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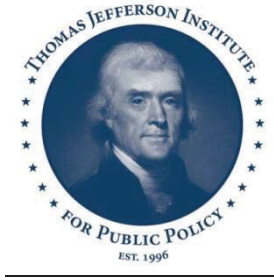
THE THOMAS JEFFERSON INSTITUTE  
FOR PUBLIC POLICY

# THE IMPACT OF CIGARETTE TAX INCREASES ON LOCAL GOVERNMENT BUDGETS

JANUARY 2018 – UPDATED APPENDIX APRIL 2018



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## INTRODUCTION BY MICHAEL THOMPSON

During this time of the year, Virginia's counties and cities are beginning to craft their annual budgets. It is not uncommon to have the idea of raising cigarette taxes come up as a way to find additional revenue. Governments at all levels would rather raise taxes – regardless of which ones – than to find efficiencies in the way they spend money or to eliminate activities and programs.

As we did last year, the Thomas Jefferson Institute thought it would again be interesting to find out which of our counties and cities tax cigarettes, how much are these taxes, and what the impact has been with such tax increases. For instance, do the jurisdictions really raise the kind of money projected in their approved budgets? Do increased taxes on cigarettes have a negative impact on the smaller convenience stores and “mom and pop” grocery stores? Do higher taxes encourage the smoker to shop in adjacent localities where cigarette taxes are lower? Do cigarette taxes impact these revenue streams in the long run?

Our study last year was used in several budget debates around the state. Many local officials and those businesses impacted by increased cigarette taxes found our study an important resource. We hope this will be the case again this year. We have updated the budget numbers to include Fiscal Year 2016.

Articles have been published over the years on this subject and newspapers carry stories of states and localities that propose tax increases on cigarettes, that higher taxes encourage customers to shop where cigarette prices are lower, and that illegal smuggling of cigarettes takes place when the price differentials encourage such activities.

We offered our study last year because we had not seen a really good analysis of what the situation is here in Virginia. Since localities can raise cigarette taxes on top of the federal and state tax, we thought it would be interesting and appropriate to look a little deeper into this issue and see what we could find out that would be beneficial to those local government officials who craft and vote on annual budgets.

To do such a report we needed good facts and figures and wanted to work with top economists to help determine if raising cigarette taxes is a “good” public policy or not.

We started out last year with a clean slate, so to speak, on this public policy topic. Although being skeptical of higher taxes, the Jefferson Institute has not, and is not, automatically opposed to tax increases and we have certainly been “open” to discussing tax policy over the years as that debate has taken center stage from time to time in Richmond.

The Jefferson Institute's dynamic tax/spending model (STAMP) has been used over the years in the tax debates that have taken place in Richmond and this model and its results during these debates has been praised by Republicans and Democrats. This model was developed for us, and has been updated as needed, by the economists at the Beacon Hill Institute in Boston. At our request, it now

includes the impact of spending on infrastructure improvements made available through increased taxes. Although taxes tend to have a dampening impact on the economy, when tax dollars are spent on infrastructure (building roads for instance) then the economy is positively impacted from such expenditures. These two impacts are now part of this dynamic model and better recognizes the true impact of taxes and spending. This economic model has been used to develop the major tax restructuring plan that would allow the elimination of the dreaded BPOL and Machine & Tool Tax along with the Merchants Capital tax – a goal advocated by Republicans and Democrats but never focused on once they are elected.

Last year, we reached out to our friends at the Beacon Hill Institute in Boston to do the research on this tax project. We asked these economists to review local budgets for several jurisdictions that had raised their cigarette taxes; to go back a few years in that analysis; to see if the projected budgets from these tax increases were met; and to determine if there was a way to figure out if adjoining jurisdictions were impacted when tax increases took effect. And for this year's study, the Beacon Hill Institute updated the budget numbers using the available budget documents in the jurisdictions involved.

There is a basic policy question for local government officials to consider when it comes to cigarette taxes: should taxes aimed at a minority of the population (only 19 percent are smokers in our country) be used to help fund programs and projects that are available to the entire community? General taxes, it seems, should be used for general programs such as schools, libraries and public safety, while taxes aimed at specific people – boaters, drivers, alcohol and tobacco users, etc. -- should be used for programs specific to their needs such as marinas, roads, bridges, etc.

We looked at locations around the state that raised cigarette taxes to see if the projected revenue was met and if there was any evidence that higher cigarette prices due to tax increases shifted buying habits to nearby, lower or no-tax-on-cigarettes, jurisdictions. And we were interested in seeing if those buying shifts did seem to take place, then were smaller retailers hurt in their overall businesses.

One city that has recently increased its cigarette taxes dramatically is Petersburg. It raised the cigarette tax from \$.10 per pack to \$.90 per pack. It is too early to have final numbers on what the income impact has been from this increase and to know if budget projections have been met. But we do have preliminary results based on the number of cigarette tax stamps that have been purchase by those stores selling this product. This tax increase took effect in October 2016 and we have figures for cigarette stamps sold through August of 2017 – so eleven months. We reviewed the similar time period for the previous year and found that there has been a decrease in cigarette tax stamps sold of 29.46 percent. So clearly, those purchasing cigarettes have found locations outside of Petersburg to take their business. The impact on the city's budget – budget projections from this increased tax vs. actual tax revenues will need to wait until these numbers are available. And it will take a couple of years to see which one of the impacts shown in this study become reality for Petersburg.

What we found through this year's research and analysis is this:

- 1) Rarely if ever does a jurisdiction meet its tax projections over the years after cigarette taxes are imposed or increased.

- 2) It is most common for the first year that cigarette tax increases produce more income to the county or city – even if the projected revenue is not attained. But those income figures usually decrease in the following years.
- 3) There are indications that convenience stores and smaller grocery stores see their overall sales on non-tobacco items decrease when cigarette taxes are increased due to customers traveling to other jurisdictions to buy less expensive cigarettes and, while buying those less expensive products, they also purchase other items.

Raising cigarette taxes is not a “cure-all” for resolving budget problems and these tax increases rarely raise the revenue that local governments project. Indeed, as this study shows, it is most often the case that revenue from an increase in cigarette taxes begins to decrease year after year soon after those taxes are raised.

There are indications, even if antidotal at times, that “mom and pop” grocery stores and convenience stores, see their overall sales decrease when a nearby jurisdiction significantly increase taxes on cigarettes. This is seen in the case of Vinton, VA when tax increases were credited by that city’s own analysis for putting two retailers out of business, and encouraging a cigarette outlet to open outside the city’s jurisdiction (see page 7 of this study). The data from two noted sources (see page 16 of this study) indicate that when cigarette sales decrease, convenience stores are significantly impacted. Additionally, many smaller retailers testify at local government hearings against cigarette tax increases often mention the negative impact such tax increases will have on their store’s finances.

This year’s study will hopefully be a benefit, as it was with our first study last year, to local governments here in Virginia as they craft their annual budgets for this year and in future years. Should additional revenue be needed, it is suggested from the numbers in this report that cigarette taxes are not the place to look. Consistently, as the tables in this study show, projected revenue is rarely met and when it is, that normally lasts only a year with rare exceptions. Total revenue from this source tends to decrease over time so reliance on a cigarette tax is not a long-term resolution to modernizing a local government’s tax system.

This study is presented in an effort to bring facts and figures to the debate on local cigarette taxes. It is not an endorsement of smoking or not smoking. It is a report that relies on the figures from local government and those figures make a strong case that cigarette taxes are not a reliable source of funding for these localities.

We hope that local government leaders will find this report of interest as local budgets – now and in the future – are developed and approved. There is nothing in this report that is meant to influence any specific legislation. It is presented to provide guidance to those who make public tax policy in the cities and towns of Virginia.



Michael W. Thompson, Chairman and President  
Thomas Jefferson Institute for Public Policy  
January 2018

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# THE FISCAL IMPACT OF CIGARETTE TAX INCREASES ON MUNICIPALITIES IN VIRGINIA

BY: PAUL BACHMAN AND XHULIA KANANI

## Executive Summary

In an effort to boost revenues, several local governments in the Commonwealth of Virginia have enacted well over 50 cigarette tax increases between Fiscal Year (FY) 2010 through FY 2016. Local governments have used the additional revenue to fund specific projects, match tax rates in neighboring towns and recoup falling tax revenues.

Excise taxes such as cigarette taxes are especially problematic at the local level. First, they do not raise much money mainly because they are not a major source of economic activity as are property or sales taxes. Second, cigarette taxes are subject to jurisdictional competition as consumers go shopping for lower priced options. More sensitive to price increases than originally presumed, consumers purchase their cigarettes in a neighboring tax friendly town, out of state, or even on the black market. As a result, local small businesses suffer the consequences, intended and unintended.

How have local governments fared in their attempt to raise revenue collections through cigarette tax increases? In this study, the Thomas Jefferson Institute for Public Policy and The Beacon Hill Institute set out to answer this question by examining the fiscal effects of higher cigarette taxes. The study examined 27 geographically dispersed cities and towns from around the Commonwealth of Virginia. Several factors underlying the study include comparisons between proposed revenues, estimated revenues, pre-tax increase and post-tax increase revenues.

For example, the town of Vinton (outside the city of Roanoke) provides the most striking case study of cigarette tax increases that produced a drop in revenue. In FY 2014, Vinton doubled its cigarette tax from \$0.20 per pack to \$0.40 per pack. Its FY 2014 Budget estimated that cigarette tax revenue would increase from \$321,976 in FY 2013 to \$459,375 in FY 2014, or a 43 percent increase. However, the additional revenue never materialized and, instead, cigarette tax revenues actually plunged by 17 percent. This prompted Vinton to reduce the tax to \$0.25 per pack, or 38 percent in FY 2015. However, revenues fell another 26 percent in FY 2015 and 9 percent in FY 2016.

The city of Alexandria's cigarette tax increases produced a similar, if less dramatic, result. In FY 2014, Alexandria raised its cigarette tax by \$0.20, from \$0.80 to \$1.00 per pack, or a 25 percent increase. However, actual cigarette tax revenues increased by only 14 percent missing the budgeted revenue from this source by \$306,875. Alexandria, continued to raise the cigarette tax by \$0.15 per pack, or 15 percent in FY 2015 and by \$0.11 per pack, or 9.6 percent in FY 2016. Alexandria's cigarette tax



revenues fell by 5.5 percent in FY 2015 and gained only 5.1 percent in FY 2016, despite a combined cigarette tax increase of almost 25 percent over two years. These revenues came in well below the 4.5 percent increase the city budgeted for in FY 2015 and the 10.6 percent increase the city budgeted for in FY 2016.

This study finds that the expectations for increased revenue have not been met. Moreover, this study points to these facts:

- According to the U.S. Census, Virginia's local governments collected 19.7 percent less in real cigarette tax revenue from FY 2010 to FY 2014 (the latest data available), even though individual local governments raised cigarette tax rates more than 50 times over the same period – some more than once. Last year's study on cigarette taxes found that between FY '10 and FY '13 local governments collected 16.3 percent less in cigarette taxes. Thus, the decrease in cigarette tax revenue increased by more than 20 percent in one year!
- According to data from the Virginia Wholesale Distributors Association and the Virginia Auditor of Public Accounts, between 2010 and 2015 the number of localities that actually chose to levy a new tax on the sale and use of cigarettes grew from 80 to 106 – a one-third increase in just five years.
- Cigarette tax rate increases raise tax revenue collections by less than local government budget projections or that the percentage rate increase would imply;
- The tax revenue collection increases are fleeting, often turning flat or negative in the years following a tax increase;
- The revenue losses and revenue shortfalls show that the tax increases are changing consumption patterns as consumers seek alternative markets with lower taxes and therefore lower prices; and
- Cigarette consumers are important to the well-being of small businesses, such as convenience and small grocery stores, and increasing cigarette taxes can harm these businesses.

Excise taxes are not the result of any argument for economic efficiency but rather the result of a political process which places excess burdens on consumers, especially lower income consumers, and small business. A tax system more reliant on a general, broader-based tax would be more appropriate to fund public expenditures than taxes on cigarettes.





## Overview

Cigarettes have been viewed as an appropriate revenue source by some jurisdictions in Virginia. However, as this study again shows this year, the revenues raised by imposing these taxes rarely meet the revenue goals and, in many cases, revenue declines either immediately or over time.

The demand for cigarettes is thought by some policy makers and tax departments to be relatively “inelastic.” That is, the decision to buy cigarettes is believed to be relatively insensitive to changes in price. Thus, a tax increase on cigarettes will not produce a significant decrease in consumption and budget projections are based on the belief that there will be relatively little change in purchasing habits. Even if consumption is projected to fall to some degree, it is believed that a tax increase on cigarettes will yield a large increase in tax revenue and such taxes will not distort consumers’ purchasing habits – a policy maker’s goal for an efficient tax policy.<sup>1</sup> The assumption is that an increase in cigarette taxes will have a positive revenue effect because purchases of cigarettes will not be impacted.

The changes taking place in the market place for cigarette sales is not properly taken into consideration by those advocating tax increases on cigarettes. The fact is that cigarettes sales in the United States have been dropping over the past decade. Nearly 264 billion cigarettes were sold in the United States in 2014, a decrease from approximately 273 billion sold in 2013, or a decrease in consumption of 3.3 percent.<sup>2</sup> In 2002, 391 billion cigarettes were sold showing a decrease in sales of 32.5 percent in 12 years, or a 3.1 percent compound annual rate of decline.<sup>3</sup>

The data suggests that cigarette sales are declining faster than the rate of adult smoking. Several factors could contribute to the disparity: smokers might be cutting back on the number of cigarettes they consume or cigarette smokers might be seeking alternatives to locally purchased cigarettes. Nevertheless, lower levels of cigarette consumption reduces state and local cigarette tax revenue collections.

The decision to raise cigarette taxes is a decision for policy makers at the national, state and local levels of government. In Virginia, those localities that raise cigarette taxes view this action as sound policy since the revenues are used to fund local government activities. This study focuses on the real budget outcomes of these decisions.

The rapid increase in cigarette taxes nationally has led directly to the surge in retail cigarette prices over the last two decades and has reinvigorated cigarette tax avoidance to a scale not seen since the 1970s. During this time, as states increased their tax rates, wide disparities between adjacent jurisdictions emerged. These disparities have been bridged by a rapidly expanding alternative market for cigarettes such as cross border purchases, vaporizers and the black market which is created by a web of cigarette smugglers.

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<sup>1</sup> The inverse-elasticity rule, or the Ramsey rule, states that by levying taxes in inverse proportion to their elasticity of demand, governments raise revenue at the lowest possible social cost (minimizing the excess burden).

<sup>2</sup> Maxwell JC. The Maxwell Report: Year End & Fourth Quarter 2014 -2013 Cigarette Industry. Richmond, VA: John C. Maxwell, Jr., 2015.

<sup>3</sup> Maxwell JC. The Maxwell Report: Year End & Fourth Quarter 2002 Cigarette Industry. Richmond, VA: John C. Maxwell, Jr., 2013, <https://industrydocuments.library.ucsf.edu/tobacco/docs/#id=jhk0179>, p.10.

Maxwell JC. The Maxwell Report: Year End & Fourth Quarter 2014 Cigarette Industry.



Higher taxes have led to an increase in cigarette smuggling, a term which can include both casual individual cross-border purchases as well as more highly organized but illegal commercial enterprises that truck cigarettes into high tax destinations. The Mackinac Center for Public Policy found that of all the cigarettes consumed in New York in 2013 legal and illegal 58 percent were smuggled in.”<sup>4</sup>

The Mackinac analysis is consistent with other research which examined the effect of cigarette taxes on municipal jurisdictions. Working with random samples in the form of littered cigarette boxes in Chicago, economist David Merriman of the University of Illinois found 75 percent of the littered packs did not display the city’s tax stamp thus showing that most were purchased outside of Chicago’s city limits.<sup>5</sup> At the time of the study, Chicago’s combined state and local rate of \$3.66 per pack were no match for Gary, Indiana’s straight state levy of \$0.555 cents. (Gary does not tax cigarettes locally and is next door to Cook County where Chicago is located).

And the Richmond Times Dispatch ran a series of articles last year focused on the problem of cigarette smuggling. The articles highlighted the growing smuggling of cigarettes from Virginia with a tax rate of \$0.30 per pack compared to that of New York State rate of \$4.35 per pack. The discrepancy makes cigarette smuggling enormously profitable, that is attracting criminal gangs that have resorted to instances of armed robbery and other violent means. <sup>6</sup>

States that increase cigarette taxes are often disappointed at the actual revenues realized. In FY 2007 New Jersey raised its tax from \$2.40 to \$2.58 per pack. According to experts, “Not only did actual revenues miss projections, they also declined below FY 2006 and FY 2005 levels.”<sup>7</sup>

Washington D.C. also failed to meet its estimates of new revenue. In FY 2009, Washington D.C. collected \$37.6 million in cigarette tax revenue. The District raised the tax by \$0.50 at the end of FY 2009 and projected the FY 2010 tax revenue to increase to \$45.4 million. In fact, the FY 2010 actual revenues were \$33.4 million. After the tax increase, the D.C. government actually lost \$4.2 million from the previous year and missed projections by \$12 million. <sup>8</sup>

The recent research on tax avoidance and cross border sales calls into question earlier assumptions that smokers facing high prices have no alternatives. While the distance a smoker is willing to travel to save money remains small, neighboring towns with lower or no taxes are an obvious option for the consumer. While circumstances are different for many individuals, a smoker will find a way to lower prices.

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<sup>4</sup> Michael D. LaFaive, Todd Nesbit, and Scott Drenkard, “Cigarette Smugglers Still Love New York and Michigan, but Illinois Closing In” (Jan. 14, 2015) <http://www.mackinac.org/20900>.

<sup>5</sup> David Merriman, “The Micro-Geography of Tax Avoidance: Evidence from Littered Cigarette Packs in Chicago,” *American Economic Journal: Economic Policy*, 2(2): 61-84. DOI: 10.1257/pol.2.2.61.

<sup>6</sup> John Reid Blackwell, Series: Cigarette Smuggling, *Richmond Times Dispatch*, March through May 2015, [http://www.richmond.com/collection\\_6e320aa8-04d0-11e5-b14e-93bff5f373fc.html](http://www.richmond.com/collection_6e320aa8-04d0-11e5-b14e-93bff5f373fc.html),

<sup>7</sup> Bill Orzechowski and Rob Walker, *The Tax Burden of Tobacco* (49) funded in part by Altria Client Services. Inc (January 20, 2015).

<sup>8</sup> According to Altria calculations based on data from Natwar M. Gandhi, Office of the Chief Financial Officer, District of Columbia February 2011 Revenue Estimates and Orzechowski and Walker (note 6).



## Fiscal Effects of Raising Local Cigarette Taxes

In the 1970's, the cities and towns across Virginia lobbied the General Assembly to expand their ability to raise local revenues. Leaders argued that municipalities were providing more core services than county governments, and thus needed additional sources of revenues.

Policymakers eventually decided to give the authority to tax cigarettes to the cities and towns, but not counties, since counties did not provide the same level of services. Moreover, policymakers felt that the absence of a cigarette tax in the counties would provide effective “checks and balances” on the cities and towns to keep them from raising their cigarette taxes too high. The counties of Fairfax and Arlington were allowed to tax cigarettes, because they were almost indistinguishable from a city or town due to their surging population growth that required them to provide the very same services as cities and towns.

Local governments in Virginia have enacted over 50 cigarette tax increases since FY 2010 in an effort to boost revenues. Local governments have used the additional revenue to fund specific projects, match tax rates in neighboring towns and recoup falling tax revenues.

How have local governments fared in their attempt to raise revenue collections through cigarette tax increases?

The U.S. Census Bureau's State and Local Government Finances provides survey data on tax revenue and expenditures for all fifty states, including tobacco products, which are mostly cigarette taxes. According to the Census data, in inflation adjusted dollars, Virginia's local governments collected \$75,000,536 in cigarette tax revenues in 2010 and only collected \$60,203,500 in cigarette tax revenues in 2014 (the latest data available.)<sup>9</sup> Virginia's local governments collected 19.7 percent less in cigarette tax revenue over this period, even though these governments raised cigarette tax rates more than 50 times over the same period.<sup>10</sup>

The Beacon Hill Institute collected data on cigarette tax revenues and tax increases for 27 of Virginia's local governments since FY 2010 to provide evidence from the experiences of individual municipalities. As one might expect, the experience of local governments in raising revenue through cigarette tax increases is mixed.

The following four tables present the results organized by the timing of the tax change (earlier or later in the period) and success in raising additional or projected revenue. These tables display the local cigarette tax rate increase if any, the cigarette tax rate, the percentage change in the rate, the budgeted revenue collections and the actual revenue collections for each local government.

For those cigarette tax increases, we analyze the difference between the percentage change in tax rate and the percentage change in the revenue collection. If these percentage changes are equal, then the tax change produced a static effect, or no effect on consumer behavior.

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<sup>9</sup> Inflated using U.S Department of Labor, Consumer Price Index for all Urban Consumers, <http://data.bls.gov/pdq/SurveyOutputServlet>.

<sup>10</sup> The U.S. Census Bureau, State and Local Government Finances, 2013, 2010 State and Local Government, <http://www.census.gov/govs/local/>.

<sup>11</sup> We gathered the data from local budget, Comprehensive Financial Annual Reports documents online and contacting the municipal governments directly. The Northern Virginia Tax Board provided data for Fairfax and Manassas.



Static estimates assume that there is no change in underlying consumer behavior in response to a change in tax law. For example, a static estimate of an increase in the cigarette tax, from \$1.00 per pack to \$1.20 per pack would cause revenues to increase by 20 percent  $(\$1.20 - \$1.00)/\$1.00$ . On the other hand, a dynamic tax revenue change would show a smaller increase in revenue because it would capture the negative effects on the tax base of capturing more money dedicated to consumption spending through tax increases and leaving less money in consumers' pockets for spending. Moreover, excise tax changes, especially on consumer goods such as gasoline and cigarettes, drive consumers to make purchases in other jurisdictions that have lower or no tax, and, thus, lower prices.<sup>12</sup> In other words, as a result of higher taxes, consumers would have less money to purchase goods and services and thus localities would see retail sales, and, in turn, tax collections fall or grow more slowly.

The four tables below group cities and towns that increased cigarette taxes by the revenue results from such increases. The reader can easily see the actual results of such tax increases.

### Table 1 – Tax Increases Reduce Revenue

Table 1 displays the experience of Vinton, Bluefield, and Virginia Beach for which a cigarette tax increase produced a decrease in cigarette tax revenues.

**Table 1: Tax Increases Reduce Revenue**

| Municipality  | FY 2010    | FY 2011    | FY 2012    | FY 2013    | FY 2014    | FY 2015    | FY 2016    |
|---|------------|------------|------------|------------|------------|------------|------------|
| <b>Vinton</b>   |            |            |            |            |            |            |            |
| Rate Increase (\$, per pack)                          | 0          | 0          | 0          | 0          | 0.20       | -0.15      | 0          |
| Rate (\$, per pack)                                   | 0.20       | 0.20       | 0.20       | 0.20       | 0.40*      | 0.25       | 0.25       |
| Percent Increase                                      | 0          | 0          | 0          | 0          | 100        | (38)       | 0          |
| Budgeted Revenue                                      | 255,000    | 325,000    | 325,000    | 300,000    | 459,375    | 310,000    | 250,000    |
| Percent Increase                                      | na         | (6)        | 6          | 1          | 43         | 16         | 27         |
| Actual Revenue  | 346,886    | 306,799    | 296,309    | 321,976    | 266,367    | 196,383    | 178,127    |
| Percent Increase                                      | na         | (12)       | (3)        | 9          | (17)       | (26)       | (9)        |
| <b>Bluefield</b>                                      |            |            |            |            |            |            |            |
| Rate Increase (\$, per pack)                          | 0          | 0          | 0.04       | 0          | 0          | 0          | 0          |
| Rate (\$, per pack)                                   | 0.06       | 0.06       | 0.10       | 0.10       | 0.10       | 0.10       | 0.10       |
| Percent Increase                                      | 0          | 0          | 67         | 0          | 0          | 0          | 0          |
| Budgeted Revenue                                      | na         | na         | na         | an         | na         | na         | na         |
| Percent Increase                                      | na         | na         | na         | na         | na         | na         | na         |
| Actual Revenue  | 173,552    | 238,858    | 205,781    | 220,730    | 210,231    | 178,920    | 187,866    |
| Percent Increase                                      | Na         | 38         | (14)       | 7          | (5)        | (15)       | 5          |
| <b>Virginia Beach</b>                                 |            |            |            |            |            |            |            |
| Rate Increase (\$, per pack)                          | 0          | 0.04       | 0          | 0          | 0.05       | 0.05       | 0          |
| Rate (\$, per pack)                                   | 0.61       | 0.65       | 0.65       | 0.65       | 0.70       | 0.75       | 0.75       |
| Percent Increase                                      | 0          | 7          | 0          | 0          | 8          | 0          | 0          |
| Budgeted Revenue                                      | 12,935,527 | 11,742,780 | 10,872,856 | 11,218,625 | 12,109,969 | 12,148,649 | 11,642,478 |
| Percent Increase                                      | Na         | (6)        | (2)        | 3          | 10         | 12         | (15)       |
| Actual Revenue  | 12,468,847 | 12,063,516 | 12,182,212 | 11,953,020 | 11,693,536 | 13,707,486 | 10,164,199 |
| Percent Increase                                      | Na         | (3)        | 1          | (2)        | (2)        | 17         | (26)       |
| *Vinton reduced the rate to \$0.25 on March 14, 2014. |            |            |            |            |            |            |            |

<sup>12</sup> Mehmet S. Tosun and Mark L. Skidmore, Cross-Border Shopping and the Sales Tax: An Examination of Food Purchases in West Virginia, The B.E. Journal of Economic Analysis & Policy, Volume 7, Issue 1, Article 63, <http://home.wlu.edu/~gusej/econ398/articles/westVABorders.pdf> (2007).

Fleenor, Patrick W. The Effect of Excise Tax Differentials on the Interstate Smuggling and Cross-Border Sales of Cigarettes in the United States. Background Paper No. 16. Tax Foundation. October 1996.



Not listed above in Table 1 is what is happening in Petersburg where cigarette taxes were increased from \$0.10 to \$0.90 (an increase of 800 percent) and revenues have dramatically decreased. The final numbers won't be available for a couple of months, but this tax increase has not produced revenue anticipated by the Petersburg City Council when that tax was increased.

Vinton provides the most striking example of a cigarette tax increases that produced a drop-in revenues. In FY 2014, Vinton doubled its cigarette tax from \$0.20 per pack to \$0.40 per pack. The FY 2014 Budget estimated that tax revenue would increase from \$321,976 in FY 2013 to \$459,375 in FY 2014, or a 43 percent increase. The FY 2014 Adopted Budget states that the additional revenue "will be earmarked to fund our capital improvement program."<sup>13</sup> However, the additional revenue never materialized and, instead, cigarette tax revenues plunged by 17 percent.

The town's 2014 Comprehensive Annual Financial Report (CAFR) provides an explanation of the revenue shortfall. It states that, "Cigarette tax was 82.7 percent of the budget [projection] due to a rate increase from \$.20 per pack to \$.40 per pack which decreased revenue as a result of decreased cigarette sales in the Town." In response, the "rate was decreased by \$.15 per pack in March 2014 as a result of working with local merchants to regain their sales."<sup>14</sup> However, this 38 percent drop in the tax rate actually produced an additional 26 percent loss of revenue for FY 2015. Revenues fell by another 9 percent in FY 2016 as the market failed to recover.

The town's 2015 CAFR provides more detail behind the revenue loss:

"Cigarette tax collection continues to decrease as a result of \$0.20 increase in tax rate effective July 2013. Although the tax rate was reduced by \$0.15 in March 2014 to encourage buyers, the market has not recovered. In addition to this negative impact, there has been a loss of two (2) retailers and a cigarette outlet opened outside of the Town limits. Another effect on this revenue is the sale of vapors."<sup>15</sup>

The Vinton experience provides a textbook example of tax policy affecting economic behavior. The price differential between two adjacent jurisdictions produced cross-border sales that produced the opposite effect of the intended tax increases: revenues fell instead of increasing after the tax increase. As a result, Vinton not only raised less revenue for its "capital improvement plan," but lost revenue that was dedicated to other areas of its budget.

Bluefield raised cigarette taxes by 67 percent in FY 2012, and tax revenues fell 14 percent. In FY 2013, revenues recovered by 7 percent, but remained below the revenues before the tax increase. Bluefield revenues fell the next two years, recovering by only 5 percent in FY 2016. Bluefield's cigarette tax revenues collections were 21.3 percent below collections in FY 2011, the year before the tax increase.

Virginia Beach raised the cigarette tax three times over the period of FY '10 to FY '16 with mixed year-to-year results, but an overall loss in revenue produced. In FY 2011, Virginia Beach raised the tax by 7 percent and revenues fell by 3 percent. In the following two years, revenues increased by 1 percent and fell by 2 percent respectively, but remained below the level prior to the tax increase.

<sup>13</sup> Town of Vinton, VA FY 2013-2014 Budget, (vi) <http://www.vintonva.gov/ArchiveCenter/ViewFile/Item/537>

<sup>14</sup> Town of Vinton, Virginia, Comprehensive Annual Financial Report Year Ended June 30, 2014 <http://www.vintonva.gov/ArchiveCenter/ViewFile/Item/687>, 8.

<sup>15</sup> Town of Vinton, Virginia, Comprehensive Annual Financial Report Year Ended June 30, 2015 <http://www.vintonva.gov/ArchiveCenter/ViewFile/Item/822>, 8.

<sup>16</sup> Town of Ashland, VA "2015 – 2016 Adopted Budget," (June 16, 2015), <http://www.town.ashland.va.us/ArchiveCenter/ViewFile/Item/354>, p. 3.



The FY 2014 tax increase of 8 percent also produced a decrease in tax revenues by 2 percent in FY 2014, the 7 percent tax increase saw an increase in revenues in FY 2015 by 17 percent only to fall by 26 percent in FY 2016. The FY 2016 cigarette tax revenue was 18.4 percent lower than FY 2010, despite three tax rate increases.

## Table 2 – Tax Increases Don’t Meet Expectations

Table 2 displays data for another set of Virginia municipalities that enacted one or more cigarette tax increases since FY 2010. However, they did not experience immediate drops in cigarette tax revenues, but rather, the tax increases produced revenue gains that did not meet expectations. Moreover, cigarette tax revenues fell in every one of these jurisdictions between FY 2015 and FY 2016.

**Table 2: Tax Increases Don’t Meet Expectations**

| Municipality                 | FY 2010   | FY 2011   | FY 2012   | FY 2013   | FY 2014   | FY 2015   | FY 2016   |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Winchester</b>            |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0.15      | 0         | 0         | 0         | 0.1       | 0         |
| Rate (\$, per pack)          | 0.10      | 0.25      | 0.25      | 0.25      | 0.25      | 0.35      | 0.35      |
| Percent Increase             | na        | 150       | 0         | 0         | 0         | 40        | 0         |
| Budgeted Revenue             | 230,000   | 530,000   | 530,000   | 530,000   | 580,000   | 812,600   | 812,600   |
| Percent Increase             | na        | 110       | 15        | (7)       | 9         | 63        | 22        |
| Actual Revenue               | 252,108   | 461,608   | 572,964   | 530,667   | 498,544   | 663,752   | 639,914   |
| Percent Increase             | 12        | 83        | 24        | (7)       | (6)       | 33        | (4)       |
| <b>Fairfax City</b>          |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0.25      | 0.10      | 0         | 0         | 0         | 0         | 0         |
| Rate (\$, per pack)          | 0.75      | 0.85      | 0.85      | 0.85      | 0.85      | 0.85      | 0.85      |
| Percent Increase             | 25*       | 13        | 0         | 0         | 0         | 0         | -         |
| Budgeted Revenue             | 702,317   | 1,185,848 | 1,060,732 | 980,000   | 975,000   | 975,000   | 900,000   |
| Percent Increase             | na        | 43        | 3         | 7         | 0         | 0         | 4         |
| Actual Revenue               | 829,555   | 1,028,992 | 918,341   | 975,457   | 924,350   | 862,776   | 853,890   |
| Percent Increase             | 7         | 24        | (11)      | 6         | (5)       | (7)       | (1)       |
| <b>Leesburg</b>              |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0.25**    | 0         | 0         | 0         | 0         |
| Rate (\$, per pack)          | 0.50      | 0.50      | 0.75      | 0.75      | 0.75      | 0.75      | 0.75      |
| Percent Increase             | 0         | 0         | 50        | 0         | 0         | 0         | 0         |
| Budgeted Revenue             | na        | 800,000   | 1,150,000 | 1,150,000 | 1,150,000 | 1,047,206 | 1,000,374 |
| Percent Increase             | na        | Na        | 32        | 1         | 10        | 7         | 7         |
| Actual Revenue               | 805,298   | 872,047   | 1,133,071 | 1,047,206 | 980,759   | 934,508   | 905,450   |
| Percent Increase             | na        | 8         | 30        | (8)       | (6)       | (5)       | (3)       |
| <b>Newport News</b>          |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0.10      | 0.10      | 0         | 0         | 0         |
| Rate (\$, per pack)          | 0.65      | 0.65      | 0.75      | 0.85      | 0.85      | 0.85      | 0.85      |
| Percent Increase             | 0         | 0         | 15        | 12        | 0         | 0         | 0         |
| Budgeted Revenue             | 4,225,000 | 4,119,000 | 4,600,000 | 5,400,000 | 5,200,000 | 5,200,000 | 5,200,000 |
| Percent Increase             | na        | (1)       | 8         | 13        | (1)       | 2         | 5         |
| Actual Revenue               | 4,160,343 | 4,269,564 | 4,799,234 | 5,228,287 | 5,102,091 | 4,949,954 | 4,808,217 |
| Percent Increase             | 1         | 3         | 12        | 9         | (2)       | (3)       | (3)       |
| <b>Manassas</b>              |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0.15      | 0         | 0         | 0         | 0         |
| Rate (\$, per pack)          | 0.50      | 0.50      | 0.65      | 0.65      | 0.65      | 0.65      | 0.75      |
| Percent Increase             | 0         | 0         | 43        | 0         | 0         | 0         | 0         |
| Budgeted Revenue             | na        | 741,156   | 750,124   | 968,381   | 923,138   | 886,092   | 842,283   |
| Percent Increase             | na        | 0         | 0         | 0         | 0         | 0         | -         |
| Actual Revenue               | 741,156   | 750,124   | 968,381   | 923,138   | 884,092   | 842,283   | 810,531   |
| Percent Increase             | na        | 1         | 29        | (5)       | (4)       | (5)       | (4)       |
| <b>Purcellville</b>          |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0.15      | 0         | 0         | 0         | 0         |
| Rate (\$, per pack)          | 0.50      | 0.50      | 0.65      | 0.65      | 0.65      | 0.65      | 0.65      |
| Percent Increase             | 0         | 0         | 30        | 0         | 0         | 0         | 0         |
| Budgeted Revenue             | 230,000   | 212,000   | 260,000   | 245,000   | 260,633   | 242,371   | 237,801   |
| Percent Increase             | na        | 5         | 35        | 1         | 5         | (3)       | (0)       |
| Actual Revenue               | 202,844   | 192,198   | 243,622   | 247,976   | 249,236   | 238,433   | 233,855   |
| Percent Increase             | na        | (5)       | 27        | 2         | 1         | (4)       | (2)       |

\*tax increase effective for half of FY 2010 and we split the 50 percent increase across FY 2010 and FY 2011.

\*\*tax increase effective May 1, 2011, we allocate the tax change to FY 2012 since it effects the entire FY.



In FY 2011, Winchester increased its cigarette tax by 150 percent and expected revenues to increase by 110 percent. However, revenues only increased 83 percent, well below the estimated increase. In FY 2012 cigarette tax revenues increased by 24 percent. However, cigarette tax revenues fell over the next two fiscal years until the FY 2015 tax increase of \$0.10 per pack, or 40 percent. The FY 2015 budget documents projected a 63 percent increase in cigarette tax revenues with a rate increase of only 40 percent. In reality, tax revenues only increased 33 percent, a little over half of the projected increase. Moreover, cigarette tax revenues fell by 4 percent in FY 2016.

Fairfax City, a jurisdiction completely surrounded by Fairfax County that imposes only a 30 cent per pack tax on cigarettes, raised its cigarette tax by 50 percent half way through FY 2010 and again by 13 percent in FY 2011, to a total of 85 cents per pack. The FY 2010 tax increase represents a 25 percent increase in the tax if it were spread over the entire fiscal year. However, cigarette tax revenues only grew by 7 percent over FY 2009. Fairfax City followed up with a 13 percent cigarette tax increase in FY 2011 and they budgeted revenues would increase by 43 percent. However, revenues only increased by 24 percent that fiscal year and fell by 11 percent in FY 2012. In FY 2013, Cigarettes tax revenues rose by 6 percent, before falling again by 5 percent in FY 2014, 7 percent in FY 2015 and 1 percent in FY 2016.

Leesburg, Newport News and Manassas initially saw cigarette tax revenues rise in response to tax increases only to fall in subsequent years. In FY 2012, Leesburg increased its cigarette tax rate by \$0.25 per pack, or 50 percent, and revenues increased by 30 percent.<sup>16</sup> Over the next four fiscal years, cigarette tax revenues fell by 8, 6, 5 and 3 percent respectively. Newport News experienced steady increases in cigarette tax revenues prior to its FY 2012 and FY 2013 tax increases of \$0.10 per pack, or 15 percent and 12 percent, which boosted revenues by 12 percent and 9 percent respectively. However, cigarette tax revenues fell in each of the three fiscal years following the FY 2013 increase. Similarly, Manassas raised its cigarette tax rate by 43 percent in FY 2012, from \$0.50 to \$0.65 per pack and tax revenues rose by 29 percent in the first year, but revenues fell by nearly 5 percent in each year thereafter.

Purcellville hiked the cigarette tax rate by 30 percent in FY 2012, but revenues fell slightly short of expectations, rising only 27 percent that year. Revenues held steady over the next two fiscal years – increasing 1 percent and 2 percent - and then fell by 4 percent in FY 2015 and 2 percent in FY 2016.

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<sup>16</sup> The tax increase was effective May 1, 2011, with two months left in FY 2011.



### Table 3 – Tax Increases Miss Budget Projections

Table 3 displays municipalities that increased cigarette taxes in FY 2015 (except for Alexandria in FY 2014 and FY 2015), yet saw revenue increases that were significantly below expectations except in Portsmouth which saw revenue above projections only in FY 2016.

**Table 3: Tax Increases Miss Budget Projections**

| Municipality                 | FY 2010   | FY 2011   | FY 2012   | FY 2013   | FY 2014   | FY 2015   | FY 2016   |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Charlottesville</b>       |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0         | 0         | 0.2       | 0         |
| Rate (\$, per pack)          | 0.35      | 0.35      | 0.35      | 0.35      | 0.35      | 0.55      | .55       |
| Percent Increase             | 0         | 0         | 0         | 0         | 0         | 57        | 0         |
| Budgeted Revenue             | 695,000   | 695,000   | 615,000   | 615,000   | 585,000   | 850,000   | 850,000   |
| Percent Increase             | na        | 13        | (3)       | (4)       | (13)      | 26        | 6         |
| Actual Revenue               | 614,725   | 634,572   | 640,588   | 672,397   | 674,571   | 802,021   | 809,454   |
| Percent Increase             | na        | 3         | 1         | 5         | 0         | 19        | 1         |
| <b>Portsmouth</b>            |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0         | 0         | 0.3       | -0.3      |
| Rate (\$, per pack)          | 0.60      | 0.60      | 0.60      | 0.60      | 0.60      | 0.90      | 0.60      |
| Percent Increase             | 0         | 0         | 0         | 0         | 0         | 50        | (33)      |
| Budgeted Revenue             | na        | 3,165,833 | 2,950,000 | 2,813,250 | 2,900,000 | 3,912,350 | 3,617,166 |
| Percent Increase             | na        | 10        | 4         | (5)       | 22        | 41        | (0)       |
| Actual Revenue               | 2,884,253 | 2,849,698 | 2,948,418 | 2,373,203 | 2,781,446 | 3,625,687 | 3,661,849 |
| Percent Increase             | 0         | (1)       | 3         | (20)      | 17        | 30        | 1         |
| <b>Bristol</b>               |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0         | 0         | 0.07      | 0.06      |
| Rate (\$, per pack)          | 0.04      | 0.04      | 0.04      | 0.04      | 0.04      | 0.11      | 0.17      |
| Percent Increase             | 0         | 0         | 0         | 0         | 0         | 175       | 55        |
| Budgeted Revenue             | 175,000   | 175,000   | 180,000   | 180,000   | 150,000   | 350,000   | 250,000   |
| Percent Increase             | Na        | (6)       | 2         | 5         | (3)       | 134       | -28       |
| Actual Revenue               | 187,064   | 176,058   | 170,956   | 154,988   | 149,521   | 346,317   | 426,930   |
| Percent Increase             | 0         | (6)       | (3)       | (9)       | (4)       | 132       | 23        |
| <b>Alexandria</b>            |           |           |           |           |           |           |           |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0         | 0.20      | 0.15      | 0.11      |
| Rate (\$, per pack)          | 0.80      | 0.80      | 0.80      | 0.80      | 1.00      | 1.15      | 1.26      |
| Percent Increase             | 0         | 0         | 0         | 0         | 25        | 15        | 10        |
| Budgeted Revenue             | 3,100,000 | 2,900,000 | 2,900,000 | 2,600,000 | 3,234,000 | 3,060,000 | 3,060,000 |
| Percent Increase             | na        | (0)       | 4         | (3)       | 26        | (5)       | 11        |
| Actual Revenue               | 2,910,382 | 2,777,052 | 2,674,157 | 2,567,249 | 2,927,125 | 3,020,469 | 2,907,915 |
| Percent Increase             | na        | (5)       | (4)       | (4)       | 14        | 3         | 5         |





Charlottesville and Portsmouth, after raising cigarette taxes in FY 2015, experienced revenues collections that were 7.3 percent and 5.6 percent below budget projections. Moreover, the differences between the percentages of tax rate increases and the subsequent tax revenue increases – 20 percentage points for Charlottesville and 38 percentage points for Portsmouth – indicate that the tax increases are driving significant changes in the cigarette consumer’s purchasing behavior. As stated in the earlier discussion on static and dynamic revenue changes, had consumers not changed their behavior by either purchasing fewer cigarettes or purchasing them outside the taxing jurisdiction, tax revenue collections would have increased by the same percentage as the tax rate: 20 percent for Charlottesville and 38 percentage points for Portsmouth. In FY 2016, Charlottesville cigarette tax revenues increased by a mere 1 percent.

In FY 2016, Portsmouth cut its cigarette tax rate back to \$0.60 per pack, a decrease of 33 percent. The FY 2016 budget anticipated revenues would fall slightly, but in fact revenues increased slightly. In this case, a tax cut brought in more revenue, at least in the initial year.

Cigarette tax revenue forecasts for Bristol and Stanton missed actual revenues by a mere 1.1 percent and 2.3 percent respectively. Again, the difference between the percentages of tax rate increases and the subsequent percentage tax revenue increases – 29 points in Stanton and 28 percentage points in Bristol -- show consumers are shifting their spending patterns in response to the tax increases. Bristol increased its cigarette tax rate by \$0.6 per pack, or 55 percent in FY 2016, revenue collections only increased by 23 percent. In Staunton cigarette tax revenues fell by 6 percent in FY 2016.

Cigarette tax revenue forecasts Bristol missed actual revenues by a mere 2.3 percent in FY 2015 after a 134 percent tax rate increase. Bristol increased its cigarette tax rate by \$0.6 per pack, or 55 percent in FY 2016, revenue collections only increased by 23 percent, but exceeded the budget estimate that revenues would fall by 28 percent. Again, the difference between the percentages of tax rate increases and the subsequent percentage tax revenue increases – 28 percentage points -- show consumers are shifting their spending patterns in response to the tax increases.

In FY 2014 Alexandria raised its cigarette tax by \$0.20 from \$0.80 to \$1.00 per pack, or a 25 percent increase. However, actual cigarette tax revenues increased by only 14 percent. In FY 2015, Alexandria doubled-down and raised the cigarette tax again by \$0.15 to \$1.15 per pack, for a 15 percent increase, only to see revenues rise by only 3 percent. Alexandria raised the cigarette tax again in FY 2016 to \$1.26 per pack, or 10 percent and actual revenue collections only rose 5 percent. The FY 2015 budgeters in Alexandria learned their lesson and forecasted a 5 percent decrease in cigarette tax revenues for FY 2015. FY 2016 Budget documents acknowledge the reality by stating future tax revenues will be flat due to “historical trends of stable to decreasing cigarette use.”<sup>17</sup>

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<sup>17</sup> City of Alexandria, “Revenue Summary,” FY2014-2016, from Budget 2016, <http://www.alexandriava.gov/uploadedFiles/budget/info/budget2016/Section%209%20-%20Revenues%20Summary.pdf>. See page 9.12. <http://www.hampton.gov/DocumentCenter/View/1455>, p. 4-9.



## Table 4 – Tax Increases Show Mixed Results

Table 4 displays data for municipalities that had at least one instance of cigarette tax rate hike that increased revenues by more than the rate increase would imply and others with revenues that both rose and fell in the years following a tax increase. Poquoson City and Franklin City are the cleanest example of the former situation.

**Table 4: Tax Increases Show Mixed Results**

| Municipality                 | FY 2010   | FY 2011   | FY 2012   | FY 2013   | FY 2014   | FY 2015   | FY 2016    |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| <b>Poquoson City</b>         |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0.10      | 0         | 0         | 0          |
| Rate (\$, per pack)          | 0.10      | 0.10      | 0.10      | 0.20      | 0.20      | 0.20      | 0.20       |
| Percent Increase             | 0         | 0         | 0         | 100       | 0         | 0         | -          |
| Budgeted Revenue             | 75,000    | 70,000    | 60,000    | 136,500   | 136,500   | 120,000   | 120,000    |
| Percent Increase             | na        | 3         | 19        | 126       | (4)       | 4         | 19         |
| Actual Revenue               | 68,192    | 50,548    | 60,293    | 142,520   | 115,793   | 100,873   | 100,180    |
| Percent Increase             | Na        | (26)      | 19        | 136       | (19)      | (13)      | (1)        |
| <b>Franklin City</b>         |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0.10      | 0         | 0         | 0          |
| Rate (\$, per pack)          | 0.50      | 0.50      | 0.50      | 0.60      | 0.60      | 0.60      | 0.6        |
| Percent Increase             | 0         | 0         | 0         | 20        | 0         | 0         | -          |
| Budgeted Revenue             | 250,000   | 230,000   | 239,000   | 262,900   | 300,000   | 300,000   | 325,000    |
| Percent Increase             | na        | 0         | 15        | 7         | (16)      | (12)      | (13)       |
| Actual Revenue               | 230,469   | 208,592   | 244,959   | 356,358   | 342,433   | 373,904   | 352,199    |
| Percent Increase             | Na        | (9)       | 17        | 45        | (4)       | 9         | (6)        |
| <b>Salem</b>                 |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0         | 0.3       | 0         | 0          |
| Rate (\$, per pack)          | 0.15      | 0.15      | 0.15      | 0.15      | 0.45      | 0.45      | 0.45       |
| Percent Increase             | 0         | 0         | 0         | 0         | 200       | 0         | 0          |
| Budgeted Revenue             | na        | na        | na        | na        | 375,000   | 575,000   | 685,000    |
| Percent Increase             | na        | na        | na        | na        | (20)      | (4)       | (10)       |
| Actual Revenue               | 378,409   | 374,529   | 345,136   | 465,943   | 596,250   | 763,024   | 870,192    |
| Percent Increase             | na        | (1)       | (8)       | 35        | 28        | 28        | 14         |
| <b>Norfolk</b>               |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0.05      | 0         | 0         | 0.10      | 0.05       |
| Rate (\$, per pack)          | 0.65      | 0.65      | 0.75      | 0.75      | 0.75      | 0.80      | 0.85       |
| Percent Increase             | 0         | 0         | 8         | 0         | 0         | 14        | 6          |
| Budgeted Revenue             | 7,900,000 | 6,850,000 | 7,580,000 | 7,708,000 | 7,675,000 | 7,995,000 | 7,890,000  |
| Percent Increase             | na        | (5)       | 6         | (5)       | (3)       | 8         | 1          |
| Actual Revenue               | 7,175,660 | 7,160,873 | 8,096,678 | 7,926,006 | 7,408,785 | 7,820,751 | 7,784,080  |
| Percent Increase             | Na        | 0         | 13        | (2)       | (7)       | 6         | 0          |
| <b>Haymarket</b>             |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0.20      | 0         | 0         | 0.25      | 0          |
| Rate (\$, per pack)          | 0.30      | 0.30      | 0.50      | 0.50      | 0.50      | 0.75      | 0.75       |
| Percent Increase             | 0         | 0         | 67        | 0         | 0         | 50        | 0          |
| Budgeted Revenue             | 144,416   | 154,000   | 143,277   | 250,000   | 250,000   | 250,000   | 220,000.00 |
| Percent Increase             | na        | na        | (7)       | (7)       | 7         | 26        | (12)       |
| Actual Revenue               | na        | 153,342   | 267,796   | 232,817   | 199,049   | 250,635   | 213,740.00 |
| Percent Increase             | na        | na        | 75        | (13)      | (15)      | 26        | (15)       |
| <b>Ashland</b>               |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0.19      | 0         | 0         | 0         | 0.03      | 0         | 0          |
| Rate (\$, per pack)          | 0.19      | 0.19      | 0.19      | 0.19      | 0.22      | 0.22      | 0.22       |
| Percent Increase             | 100       | 0         | 0         | 0         | 16        | 0         | -          |
| Budgeted Revenue             | 70,000    | 280,000   | 300,000   | 315,000   | 364,737   | 260,000   | 230,000    |
| Percent Increase             | na        | (18)      | (3)       | (14)      | 20        | 3         | (2)        |
| Actual Revenue               | 343,191   | 309,554   | 367,417   | 303,298   | 252,709   | 234,217   | 252,903    |
| Percent Increase             | na        | (10)      | 19        | (17)      | (17)      | (7)       | 8          |
| <b>Hampton</b>               |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0.10      | 0.05      | 0         | 0         | 0          |
| Rate (\$, per pack)          | 0.65      | 0.65      | 0.75      | 0.80      | 0.80      | 0.80      | 0.80       |
| Percent Increase             | 0         | 0         | 15        | 7         | 0         | 0         | 0          |
| Budgeted Revenue             | 3,900,000 | 3,700,000 | 3,965,000 | 4,232,500 | 4,300,000 | 4,300,000 | 4,550,000  |
| Percent Increase             | na        | 5         | 8         | (3)       | 1         | (4)       | 12         |
| Actual Revenue               | 3,538,042 | 3,680,981 | 4,363,663 | 4,263,998 | 4,421,113 | 4,077,120 | 4,623,960  |
| Percent Increase             | na        | 4         | 19        | (2)       | 4         | (8)       | 13         |
| <b>Smithfield</b>            |           |           |           |           |           |           |            |
| Rate Increase (\$, per pack) | 0         | 0         | 0         | 0         | 0         | 0.10      | 0          |
| Rate (\$, per pack)          | 0.25      | 0.25      | 0.25      | 0.25      | 0.25      | 0.35      | .35        |
| Percent Increase             | 0         | 0         | 0         | 0         | 0         | 40        | 0          |
| Budgeted Revenue             | na        | na        | 120,000   | 130,000   | 130,000   | 130,000   | 150,000    |
| Percent Increase             | na        | na        | (10)      | (9)       | (5)       | (22)      | -2         |
| Actual Revenue               | 118,332   | 132,698   | 143,582   | 136,665   | 166,913   | 153,317   | 184,676    |
| Percent Increase             | na        | 12        | 8         | (5)       | 22        | (8)       | 20         |



|                              |         |         |         |         |         |         |         |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|
| <b>Colonial Beach</b>        |         |         |         |         |         |         |         |
| Rate Increase (\$, per pack) | 0       | 0       | 0       | 0       | 0.05    | 0       | 0       |
| Rate (\$, per pack)          | 0.25    | 0.25    | 0.25    | 0.25    | 0.30    | 0.30    | 0.30    |
| Percent Increase             | 0       | 0       | 0       | 0       | 20      | 0       | 0       |
| Budgeted Revenue             | na      | na      | na      | 80,000  | 108,000 | 80,000  | 70,000  |
| Percent Increase             | na      | na      | na      | na      | 22      | -26     | -13     |
| Actual Revenue               | 81,260  | 80,514  | 80,514  | 88,715  | 83,639  | 85,882  | 96,518  |
| Percent Increase             | Na      | (1)     | 0       | 10      | (6)     | 3       | 12      |
| <b>Williamsburg</b>          |         |         |         |         |         |         |         |
| Rate Increase (\$, per pack) | 0       | 0       | 0       | 0.05    | 0       | 0       | 0       |
| Rate (\$, per pack)          | 0.25    | 0.25    | 0.25    | 0.30    | 0.30    | 0.30    | 0.30    |
| Percent Increase             | 0       | 0       | 0       | 20      | 0       | 0       | 0       |
| Budgeted Revenue             | 170,000 | 160,000 | 160,000 | 180,000 | 180,000 | 165,000 | 150,000 |
| Percent Increase             | na      | 1       | 8       | 22      | (2)     | 11      | (4)     |
| Actual Revenue               | 158,460 | 148,032 | 147,870 | 183,155 | 148,320 | 156,911 | 134,640 |
| Percent Increase             | na      | (7)     | (0)     | 24      | (19)    | 6       | (14)    |
| <b>Wise</b>                  |         |         |         |         |         |         |         |
| Rate Increase (\$, per pack) | 0       | 0       | 0       | 0.05    | 0       | 0       | 0       |
| Rate (\$, per pack)          | 0.05    | 0.05    | 0.05    | 0.10    | 0.10    | 0.10    | 0.10    |
| Percent Increase             | 0       | 0       | 0       | 100     | 0       | 0       | 0       |
| Budgeted Revenue             | na      | na      | 34,000  | 68,000  | 75,000  | 70,000  | 64,000  |
| Percent Increase             | na      | na      | (9)     | 87      | (9)     | (5)     | 6       |
| Actual Revenue               | 42,227  | 37,482  | 36,300  | 82,765  | 73,535  | 60,625  | 64,822  |
| Percent Increase             | na      | (11)    | (3)     | 128     | (11)    | (18)    | 7       |
| <b>Woodstock</b>             |         |         |         |         |         |         |         |
| Rate Increase (\$, per pack) | 0       | 0       | 0       | 0.15    | 0       | 0       | 0       |
| Rate (\$, per pack)          | 0.10    | 0.10    | 0.10    | 0.25    | 0.25    | 0.25    | 0.25    |
| Percent Increase             | 0       | 0       | 0       | 150     | 0       | 0       | 0       |
| Budgeted Revenue             | 110,000 | 100,000 | 85,000  | 185,000 | 200,000 | 248,000 | 235,000 |
| Percent Increase             | na      | na      | (5)     | 75      | (22)    | 4       | 4       |
| Actual Revenue               | 98,658  | 89,186  | 105,627 | 257,618 | 239,386 | 214,232 | 225,623 |
| Percent Increase             | na      | (10)    | 18      | 144     | (7)     | (11)    | 5       |
| <b>Covington</b>             |         |         |         |         |         |         |         |
| Rate Increase (\$, per pack) | 0       | 0.10    | 0       | 0       | 0       | 0       | 0       |
| Rate (\$, per pack)          | 0.20    | 0.30    | 0.30    | 0.30    | 0.30    | 0.30    | 0.30    |
| Percent Increase             | 0       | 50      | 0       | 0       | 0       | 0.0     | 0.0     |
| Budgeted Revenue             | na      | na      | na      | 120,000 | 115,000 | 115,000 | 115,000 |
| Percent Increase             | na      | na      | na      | na      | (5)     | 11      | 7       |
| Actual Revenue               | 76,437  | 117,397 | 127,247 | 120,879 | 103,649 | 107,369 | 111,353 |
| Percent Increase             | na      | 54      | 8       | (5)     | (14)    | 4       | 4       |

In FY 2013, Poquoson City raised its cigarette tax rate by 100 percent, from \$0.10 to \$0.20 per pack and tax revenue rose by 136 percent or 36 percentage points above the tax rate increase and 4.4 percent above the FY 2013 budget projections. Franklin City raised its cigarette tax rate by 20 percent in FY 2013, from \$0.50 to \$0.60 per pack, and tax revenue collections increased by 45 percent.

However, for both local governments the fiscal good fortune did not last. Cigarette tax revenues usually fell in the years following the tax increase. Tax revenues in Poquoson City fell by 19 percent, 13 percent and 1 percent in the three fiscal years following the rate hike. Franklin City saw revenues drop by a more modest 4 percent in the year following rate hike, recover by 9 percent in the second year, only to fall by 6 percent in the third year.

In FY 2014, Salem increased the cigarette tax from \$0.15 to \$0.45, or a whopping 200 percent. However, tax revenue collections only increased by 28 percent. That represents the largest shortfall in our entire dataset for this study. Cigarette tax revenues rose by 28 percent in FY 2015 and rose by 14 percent in FY 2016. These increases fall well short of in magnitude that the 200 percent rate increase would suggest, but significantly exceeded the projected budget revenue.



Norfolk and Haymarket each enacted two cigarette tax increases over the period, with the revenue for one tax increase exceeding the static estimate and the other failing to meet the static revenue estimates. In the years between these tax increases, Norfolk and Haymarket experienced falling tax revenues. Norfolk, increased the cigarette tax rate by 14 percent and 6 percent in FY 2015 and FY 2016, and tax revenues increased by 6 percent in FY 2015 and were flat in FY 2016. Haymarket increased the cigarette tax by 50 percent from \$0.50 to \$0.75 per pack, in FY 2015 and revenues increased by only 26 percent. In FY 2016, revenues fell by 15 percent.

Ashland, just north of Richmond, follows a pattern similar to Vinton in Table 1. Ashland first adopted a \$0.19 per pack cigarette tax in FY 2010. As Table 4 shows, the local budget writers were not fully aware of the level of cigarette sales in town, since they budgeted \$70,000 in cigarette tax revenue that year and actual revenue was \$343,191 for FY 2010. For the next three years revenues were volatile, increasing in FY 2012, while declining in both FY 2011 and FY 2013.

In FY 2014, Ashland raised the cigarette tax by \$0.03, or about 16 percent, to \$0.22 per pack and the budget anticipated revenue collections would rise by 20 percent. However, revenues plunged by 17 percent in FY 2014 and another 7 percent in FY 2015. The FY 2015 budget notes the revenue drop by stating, “Interestingly, some sources such as the Cigarette tax have dropped significantly, while the others, such as the Sales tax have increased significantly.”<sup>18</sup> Unlike Vinton, neither the budget nor the CAFR seek to explain why. Cigarette tax revenues did rebound by 8 percent in FY 2016.

In FY 2012, Hampton raised its cigarette tax by \$0.10 to \$0.75 per pack, for a 15 percent increase. Cigarette tax revenues actually increased by 19 percent, which is higher than the town budgeted for and higher than the 15 percent increase in the tax rate.

Hampton’s second bite at the apple in FY 2013 provided different results. Hampton raised the cigarette tax again by \$0.05 or a 7 percent increase, but cigarette tax revenue fell by 2 percent that year. The town was expecting the tax increase to raise an additional \$267,500 for the fiscal year, which did not materialize. However, since revenues from FY 2012 were stronger than anticipated, the FY 2013 cigarette tax revenue collections, which was enacted before FY 2012 revenues were fully realized, and were actually higher than the FY 2013 budget projection. However, the FY 2015, Hampton received \$223,000 less in cigarette taxes than budgeted and \$344,000 less than in FY 2014. In FY 2016, cigarette tax revenues rose by 13 percent, slightly besting the 12 percent increase anticipated in the FY 2016 budget.

Smithfield raised its cigarette tax by 40 percent in FY 2015, -- from \$0.25 to \$0.35 per pack -- yet tax revenues fell by 8 percent. Ironically, Smithfield budgeted cigarette tax revenue at \$130,000, the same level as FY 2013 and FY 2014. Like Vinton, the Smithfield CAFR postulates about the link between the cigarette tax increase and retail sales. The report states, “[The] rate increase could have contributed to the decrease in sales, but this tax historically fluctuates up and down because revenues are recognized when stamps are purchased by wholesalers who buy in bulk not when consumers purchase the individual packs.”<sup>19</sup> The statement proved partially correct as FY 2016 cigarette revenues increased by 20 percent.

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<sup>18</sup>Town of Ashland, VA “2015 – 2016 Adopted Budget,” (June 16, 2015), <http://www.town.ashland.va.us/ArchiveCenter/ViewFile/Item/354>, p. 3.

<sup>19</sup>“Financial Report Year Ended June 30, 2015,” Town of Smithfield Virginia, <http://www.smithfieldva.gov/images/uploads/Audit%20Report%20Smithfield%202015.pdf>, p.8



Colonial Beach also raised its cigarette taxes by 20 percent in FY 2014, and revenues fell by 6 percent. In in Colonia Beach revenues climbed in years after, by 3 percent in FY 2015 and 12 percent in FY 2016.

Williamsburg, Wise, Woodstock and Covington each enacted a single tax over the period and tax revenue collections exceeded the static revenue estimate. However, true to the pattern, cigarette tax revenue collections fell in at least one fiscal year following the tax increase. Woodstock and Wise experienced two years of cigarette tax revenue declines following a tax increases.

## Review of Tables

While the cigarette tax increases for each municipality in the four tables above have their differences, some common patterns emerge:

1. Municipal cigarette tax revenue collections have in many cases, but all, been flat or falling since FY 2010
2. Cigarette tax rate hikes increase tax revenue collections by less than municipal budgets projections or the percentage rate increase would imply;
3. The tax revenue collection increases are fleeting, often turning flat or negative in the years following a tax increase; and
4. The revenue losses and revenue shortfalls show that the tax increases are changing consumption patterns as consumers seek alternative markets with lower taxes and therefore lower prices. Consumers have either bought fewer packs, as has been happening for over a decade or more, have bought less-taxed packs outside the jurisdiction through cross border sales, through smuggling that is a serious problem, or because of the purchase of vaporizers.



## The Tax Impact on Retail Sales and Small Businesses

The revenue shortfalls outlined in this study indicate that cigarette tax revenues have usually fallen short of expectations. The lower tax revenues directly reflect lower sales of cigarettes within the jurisdiction of each municipality. A main driver of slumping cigarette sales is that consumers cross municipal lines to make purchases and, as a consequence, retail sales in convenience stores and small grocery stores suffer under cigarette sales tax increases.

It is this unintended consequence of cigarette tax increases that is most often left out of the discussion by local government officials who only see cigarette taxes as a source of revenue for general fund projects. Yet, the economic consequences on smaller employers can be significant.

According to 2014 data from the National Association of Convenience Stores, cigarette sales comprise 37.4 percent of an average convenience store's monthly merchandise sales, and comprise 18 percent of an average store's gross profit. Cigarette sales are certainly important to the convenience store. However, stores not only lose the sale of cigarettes, but also the other purchases consumers make with their cigarettes.

Management Science Associates used data from over 3,400 shopping visits to convenience stores to estimate the spending patterns of customers. Tobacco was the fourth most often purchased item out of 15, as buyers purchased tobacco on 21 percent of their visits. Tobacco consumers, almost exclusively comprising cigarettes consumers, made purchases over ten dollars 52 percent of the time compared to 33 percent of the time for non-tobacco consumers.

It is likely that a portion of the increased spending could be attributed to the cost of cigarettes. However, tobacco consumers also made purchases from a variety of other categories within the store during their visits to purchase tobacco. Consumers added a purchase of gasoline on 52 percent of their visits to purchase tobacco, packaged beverages on 35 percent of trips, candy, gum and mints on 17 percent of trips and lottery/gaming tickets on 15 percent of their trips. Moreover, tobacco consumers visit convenience stores on a regular basis, 16 percent of tobacco consumers making daily visits and 55 percent making multiple trips per week.

The cigarette consumer is an important source of sales to convenience stores and small grocery stores. The tobacco sales account for a large portion of total sales at these stores; and tobacco consumers tend to visit the stores more often and make larger purchases. If cigarette tax increases are driving sales to other jurisdictions, as is the case with Vinton, this portion of the local economy will suffer disproportionately.

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<sup>20</sup>2015 NACS Overview. National Association of Convenience Stores, <http://www.nacsonline.com/NACSShow/Coaching/Documents/Industry-Overview.pdf>.

<sup>21</sup>Melissa Vonder Harr, "The True Value of the Tobacco Consumer," originally published in Tobacco E-News, <http://www.cspnet.com/industry-news-analysis/marketing-strategies/articles/true-value-tobacco-consumer> (April 21, 2013).



# CONCLUSION

Every year, cities and towns across the Commonwealth of Virginia consider raising additional revenue by increasing the local excise tax on cigarettes. But, as this study shows, such tax increases have their own costs.

After reviewing the real-life results of raising cigarette taxes in town and cities across Virginia, it is clear to the authors that policy makers most often misjudge the income they expect to see from increases on cigarette taxes, and the unintended consequences to the smaller retail stores that see their overall sales decrease.

Any short-term revenue gain often times comes at the expense of a long-term decline in sales and diminished economic activity. These cigarette taxes are regressive taxes that fall hardest on low income consumers and also harm smaller businesses that rely on smoking customers who have a propensity to spend on other items while in those retail stores.

Moreover, the recent experience of Washington D.C. and New Jersey, as well as in the cities and towns reviewed in this study, suggests that cigarette tax revenues may well decline in subsequent years after a tax increase, as cigarette sales decline and customers migrate to nearby jurisdictions where they find lower priced cigarettes or turn to such products as smokeless tobacco or vaporizers.

Excise taxes are problematic since they are not a major source of revenue for local municipalities. Thus, a large increase in the local cigarette tax does not provide a sustainable long-term solution to any immediate funding shortfall facing cities and towns in the Commonwealth of Virginia.



# APPENDIX

Table A-1: Local Cigarette Taxing Jurisdictions in Virginia (\$ per pack)

| CITIES/TOWNS     | Federal Rate | State Rate | Local Rate | Total |
|------------------|--------------|------------|------------|-------|
| Alexandria       | 1.01         | 0.3        | 1.15       | 2.46  |
| Petersburg       | 1.01         | 0.3        | 0.9        | 2.21  |
| Portsmouth       | 1.01         | 0.3        | 0.9        | 2.21  |
| Fairfax          | 1.01         | 0.3        | 0.85       | 2.16  |
| Falls Church     | 1.01         | 0.3        | 0.85       | 2.16  |
| Hampton          | 1.01         | 0.3        | 0.85       | 2.16  |
| Newport News     | 1.01         | 0.3        | 0.85       | 2.16  |
| Norfolk          | 1.01         | 0.3        | 0.85       | 2.16  |
| Vienna           | 1.01         | 0.3        | 0.85       | 2.16  |
| Haymarket        | 1.01         | 0.3        | 0.75       | 2.06  |
| Herndon          | 1.01         | 0.3        | 0.75       | 2.06  |
| Leesburg         | 1.01         | 0.3        | 0.75       | 2.06  |
| Suffolk          | 1.01         | 0.3        | 0.75       | 2.06  |
| Virginia Beach   | 1.01         | 0.3        | 0.75       | 2.06  |
| Manassas         | 1.01         | 0.3        | 0.65       | 1.96  |
| Manassas Park    | 1.01         | 0.3        | 0.65       | 1.96  |
| Purcellville     | 1.01         | 0.3        | 0.65       | 1.96  |
| Franklin         | 1.01         | 0.3        | 0.6        | 1.91  |
| Charlottesville  | 1.01         | 0.3        | 0.55       | 1.86  |
| Dumfries         | 1.01         | 0.3        | 0.55       | 1.86  |
| Middleburg       | 1.01         | 0.3        | 0.55       | 1.86  |
| Roanoke          | 1.01         | 0.3        | 0.54       | 1.85  |
| Chesapeake       | 1.01         | 0.3        | 0.5        | 1.81  |
| Clinchco         | 1.01         | 0.3        | 0.5        | 1.81  |
| Franklin         | 1.01         | 0.3        | 0.5        | 1.81  |
| Mount Jackson    | 1.01         | 0.3        | 0.45       | 1.76  |
| Salem            | 1.01         | 0.3        | 0.45       | 1.76  |
| Christiansburg   | 1.01         | 0.3        | 0.4        | 1.71  |
| Lovettsville     | 1.01         | 0.3        | 0.4        | 1.71  |
| Lynchburg        | 1.01         | 0.3        | 0.35       | 1.66  |
| Scottsville      | 1.01         | 0.3        | 0.35       | 1.66  |
| Smithfield       | 1.01         | 0.3        | 0.35       | 1.66  |
| Winchester       | 1.01         | 0.3        | 0.35       | 1.66  |
| Fredericksburg   | 1.01         | 0.3        | 0.31       | 1.62  |
| Arlington County | 1.01         | 0.3        | 0.3        | 1.61  |
| Blacksburg       | 1.01         | 0.3        | 0.3        | 1.61  |
| Colonial Beach   | 1.01         | 0.3        | 0.3        | 1.61  |





| CITIES/TOWNS   | Federal Rate | State Rate | Local Rate | Total |
|----------------|--------------|------------|------------|-------|
| Covington      | 1.01         | 0.3        | 0.3        | 1.61  |
| Eastville      | 1.01         | 0.3        | 0.3        | 1.61  |
| Fairfax County | 1.01         | 0.3        | 0.3        | 1.61  |
| Harrisonburg   | 1.01         | 0.3        | 0.3        | 1.61  |
| Kilmarnock     | 1.01         | 0.3        | 0.3        | 1.61  |
| Martinsville   | 1.01         | 0.3        | 0.3        | 1.61  |
| Staunton       | 1.01         | 0.3        | 0.3        | 1.61  |
| Williamsburg   | 1.01         | 0.3        | 0.3        | 1.61  |
| Bedford        | 1.01         | 0.3        | 0.3        | 1.61  |
| Altavista      | 1.01         | 0.3        | 0.27       | 1.58  |
| Appomattox     | 1.01         | 0.3        | 0.27       | 1.58  |
| Farmville      | 1.01         | 0.3        | 0.27       | 1.58  |
| Abingdon       | 1.01         | 0.3        | 0.25       | 1.56  |
| Appalachia     | 1.01         | 0.3        | 0.25       | 1.56  |
| Norton         | 1.01         | 0.3        | 0.25       | 1.56  |
| Pulaski        | 1.01         | 0.3        | 0.25       | 1.56  |
| Stephens City  | 1.01         | 0.3        | 0.25       | 1.56  |
| Strasburg      | 1.01         | 0.3        | 0.25       | 1.56  |
| Vinton         | 1.01         | 0.3        | 0.25       | 1.56  |
| Warsaw         | 1.01         | 0.3        | 0.25       | 1.56  |
| Windsor        | 1.01         | 0.3        | 0.25       | 1.56  |
| Woodstock      | 1.01         | 0.3        | 0.25       | 1.56  |
| Ashland        | 1.01         | 0.3        | 0.22       | 1.53  |
| Blackstone     | 1.01         | 0.3        | 0.22       | 1.53  |
| Broadway       | 1.01         | 0.3        | 0.2        | 1.51  |
| Grottoes       | 1.01         | 0.3        | 0.2        | 1.51  |
| Haysi          | 1.01         | 0.3        | 0.2        | 1.51  |
| New Market     | 1.01         | 0.3        | 0.2        | 1.51  |
| Poquoson       | 1.01         | 0.3        | 0.2        | 1.51  |
| Timberville    | 1.01         | 0.3        | 0.2        | 1.51  |
| Waynesboro     | 1.01         | 0.3        | 0.2        | 1.51  |
| Bristol        | 1.01         | 0.3        | 0.17       | 1.48  |
| Coeburn        | 1.01         | 0.3        | 0.15       | 1.46  |
| Damascus       | 1.01         | 0.3        | 0.15       | 1.46  |
| Gordonsville   | 1.01         | 0.3        | 0.15       | 1.41  |
| Luray          | 1.01         | 0.3        | 0.15       | 1.46  |
| Radford        | 1.01         | 0.3        | 0.15       | 1.46  |
| Stanley        | 1.01         | 0.3        | 0.15       | 1.46  |
| South Hill     | 1.01         | 0.3        | 0.15       | 1.46  |
| Tappahannock   | 1.01         | 0.3        | 0.15       | 1.46  |
| Warrenton      | 1.01         | 0.3        | 0.15       | 1.46  |
| Wytheville     | 1.01         | 0.3        | 0.15       | 1.46  |
| Chilhowie      | 1.01         | 0.3        | 0.12       | 1.43  |



JEFFERSON

| CITIES/TOWNS  | Federal Rate | State Rate | Local Rate | Total |
|---------------|--------------|------------|------------|-------|
| Marion        | 1.01         | 0.3        | 0.12       | 1.43  |
| Orange        | 1.01         | 0.3        | 0.12       | 1.43  |
| Berryville    | 1.01         | 0.3        | 0.1        | 1.41  |
| Big Stone Gap | 1.01         | 0.3        | 0.1        | 1.41  |
| Bridgewater   | 1.01         | 0.3        | 0.1        | 1.41  |
| Clintwood     | 1.01         | 0.3        | 0.1        | 1.41  |
| Culpepper     | 1.01         | 0.3        | 0.1        | 1.41  |
| Honaker       | 1.01         | 0.3        | 0.1        | 1.41  |
| Pearisburg    | 1.01         | 0.3        | 0.1        | 1.41  |
| Rocky Mount   | 1.01         | 0.3        | 0.1        | 1.41  |
| Saltville     | 1.01         | 0.3        | 0.1        | 1.41  |
| Tazewell      | 1.01         | 0.3        | 0.1        | 1.41  |
| Wise          | 1.01         | 0.3        | 0.1        | 1.41  |
| Glen Lyn      | 1.01         | 0.3        | 0.1        | 1.41  |
| Narrows       | 1.01         | 0.3        | 0.1        | 1.41  |
| Bluefield     | 1.01         | 0.3        | 0.06       | 1.37  |
| Grundy        | 1.01         | 0.3        | 0.05       | 1.36  |
| Saint Paul    | 1.01         | 0.3        | 0.05       | 1.36  |
| Clifton Forge | 1.01         | 0.3        | 0.04       | 1.35  |



Table A2- Cities and Towns without local cigarette taxes (\$ per pack)

| CITIES/TOWNS     | Federal Rate (\$ per pack) | State Rate | Local Rate | Total |
|------------------|----------------------------|------------|------------|-------|
| Buena Vista      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Colonial Heights | 1.01                       | 0.3        | 0.00       | 1.31  |
| Danville         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Emporia          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Galax            | 1.01                       | 0.3        | 0.00       | 1.31  |
| Hopewell         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Lexington        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Richmond         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Accomack         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Albemarle        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Alleghany        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Amherst          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Augusta          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Bath             | 1.01                       | 0.3        | 0.00       | 1.31  |
| Bland            | 1.01                       | 0.3        | 0.00       | 1.31  |
| Botetourt        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Brunswick        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Buchanan         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Buckingham       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Campbell         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Caroline         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Carrol           | 1.01                       | 0.3        | 0.00       | 1.31  |
| Chesterfield     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Clarke           | 1.01                       | 0.3        | 0.00       | 1.31  |
| Craig            | 1.01                       | 0.3        | 0.00       | 1.31  |
| Culpeper         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Dickenson        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Dinwiddie        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Fauquier         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Floyd            | 1.01                       | 0.3        | 0.00       | 1.31  |
| Frederick        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Giles            | 1.01                       | 0.3        | 0.00       | 1.31  |
| Gloucester       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Goochland        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Grayson          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Greene           | 1.01                       | 0.3        | 0.00       | 1.31  |
| Greensville      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Halifax          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Hanover          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Henrico          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Henry            | 1.01                       | 0.3        | 0.00       | 1.31  |
| Highland         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Isle of Wight    | 1.01                       | 0.3        | 0.00       | 1.31  |
| James City       | 1.01                       | 0.3        | 0.00       | 1.31  |
| King George      | 1.01                       | 0.3        | 0.00       | 1.31  |
| King William     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Lee              | 1.01                       | 0.3        | 0.00       | 1.31  |
| Loudoun          | 1.01                       | 0.3        | 0.00       | 1.31  |



| CITIES/TOWNS   | Federal Rate (\$ per pack) | State Rate | Local Rate | Total |
|----------------|----------------------------|------------|------------|-------|
| Louisa         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Madison        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Mecklenburg    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Montgomery     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Nelson         | 1.01                       | 0.3        | 0.00       | 1.31  |
| New Kent       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Northampton    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Nottoway       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Page           | 1.01                       | 0.3        | 0.00       | 1.31  |
| Patrick        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Pittsylvania   | 1.01                       | 0.3        | 0.00       | 1.31  |
| Prince George  | 1.01                       | 0.3        | 0.00       | 1.31  |
| Prince William | 1.01                       | 0.3        | 0.00       | 1.31  |
| Pulaski        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Rappahannock   | 1.01                       | 0.3        | 0.00       | 1.31  |
| Rockbridge     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Rockingham     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Russell        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Scott          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Shenandoah     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Smyth          | 1.01                       | 0.3        | 0.00       | 1.31  |
| Southampton    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Spotsylvania   | 1.01                       | 0.3        | 0.00       | 1.31  |
| Stafford       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Sussex         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Tazewell       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Warren         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Washington     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Wise           | 1.01                       | 0.3        | 0.00       | 1.31  |
| Wythe          | 1.01                       | 0.3        | 0.00       | 1.31  |
| York           | 1.01                       | 0.3        | 0.00       | 1.31  |
| Boones Mill    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Boydton        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Brookneal      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Cape Charles   | 1.01                       | 0.3        | 0.00       | 1.31  |
| Cedar bluff    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Chase City     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Chatham        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Clarkesville   | 1.01                       | 0.3        | 0.00       | 1.31  |
| Dayton         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Dublin         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Edinburg       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Fincastle      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Front Royal    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Gate City      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Glade Spring   | 1.01                       | 0.3        | 0.00       | 1.31  |
| Glasgow        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Gretna         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Hamilton       | 1.01                       | 0.3        | 0.00       | 1.31  |



| CITIES/TOWNS  | Federal Rate (\$ per pack) | State Rate | Local Rate | Total |
|---------------|----------------------------|------------|------------|-------|
| Hillsville    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Independence  | 1.01                       | 0.3        | 0.00       | 1.31  |
| Kenbridge     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Keysville     | 1.01                       | 0.3        | 0.00       | 1.31  |
| LaCrosse      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Lawrenceville | 1.01                       | 0.3        | 0.00       | 1.31  |
| Lebanon       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Madison       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Mineral       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Nassawadox    | 1.01                       | 0.3        | 0.00       | 1.31  |
| Occoquan      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Onancock      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Pembroke      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Rural Retreat | 1.01                       | 0.3        | 0.00       | 1.31  |
| South Boston  | 1.01                       | 0.3        | 0.00       | 1.31  |
| Stuart        | 1.01                       | 0.3        | 0.00       | 1.31  |
| Surry         | 1.01                       | 0.3        | 0.00       | 1.31  |
| Urbanna       | 1.01                       | 0.3        | 0.00       | 1.31  |
| Victoria      | 1.01                       | 0.3        | 0.00       | 1.31  |
| Wachapreague  | 1.01                       | 0.3        | 0.00       | 1.31  |
| Wakefield     | 1.01                       | 0.3        | 0.00       | 1.31  |
| Waverly       | 1.01                       | 0.3        | 0.00       | 1.31  |
| West Point    | 1.01                       | 0.3        | 0.00       | 1.31  |



## About the Authors

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## About the Beacon Hill Institute

Founded in 1991, BHI is the research arm of the Department of Economics at Suffolk University in Boston. The institute draws on faculty and student resources to produce readable, timely analyses of the issues. It distributes its research to interested citizens and to key opinion leaders and policy makers through various print and electronic media, including its quarterly newsletter, BHI NewsLink; policy studies; BHI FaxSheets; policy forums; opinion editorials; radio and TV interviews; and its web site ([www.beaconhill.org](http://www.beaconhill.org)).

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**Dr. Robert F. Turner:** Law professor at the University of Virginia at Charlottesville.



*“... a wise and frugal government, which shall  
restrain men from injuring one another, shall leave  
them otherwise free to regulate their own pursuits of  
industry and improvement, and shall not take from  
the mouth of labor the bread it has earned. This is the  
sum of good government, and this is necessary to close  
the circle of our felicities.”*

*Thomas Jefferson, 1801*

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