchmarking has become deeply rooted in local policy analysis and will be replicated here.

Of the 14 cities, only Indianapolis does not have the local option sales tax. Richmond's sales tax was enabled statutorily (with no referendum requirement and no sunset provision) and is set at 1% for all localities. This is not entirely consistent with what one would normally think of as a local option sales tax, but the rate applies to the same base as the state sales tax. The tax rates, sorted high to low, of the remaining 13 cities are shown in Table 10.

If Louisville had a 1% LOST it would join Dayton, Omaha and Jacksonville in the middle of the array on sales taxes. However, as explored later, the sales tax base is not the same among peer cities. State level exemptions always apply to local sales taxes, explaining the variability in the local base by decisions made at state capitols about whether food should be tax exempt or taxed at a lower rate and which, if any, services should be subject to sales and use taxes.

Table 10. Peer Cities with a LOST, LOST Tax Rates, State Sales Tax Rates, Total Sales Tax Rate.

Peer City	LOST	State Sales Tax	Total Sales Tax
Birmingham	6.00%	4.00%	10.00%
Memphis	2.25%	7.00%	9.25%
Nashville	2.25%	7.00%	9.25%
Kansas City	4.13%	4.23%	8.36%
Charlotte	2.50%	4.75%	7.25%
Dayton	1.50%	5.50%	7.00%
Omaha	1.50%	5.50%	7.00%
Jacksonville	1.00%	6.00%	7.00%
Greensboro	2.00%	4.75%	6.75%
Raleigh	2.00%	4.75%	6.75%
Columbus	1.25%	5.50%	6.75%
Cincinnati	1.00%	5.50%	6.50%
Richmond	1.00%	4.00%	5.00%

Source: USI review of state and local government websites

Birmingham

Widely reported in the popular media as having the highest sales tax rate in the country, Birmingham has a relatively unrestricted local option sales tax that is paid in addition to the state sales tax and the county sales tax. In fiscal 2012 Birmingham reported receipts of approximately $135 million in sales and use taxes, which constituted 50% of their total tax revenue (occupational taxes at 29% of total revenue and property tax at 21% of total revenue).

Charlotte, Raleigh, Greensboro

All 100 North Carolina counties levy the 1% local government sales tax, which is distributed to municipalities in the county based on population. In addition, the North Carolina General Assembly gave each county an additional .5% for general purposes, distributed in the same manner as the original tax. In 1980 counties were authorized to levy a second .5% distributed by point of sale. In 2001 counties could levy a third .5% local option sales tax to be distributed by population. In fiscal 2012 Charlotte reported receipts of $66.8 million in sales taxes. Raleigh received $67.8 million, and Greensboro received $38.7 million.

Cincinnati, Columbus, Dayton

Ohio counties can levy up to 1.5% permissive sales and use tax subject to voter approval. Several regional transit authorities may also enact the sales and use tax up to 1.5%, again, subject to referendum. Ohio counties do not share the proceeds of their LOST with municipalities.

Jacksonville

Larger municipalities in Florida may use LOST for infrastructure or transit. Both these taxes require a referendum and both are applied to the same base as the state sales tax with a limit of the first $5000 of any single taxable item. Florida municipalities refer to these taxes as "discretional sales surtaxes." In 1982 Florida passed the Half-Cent Sales Tax Program to provide relief from property taxes and fund capital projects. The distribution formula is complicated, involving cities, counties and a state trust fund from which withdrawals can be made when certain conditions apply. For accounting purposes, the proceeds from the Half-Cent Sales Tax program are reported as intergovernmental revenues and the LOST as sales taxes. In fiscal 2012 Jacksonville reported approximately $165 million in receipts from sales and tourist taxes.

Memphis, Nashville

Tennessee cities are ranked among the highest in the nation on sales tax burden, but low on total tax burden because there is no state or local income tax. The highest possible local tax rate is 2.75%, which is stacked on top of the state sales tax rate of 7%. The tax is collected by the Tennessee Department of Revenue and distributed to counties and cities. One half of the proceeds go to schools (distributed to schools in the same way as county property taxes). The remainder is distributed by point of sale. If the sale took place in an incorporated city or town, the proceeds go to their general fund. Collections in unincorporated areas go to the county general fund. The ordinance or resolution levying the tax after a successful referendum is perpetual unless 1) a specific termination date is established or 2) the ordinance or resolution is repealed in the same way it was adopted.

If a Tennessee county has levied the tax at the maximum rate of 2.75%, no city in the county can levy a local sales tax. However, if the county has a sales tax of less than the maximum, a city can levy a tax equal to the difference between the county rate and the maximum. Five of the six suburban towns in Shelby County (Memphis) approved the .5% sales tax increase in an August 2012 referendum. Memphis was set to follow suit, earmarking the proceeds for property tax reduction and a prekindergarten program. However, the Shelby County Commission voted to put a county-wide .5% sales tax increase on the August 2013 ballot. A successful outcome by the county would restrict the amount available to Memphis and suburban Shelby County cities because the Shelby County rate would be the maximum 2.75%. Memphis reported approximately $37 million in local sales and income taxes in 2012.

Nashville/Davidson County currently has a sales tax rate of 2.25%. A 2005 special election to raise the sales tax to the state maximum of 2.75% was defeated, but efforts continue to place the issue before Metro Nashville voters. Nashville reported $95 million in general fund sales tax receipts in fiscal 2012 (net of the sales tax proceeds that went to fund schools).

Kansas City

Missouri municipalities and counties may levy a retail sales tax in addition to the 4.225% levied by the state. Kansas City's LOST rate is 3.625%, bringing the total sales tax rate to 7.85%. All sales and use taxes are collected by the Missouri Department of Revenue. One percent of all collections goes to the state general fund. The remainder is returned to cities and counties based on point of sale. Because cities sometimes cross county lines in Missouri, each business location is assigned a code to locate it in a county or city for distribution purposes. Kansas City's local option sales and use taxes receipts just exceeded $177 million in fiscal 2012.

In May 2013 a proposal to raise sales taxes 1% statewide and earmark the proceeds for transportation projects stalled in the Missouri Senate. If a special session produces a bill, Missouri voters could approve the increase in November 2014. Under the plan, cities and counties would receive 10% of the proceeds for their transportation projects. The transportation tax would expire in 10 years unless reauthorized.

Omaha

Nebraska cities may impose a LOST by ordinance after a successful referendum. Historically the rates were limited to .5%, 1% or 1.5%, but a 2012 amendment to the Nebraska LOST raised the cap on city rates from 1.5% to 2% to fund specific projects. A 2013 attempt to repeal the increase failed. Omaha maintained its 1.5% local rate. Proceeds from the LOST yielded almost exactly the same revenue as the general property tax according to Omaha's 2011 financial report (the last year available) at $133 million.

Richmond

Virginia cities are authorized to levy a 1% sales tax by ordinance for general purposes. There is no referendum requirement and the sales tax does not expire. Richmond may not raise or lower its local sales tax. All sales subject to the tax are collected by the Virginia Tax Commissioner and assigned to the city in which the sale took place. Richmond's 1% local sales tax yielded $30.6 million in fiscal 2012.

Peer City Tax Structure

The local tax structure matters in its totality more than any one component. To get a better sense of the tax structure in the 14 peer cities, the authors examined property taxes, income (or payroll/occupational) taxes and sales taxes separately in the peer cities for a hypothetical family of four.

In this family of four, the two adults earn $60,000 and $40,000 respectively and both incomes are earned in the jurisdiction (are subject to the occupational tax if there is one). The two children are under 17 and have no alternative custody arrangements that would preclude them

being dependent deductions. The family lives in a home in the urban services district that is appraised at $186,000 (the median 3 bedroom home value in Louisville). The family is not subject to personal property taxes. They own no watercraft or recreational vehicles that would subject them to the personal or tangible property tax, and their vehicles are below the value threshold for such taxes.

The family is not self-employed nor do they have an ownership position in a business that would subject them to property taxes on business inventory and equipment. Their vehicles are exclusively for personal use.

Property Taxes

States have different real property assessment rates, homestead exemptions, rollbacks and reduction factors that make a fair calculation of property tax burden complicated. One cannot compare tax rates across cities because the base to which the rate is applied is determined by the assessment rate. A tax rate of 1 mill ($1 per $1000 dollars) applied to a $100,000 home that is assessed at 100% yields a tax bill of $100 in Kentucky. In Tennessee, where residential property is assessed at 25%, it would take 4 mills to produce $100 in tax revenue. In this example, Tennessee's tax rate is four times as high as Kentucky, but the tax burden is the same for the $100,000 homeowner.

Homestead exemptions are typically available only to the elderly and disabled in the states. However, our hypothetical family would be eligible for a homestead exemption in Birmingham, Indianapolis, Jacksonville, and Omaha. A homestead exemption reduces the assessed value of the home by some amount for tax purposes.

Most cities report their direct and overlapping property tax rates in the statistical section of their Comprehensive Annual Financial Report (CAFR). This presentation usually includes the direct city rate, any urban service district rates, county rates, school rates and other special assessments. When a rollback is in place, such as is the case in Ohio, cities will generally report both the total rate and the effective rate, which accounts for any applicable reduction factors. Property tax rates for the peer cities were taken from the 2012 CAFR of the cities. Effective rates were used when presented in the CAFR.

For comparability, the hypothetical family lived downtown within the urban services district if there was one. When there were multiple municipal service districts downtown, as in the case of Charlotte, the rates for each of the districts were averaged and applied to the family's real property. When the city spanned two or more counties (Birmingham and Kansas City), the location of the downtown area determined which county's taxes applied.

Table 11 presents property taxes paid by the hypothetical family for 2012.

Table 11. 2012 General Purpose Real Property Taxes in Selected Cities.

City	Appraised Value	Assessment Rate	Assessed Value Less Homestead	Combined State and Effective Local Rates*	Property Tax
Dayton	$186,000	35%	$65,100	105.930	$6,896
Omaha	$186,000	100%	$185,867	26.680	$4,959
Columbus	$186,000	35%	$65,100	67.940	$4,423
Cincinnati	$186,000	35%	$65,100	67.820	$4,415
Indianapolis	$186,000	100%	$141,000	27.870	$3,930
Nashville	$186,000	25%	$46,500	76.900	$3,576
Memphis	$186,000	25%	$46,500	72.089	$3,352
Kansas City	$186,000	19%	$35,340	80.898	$2,859
Charlotte	$186,000	100%	$186,000	14.866	$2,765
Louisville	$186,000	100%	$186,000	14.140	$2,630
Greensboro	$186,000	100%	$186,000	13.979	$2,600
Jacksonville	$186,000	100%	$136,000	17.954	$2,442
Richmond	$186,000	97%	$180,420	12.000	$2,165
Raleigh	$186,000	100%	$186,000	9.075	$1,688
Birmingham	$186,000	10%	$14,600	76.000	$1,110

* In mills

Taxes on Wages and Salaries

Seven peer cities tax wages and salaries, with rates ranging from 1% (Birmingham) to 2.5% (Columbus). Our scenario has both earners working in the city (subject to the tax) and earning $40,000 and $60,000 respectively. All their income is produced from earnings. Income taxes for schools or for other special purposes were included in the local income tax rate because the same rate applied to every earner regardless of where he/she resided, unlike the property tax.

In order to calculate the total income tax burden for the family, we completed the 2012 state income tax forms for all cities other than those in Tennessee and Florida, which have no wage or salary tax. Tennessee taxes dividends and interest, but the simplified scenario had our family without earnings from interest or dividends. The state tax return was prepared with a standard deduction (married couple filing jointly) and four dependents (the couple and their two children).

Table 12 presents the total state and local income tax paid by the hypothetical family. There is no column for state tax rate because most state income taxes are progressive, applying a higher marginal rate as incomes increase. These calculations came from the tax tables found in the instructions for state tax returns.

Table 12. 2012 State and Local Income Taxes in Selected Cities.

City	Gross Income	Exemption and Deductions[1]	State Taxable Income	State Income Tax	Local Tax Rate	Local Payroll Tax	Total Income Tax
Louisville	$100,000	$2,370	$97,630	$5,524	2.20%	$2,200	$7,724
Birmingham	$100,000	$7,600	$92,400	$5,404	1.00%	$1,000	$6,404
Charlotte	$100,000	$6,000	$94,000	$6,368	0.00%	$0	$6,368
Greensboro	$100,000	$6,000	$94,000	$6,368	0.00%	$0	$6,368
Raleigh	$100,000	$6,000	$94,000	$6,368	0.00%	$0	$6,368
Columbus	$100,000	$6,600	$93,400	$3,327	2.50%	$2,500	$5,827
Kansas City	$100,000	$18,000	$82,000	$4,695	1.00%	$1,000	$5,695
Dayton	$100,000	$6,600	$93,400	$3,327	2.25%	$2,250	$5,577
Cincinnati	$100,000	$6,600	$93,400	$3,327	2.10%	$2,100	$5,427
Richmond	$100,000	$9,720	$90,280	$4,934	0.00%	$0	$4,934
Indianapolis	$100,000	$5,000	$95,000	$3,230	1.62%	$1,620	$4,850
Omaha	$100,000	$11,380	$88,620	$4,508	0.00%	$0	$4,508
Jacksonville	$100,000	$0	$100,000	$0	0.00%	$0	$0
Memphis	$100,000	$0	$100,000	$0	0.00%	$0	$0
Nashville	$100,000	$0	$100,000	$0	0.00%	$0	$0

[1] Married, filing jointly, four dependents

Sales Taxes

Calculating the sales taxes faced by the hypothetical family of four was even more challenging than property or income taxes. It started with the Consumer Expenditure Survey (CES) which measures family expenditures on a "basket" of common goods and services. The CES is a quarterly survey of the spending by type for individuals and families at different income levels, administered collaboratively by the Bureau of Labor Statistics and the US Census Bureau.

The difficulty arises when states have different exemptions or limitations on spending subject to sales taxes. For example, food at home is exempt in Louisville, but fully taxed in Birmingham. Birmingham has a 2.2% sales tax on utilities, Raleigh and Greensboro have a 3% tax on utilities. Food at home is taxed at 5.25% in Richmond, but food served in restaurants is taxed at 11.5%. Prescription drugs were sales tax exempt in all peer cities. Fortunately for this analysis, most services were untaxed, which meant that standard adjustments could be made across cities for different categories of consumer expenditures.

Apparel (which includes dry cleaning) was reduced by 5% to account for the exemption of dry cleaning from sales tax. Vehicle repairs were reduced by 40% because labor is not subject to sales taxes. Personal care products and services were reduced by 25% because salon and barber services are not taxed. Finally, reading material was reduced by 25% to account for the

tax exemption of newspaper sales. This process was repeated for every peer city based on the state's exemptions from sales tax.

To be sure, judgment was exercised in applying percentage reductions to certain categories of expenditures. However, the same percentages were applied across cities under similar circumstances. For example, if newspapers were tax exempt (and they all were) then the expenditure category of reading was reduced by 25% in all cities. When the exercise was complete, each city had a taxable expenditures number and a sales taxes paid number. Because the tax rate for certain items (like food away from home) was different from the combined state and local general tax rate, one cannot multiply the rate times the taxable expenditures to determine the sales tax paid. (Cities in the same state have the same sales tax paid figure because modifications to the tax base are made at the state level.)

Table 13 shows the peer cities ranked by sales taxes paid by our hypothetical family making $100,000.

Table 13. Estimated Sales Taxes Paid for $100,000 Income in Selected Cities.

City	State + Local Sales Tax Rate	Taxable Expenditures	Sales Taxes Paid
Birmingham	10.00%	$2,614	$2,518
Memphis	9.25%	$2,105	$2,016
Nashville	9.25%	$2,105	$2,016
Kansas City	8.36%	$1,988	$1,907
Omaha	7.00%	$1,841	$1,774
Indianapolis	7.00%	$1,819	$1,751
Charlotte	7.25%	$1,776	$1,706
Greensboro	7.25%	$1,776	$1,706
Raleigh	7.25%	$1,776	$1,706
Richmond	5.00%	$1,556	$1,508
Jacksonville	7.00%	$1,472	$1,404
Cincinnati	6.75%	$1,333	$1,268
Columbus	6.75%	$1,333	$1,268
Dayton	6.75%	$1,333	$1,268
Louisville	6.00%	$1,185	$1,127

With a LOST of 1%, Louisville would move from 15th (last place) to 12th place with sales tax paid of $1315. The sales tax difference for the family of four with a LOST would be $188.

Total Tax Burden

Property, income and sales taxes for the hypothetical family are combined in Table 14.

Table 14. Peer City Property, Income and Sales Tax Burden for Hypothetical Family.

City	Property Tax	Income Tax	Sales Tax	Total
Dayton	$6,896	$5,577	$1,268	$13,741
Columbus	$4,423	$5,827	$1,268	$11,518
Louisville	$2,630	$7,724	$1,127	$11,481
Omaha	$4,959	$4,508	$1,774	$11,241
Cincinnati	$4,415	$5,427	$1,268	$11,110
Charlotte	$2,765	$6,368	$1,706	$10,839
Greensboro	$2,600	$6,368	$1,706	$10,674
Indianapolis	$3,930	$4,850	$1,751	$10,531
Kansas City	$2,859	$5,695	$1,907	$10,461
Birmingham	$1,110	$6,404	$2,518	$10,032
Raleigh	$1,688	$6,368	$1,706	$9,761
Richmond	$2,165	$4,934	$1,508	$8,607
Nashville	$3,576	$0	$2,016	$5,592
Memphis	$3,352	$0	$2,016	$5,368
Jacksonville	$2,442	$0	$1,404	$3,846

When a 1% LOST is added to the sales tax calculation, Louisville moves into second place behind Dayton and the total tax burden rises to $11,669 for the hypothetical family of four.

Sales Tax Effects

Citizens generally prefer sales taxes to property taxes and income taxes because it is regarded as fair and transparent. Consumers know everyone making the purchases faces the same tax rate and retailers provide a receipt that separates the total of items purchased from the tax charged against the purchases so that the consumer can see the taxable amount and the tax paid.

Regressivity

Sales taxes are considered regressive. That is, the effective tax rate increases as the taxpayer's income decreases despite the fact that the rate is the same because persons with lower incomes spend a greater proportion of their incomes on items subject to the tax. Exemptions on groceries and utilities mitigate regressivity. Consider a market basket of goods and services typically consumed by an American family, presented by income quintiles:

Table 15. Pre-Tax Income Purchases by Income Quintiles, 2011.

	Lowest 20 %	2nd 20%	3rd 20%	4th 20%	Highest 20 %
Income before taxes	$9,805	$27,117	$46,190	$74,019	$161,292
Food at home	25%	11%	8%	6%	4%
Food away from home	11%	6%	5%	4%	3%
Alcoholic beverages	2%	1%	1%	1%	1%
Housing*	89%	45%	32%	25%	18%
Utilities, fuels, and public services	23%	11%	8%	6%	3%
Housekeeping supplies	4%	2%	1%	1%	1%
Apparel and apparel services	9%	4%	3%	3%	2%
Transportation**	33%	19%	16%	14%	9%
Health care	15%	10%	7%	5%	3%
Entertainment	10%	6%	5%	4%	3%
Education	8%	2%	1%	1%	2%
Tobacco products	3%	1%	1%	1%	0%
Personal care products and services	3%	2%	1%	1%	1%

*Includes mortgage, mortgage interest, rent, maintenance and property taxes

**Private and public, including vehicle payments, oil and gas, insurance and fees

Source: Bureau of Labor Statistics, Consumer Expenditure Survey (http://www.bls.gov/cex/csxstnd.htm)

Regressive effects are evident across many categories of purchases, two of which are mitigated by the current sales tax structure in Kentucky – food at home and utilities. Other categories show that persons with lower incomes are more likely to pay a greater percent of their incomes on housing, transportation, education and health care.

It is important to remember that the CES definition of income before taxes includes incomes transfer payments to individuals (Social Security, Supplemental Security Income, unemployment benefits and public assistance) as well as the cash value of Supplemental Nutrition Assistance Program (SNAP). It does not include housing assistance programs, home heating and cooling assistance, transportation vouchers and medical care. The reader can draw his/her own conclusions about the equity implications of Table 15. In general, persons with lower incomes spend a greater percentage of their incomes on purchases across every category of spending, taxed or not. State excise taxes on fuel, alcohol and tobacco products exhibit regressive effects as well.

Sales Tax Incidence

To explore the incidence of the LOST in Louisville, the same "basket" of purchases shown in Table 15 by income quintiles was spread over smaller income intervals. Then the basket was modified based on the exemptions currently in place in Kentucky and described earlier in the section on taxable sales.

Table 16. LOST Sales Tax Incidence by Income Intervals.

Before Tax Income	Adjusted Total	State Sales Tax Paid at 6%	LOST Paid at 1%	Total Sales Tax Paid	Midpoint of Income Interval	Effective Rate (Tax as % of Income)
Less than $5000	$4,724	$283	$47	$331	$5,000	6.61%
$5000 to $9999	$4,435	$266	$44	$310	$7,500	4.14%
$10,000 to $14,999	$3,838	$230	$38	$269	$12,500	2.15%
$15,000 to $19,999	$4,754	$285	$48	$333	$17,500	1.90%
$20,000 to $29,999	$6,080	$365	$61	$426	$25,000	1.70%
$30,000 to $39,999	$7,624	$457	$76	$534	$35,000	1.52%
$40,000 to $49,999	$7,771	$466	$78	$544	$45,000	1.21%
$50,000 to $69,999	$10,876	$653	$109	$761	$60,000	1.27%
$70,000 to $79,999	$12,710	$763	$127	$890	$75,000	1.19%
$80,000 to $99,999	$13,848	$831	$138	$969	$90,000	1.08%
$100,000 to $119,999	$17,052	$1,023	$171	$1,194	$110,000	1.09%
$120,000 to $149,999	$18,752	$1,125	$188	$1,313	$135,000	0.97%
$150,000 and Over	$25,532	$1,532	$255	$1,787	$150,000	1.19%

Source: 2011 Consumer Expenditure Survey, Bureau of Labor Statistics

Incidence issues also arise with income and property taxes. Income taxes can be progressive, with higher marginal rates for higher levels of income. Local occupational taxes are not progressive as the same rate applies to all earned income.

It may be helpful to consider income and property taxes in net rather than gross terms. State and local income taxes are deductible from federal taxes if one chooses to itemize rather than take the standard deduction. Property taxes are similarly deductible. The net tax is therefore lower than the gross tax. Sales taxes are not deductible if the itemizing taxpayer claims a deduction for income taxes paid to state and local government.

Administrative Efficiency

Property taxes are administratively inefficient. The cost of identifying and appraising property, keeping records, dealing with taxpayer appeals, and constantly updating records in between

appraisal cycles is enormous. However, once these costly administrative processes are in place, the marginal cost of generating new revenue via an increase in property tax rates is quite low.

Consider the net revenue (revenues less administrative cost of collecting the revenue) provided by occupational taxes and sales taxes to local governments in contrast with the property tax. Local governments can require employers to collect and remit occupational taxes to the government, shifting the administrative burden onto the employer and reducing the administrative burden on the government.

Likewise, states require merchants to identify the items subject to the sales tax, collect the tax and remit the tax back to the state. A "piggyback" local sales tax would require the seller within the affected jurisdiction to add the incremental local rate to the state rate and remit to the department of revenue as he/she normally does. The department of revenue would remit sales tax revenue collected from that jurisdiction back to the locality, usually every quarter. Some state departments of revenue charge a fee to localities for this service, but most are content to enjoy the interest earnings from the local portion of the sales tax until the next quarter. Either way, the administrative cost is relatively low compared to property taxes.

Interjurisdictional Effects of a Sales Tax Increase

Microeconomic theory asserts that the introduction of a tax raises the price of the good purchased and thus suppresses demand for the good. There is no consensus on LOST tax price effects because the LOST is usually multi-jurisdictional and multi-tiered. One jurisdiction may adopt a LOST, but its impact is felt in neighboring jurisdictions because economic activity shifts in response to the tax. How much does it shift? The answer, unfortunately, is very difficult to discern.

Interstate Sales Tax Effects

Most studies of sales tax effects are interstate and demonstrate consumer sensitivity to tax price differential in cross-state border sales (Fisher 1980) but no consensus on the magnitude of the effect. Fox (1986) found relatively strong cross-state tax effects for durable goods (televisions, refrigerators) but considerably weaker tax effects for nondurable goods (food, apparel). Mikesell and Zorn (1986) found a modest decline in retail sales in the state imposing the tax, but that the increase in tax revenue was more than offset by the loss of sales. Walsh and Jones (1988) studied grocery purchases in the wake of West Virginia's sales tax rate reduction and found that grocery sales along the West Virginia border increased by about 6% for a 1% reduction in the sales tax.

In summary, previous research on tax rate differentials between contiguous states conclude that there is some decrease in sales in the higher tax jurisdiction and some increase in sales in

the lower tax jurisdiction, but the magnitude varies with characteristic of the product and the proximity of the purchaser.

If our analysis is confined only to the border state with Jefferson County, we should not expect any cross-state effects inducing shoppers to shop in Indiana since the sales and use tax rate for both jurisdictions would both be 7% (assuming a 1% LOST). Indiana exempts "grocery food" also, though some categories of exempt food are slightly different between Kentucky and Indiana. However, Indiana shoppers may no longer cross the Ohio River to shop in Kentucky to take advantage of the currently lower sales tax.

Economic theory also suggests that sales would also be lost in areas of Kentucky counties bordering Virginia and, to a lesser extent, West Virginia.

Table 17. Combined Sales Tax Rates for Border States.

Border State	State Sales Tax Rate	Local Sales Tax Rate*	Combined Sales Tax Rate
Illinois	6.25%	1.88%	8.13%
Indiana	7.00%	0.00%	7.00%
Missouri	4.23%	3.23%	7.46%
Ohio	5.50%	1.30%	6.80%
Tennessee	7.00%	2.44%	9.44%
Virginia	4.00%	1.00%	5.00%
West Virginia	6.00%	0.40%	6.40%

*Local rates weighted by population to produce an average local rate.

The gap between Virginia's 5% sales tax and a potential LOST rate adoption for a combined 7% sales tax in Kentucky might induce Kentucky shoppers to cross borders. However, it is important to remember that shoppers are most likely to cross borders when there are good substitutes and/or major purchases in mind. The border counties would not be attractive for a small tax savings if they did not have the desired merchandise for sale. There is also no major retail center located in the border counties.

It is more likely that Kentucky will lose shoppers who currently cross state borders to take advantage of lower sales taxes in Kentucky, especially Tennessee shoppers. To date there have been no estimates of the magnitude of cross-state shoppers, though economic theory suggests that some benefit to Kentucky would be lost.

Finally, a note on adoption. Zhoa (2005) noted that Georgia counties with higher millage rates and an increased ability to export taxes were likely to be early adopters. Exporting taxes is another way of saying that the jurisdiction that receives the tax revenue does so from

purchases made by shoppers who do not live in the jurisdiction. Sjoquist et al. (2007) used a panel study to track adoption in Georgia from 1976-2001 and found that adoption by a neighboring county tended to increase likelihood of adoption, as well as fiscal pressure and ability to export the tax.

To further explore the issue of tax exportation, Burge and Rogers (2011) identified 30 regional retail centers in Oklahoma to see if shoppers shifted away from these retail centers to take advantage of lower sales tax rates at nearby communities. They found that the difference between the municipal LOST and the rate at the retail center influences consumer spending more than the retail rate itself. Burge and Piper (2012), following up on the Oklahoma study, found that the retail centers are likely to be early adopters because they can export taxes, reducing the cost to taxpayers in that jurisdiction of local projects. Once again, they found that fiscal stress in the municipality or county is likely to speed up adoption of the LOST.

Intrastate Sales Tax Effects

There have not been many intrastate studies focusing on the relationship between adoption of the LOST and resulting impacts on economic activity. An exception is a study of the impact of an increase in sales tax rate on economic activity in Fort Collins, Colorado. Cutler and Strelnikova (2004) found that the increase in sales tax resulted in a small (0.15%) decrease in city gross domestic product and a small (0.2%) increase in unemployment, primarily in the retail sector. They also estimated that 30% of the tax was exported, or paid by persons living outside the jurisdiction that imposed the tax.

Cornia, et al. (2010) studied the effect of the LOST in Utah and found that the response to sales tax rate differences depended primarily on the characteristics of the goods and the distance between communities. They did not find statistically significant effects for close substitutes but did find significant distance effects for large purchases. Luna (2004) studied cross-border tax effects in Tennessee counties and found that counties gain when their neighboring county raises taxes and lose when they raise taxes. Specifically, she found that a 1% increase in the neighbor's tax rate will cause the home's tax base to increase by $2.20-$3.77 per resident (p. 55) but notes that Tennessee may show stronger effects because of the relatively high sales taxes and the emergence of Internet sales as a tax-free alternative during the period of her study (1977-1993).

Snodgrass and Otto (2001) tested the effects of a local option sales tax within a trading area comprised of 75 mostly rural communities in Oklahoma. They found that a regional trading center had the capacity to export the tax base while rural communities needed to significantly raise the tax differential in order to gain share of the retail base. In other words, a regional shopping attraction like a mall in a LOST jurisdiction would benefit from the trade of persons living outside the jurisdiction, but those living outside the jurisdiction would have to lower their

tax rates substantially to win back market share. This is more understandable in Oklahoma where the range of local sales tax rates is wide, but it stands to reason that shoppers from other jurisdictions would continue to travel to urban shopping areas, thereby permitting the jurisdiction that had the urban shopping area to export its LOST outside the area.

Why Tax Effects Are So Illusive

Policymakers want to know what the tradeoff will be between the revenue from the tax and the resulting loss of tax base, but there are just too many complicating factors to answer the question authoritatively. Economic theory says that a rational individual will prefer to make a purchase in a jurisdiction with a lower tax rate than in a jurisdiction with a higher tax rate when the transaction cost of the purchase is zero. When the transaction cost is not zero, cross-border effects are not well known. How far would a person be willing to drive to save 1% of purchase price on taxable items? The unsatisfying answer is: it depends.

Consumption patterns can be relatively unresponsive to price. It is not unusual to see several gas stations clustered closely together, offering fuel at different prices. The transaction cost of selecting the lowest price fuel is near zero, but economists have been known to stare at shoppers queuing to buy higher priced fuel and speculate. Do they consider the product superior (the cheaper fuel is not a perfect substitute), have another affinity for the brand (or a store brand credit card), prefer the coffee, admire the owner, or like the fact that there is a traffic signal conveniently placed that will allow them to get back on the road faster? Any single or combination of factors can change the individual's calculation of his/her transaction cost.

In general, local firms have market power advantage (Alm, et al., 2009) that persists despite tax rate differentials. Something as simple as familiarity with the merchandise can cause a shopper to inflate the transaction cost of shopping at a different location to take advantage of tax differences. There may also be information asymmetries. Many citizens may simply not be aware of a tax price differential.

In summary, the best evidence is that elasticity of response to geographic differences is influenced by the distance to the alternative location of purchase, whether the goods in the two jurisdictions are "strong substitutes" (Yamada, 1996), the relative price of the two goods, and the frequency of purchase. Cornia, et al. (2010) affirmed that "everyday commodities" were resistant to the tax effects of a LOST, but in the case of expensive goods, there was an interaction effect between tax rate and distance. When a LOST differential existed with a jurisdiction about 3 miles away, taxable sales decreased. When the distance increased to about 18 miles, there was no effect.

Readers should be aware that the distance estimates reported by Cornia et al. (2010) have not been reproduced by subsequent studies. They may indeed be accurate, but policymakers

should exercise caution until a consensus emerges regarding interaction effects of tax rate differences and distance.

Summary and Conclusions

The LOST has tremendous revenue potential for Louisville Metro government. If the imputation method used to allocate back to Metro the unallocated statewide sales tax receipts is roughly accurate, Metro would have received approximately $138 million in LOST revenues in FY 2012. Had the streamlined sales tax for remote vendors been in effect in 2012, the LOST revenue might have been $144 million. The administrative cost associated with collecting the LOST could be very low, presuming that DOR applied the LOST increment to their existing tax collection system and tracked receipts by point of sale for all transactions at no or little lost.

However, any time tax policy changes, economic activity changes in response. Indiana border shoppers might decide that crossing the bridge into Kentucky for shopping is no longer worth the effort if the Metro sales tax rate were 7% as it is in Indiana. Sales on high volume or big ticket purchases could shift to jurisdictions without the LOST, depending on the adoption decisions of counties and cities that might participate if a LOST were available to them.

On the other hand, Louisville's position as a retail shopping, dining and entertainment destination would permit Metro to export some percentage of the sales taxes to persons who do not live in Jefferson County. The effect of that tax exportation would be that the citizens of Louisville Metro could enjoy some infrastructure amenities at a reduced tax price (assuming a LOST in Louisville would be spent for infrastructure amenities). Would shoppers and diners from outside Jefferson County choose another location for their retail activities? Research from Oklahoma's retail centers suggests that shopping habits are relatively stable and not as responsive to small changes in tax rates as economic theory might suggest.

Even though a LOST would amount to a revenue windfall for Louisville Metro, sales tax bases generally are shrinking as consumption patterns shift from goods to services. Unless the base is expanded to reflect changes in consumption, which includes remote vendor sales, LOST revenues may not grow as fast as other revenue sources, or may not grow at all.

The Governor's Blue Ribbon Commission on Tax Reform identified five goals to guide the Commission's work: Fairness, competiveness, simplicity and compliance, elasticity and adequacy. These are good criteria to guide deliberations on the LOST.

Fairness: Most sales taxes are somewhat regressive, but when food and utilities are exempted the regressivity is mitigated. Incidence analysis like that presented earlier demonstrate that persons with lower incomes pay a higher percentage of their incomes for the "necessities" like

housing, transportation, fuel and consumables. Taxes on any of these transactions will exhibit regressivity.

Competitiveness: There will be some shifts in economic activity in jurisdictions where tax differentials exist, interstate and intra-state, particularly for large ticket items and over short distances. Previous research does not offer a prediction of how much retail activity is lost when rates change across borders because consumer behavior is too complicated. However, shopping patterns are relatively stable and perfect substitutes may not exist across borders.

Simplicity and compliance: The LOST is among the most popular of unpopular taxes simply because it is easy to understand how the tax is applied and easy to remit the tax at the time of purchase. Administration of the tax would be efficient from the local government's perspective, though the Department of Revenue would have to revise its systems to account for all sales taxes by point of sale.

Elasticity: Sales taxes mirror economic performance very well. The problem with sales taxes is that they do not capture more contemporary and growing bases such as services and Internet/catalog sales at this time.

Adequacy: Since the LOST amounts to new revenue, there would be no short term concern with adequacy. Earmarking for special projects, which is the current proposal by the Fischer administration, would adjust the type and extent of projects funded for changes in LOST revenue. However, earmarking LOST revenue for infrastructure means that LOST revenue will not be available to fund unexpected or urgent needs. The diversion of revenues currently designated for infrastructure to the general fund might provide short term relief for general government expenditures, but only in the first few years after implementation of the LOST.

The LOST would be sufficient to offset property taxes, and could provide relief for the occupational license tax, if policymakers chose to use LOST revenue for that purpose. However, the offset tax bases will grow, and it is important that growth rate in the supplanting tax base – sales taxes – be equal to the growth rate in property or occupational taxes in order to maintain the same revenue stream. Leadership from state government on base expansion will be necessary to ensure adequacy of sales tax revenue for state and local purposes.

References

Alm, James et al. (2009. Perfect competition, urbanization, and tax incidence in the retail gasoline market. *Economic Inquiry* (47):118-134.

Brunori, David (2007). *Local Tax Policy: A Federalist Perspective* (2nd Ed.). The Urban Institute Press: Washington, DC.

Burge, Gregory and Brian Piper (2012). Strategic fiscal interdependence: County and municipal adoptions of local option sales taxes. *National Tax Journal* 65: 387-415.

Burge, Gregory and Cynthia Rogers (2011). Local option sales taxes and consumer spending patterns: Fiscal interdependence under multi-tiered local taxation, *Regional Science and Urban Economics* 41(1):46-58.

Cornia, Gary C. et al. (2010). The effect of local option sales taxes on local sales. *Public Finance Review* 38(6):659-681.

Cutler, Harvey and Irina Strelnikova (2004). The impact of the US sales tax rate on city size and economic activity: A GCE approach. *Urban Studies* 41(4):875-885.

Fisher, Robert (1980). Local sales taxes: Tax rate differentials, sales loss, and revenue estimation. *Public Finance Quarterly* 8: 171-88.

Fox, William (1986). Tax structure and the location of economic activity along state borders. *National Tax Journal* 39: 387-401.

Howe, Edward T. and Donald J. Reeb (1997). The historical evolution of state and local tax systems. *Social Science Quarterly* 78(1):109-121.

Luna, LeAnn (2001). Local sales tax competition and the effect on county governments' tax rates and tax bases. *The Journal of the American Tax Association* 26(1):43-61.

Mikesell, John (1971). Sales taxation and the border county problem. *Quarterly Review of Economics and Business* 11:23-9.

Mikesell, John and C. Kurt Zorn (1986). Impact of the sales tax rate on its base: Evidence from a small town. *Public Finance Quarterly* 14(3): 329-38.

Pagano, Michael A. and Jocelyn M. Johnston (2000). Life at the bottom of the fiscal food chain: Examining city and county revenue decisions. *Publius* 30(2): 159-170.

Sjoquist, David et al. (2007). An analysis of the time to adoption of local sales taxes: A duration model approach. *Public Budgeting and Finance* 27(1): 20-40.

Snodgrass, Dodd W. and Daniel M. Otto (1990). Analysis of local sales taxation in rural areas: An Oklahoma case study. *Growth and Change* 21(2):34-45.

Walsh, Michael and Jonathan Jones (1988). More evidence on the 'burden tax' effect: The case of West Virginia, 1979-84. *National Tax Journal* 61(2): 261-65.

Yamada, Masatoshi (1996). Strong substitutes and tax reform: A further interpretation. *International Economic Review* 37:997-999.

Zhoa, Zhirong (2005). Motivations, obstacles, and resources: The adoption of the general purpose local option sales tax in Georgia counties*. Public Finance Review* 33(6):721-746.

Appendix A. Louisville / Jefferson County Metro Ordinance Number 39, Series 2013

ORDINANCE NO. 039, SERIES 2013

AN ORDINANCE APPROPRIATING $25,174 FROM NEIGHBORHOOD DEVELOPMENT FUNDS FROM DISTRICT 7, THROUGH THE OFFICE OF MANAGEMENT AND BUDGET, TO THE UNIVERSITY OF LOUISVILLE RESEARCH FOUNDATION, INC. FOR THE ECONOMIC IMPACT ANALYSIS OF THE LOCAL OPTION SALES TAX.

SPONSORED BY: Council Member Ken Fleming

BE IT ORDAINED BY THE LEGISLATIVE COUNCIL OF THE LOUISVILLE/JEFFERSON COUNTY METRO GOVERNMENT (THE COUNCIL) AS FOLLOWS:

SECTION I: The sum of $25,174 from Neighborhood Development Funds from District 7, through the Office of Management and Budget, to the University of Louisville Research Foundation, Inc. to examine the Local Option Sales Tax in other states, including but not limited to rates, bases and revenue productivity and to review the existing literature on LOST and incorporate findings on cross-tax elasticity and tax leakages.

SECTION II: The Council has determined the funds requested in this Ordinance will be expended for a public purpose.

SECTION III: This grant is subject to the Council's Policies and Procedures, Section 3, as adopted by Resolution No. 290, Series 2011.

SECTION IV: This Ordinance shall take effect upon its passage and approval.

H. Stephen Ott
Metro Council Clerk

Jim King
President of the Council

Greg Fischer
Mayor

4/2/13
Approval Date

APPROVED AS TO FORM AND LEGALITY:

Michael J. O'Connell
Jefferson County Attorney

LOUISVILLE METRO COUNCIL
READ AND PASSED
March 28, 2013

BY:

UofL Found.for Econ.Impact Anlys.Local Sales Tax D7NDF Ord.ROC bkn Draft 1.doc 031113
UofL Res.Found.,Inc.for Econ.Impact Anlys.Local Sales Tax D7NDF Ord.ROC bkn Draft 2.doc 031113
UofL Res.Found.,Inc.for Econ.Impact Anlys.Local Sales Tax D7NDF Ord.ROC bkn Draft 3.doc 032213
ORD 41 COMM AMEND D7 NDF UOFL LOST.doc 032513