

# How to Estimate the Impact of State Sales Tax Legislation

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**Introduction** This paper provides a way for you to estimate your local revenue impact from legislation that changes what is sales taxable.

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# Introduction and Background

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## **Purpose of this paper**

This paper provides a way for you to estimate your local revenue impact from legislation that changes what is sales taxable.

The Department of Revenue estimates the total impact that this type of legislation will have on all local sales taxing jurisdictions. It does not estimate the impact to any single jurisdiction. This paper shows how you can use data publicly available on the internet to make an estimate for your particular jurisdiction.

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## **Prerequisite knowledge for this estimate**

Using the technique in this paper takes some amount of prerequisite knowledge. Without this knowledge you may find it difficult to perform this estimation. Some of the prerequisite pieces of knowledge are:

- Your jurisdiction's rate and tax structure, such as the way revenue is shared between counties and cities, etc.
  - Basic spread-sheeting and data manipulation
  - Industrial coding using the NAICS system (see <http://www.census.gov/eos/www/naics/> for basic information on the NAICS system)
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## **Overview of the Estimation Process**

To break your local revenue impact out of the statewide estimates you must determine three things:

1. Your local taxable retail sales as a percentage of the statewide total
2. Your jurisdiction's tax rate
3. The details of your local tax distribution process, such as revenues that are shared between the county and city governments and the administrative fee that is assessed.

The method described in detail below goes through three steps to take these three things into account.

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# Candy and Bottled Water Sales Tax Estimates

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**Estimates for candy and bottled water sales tax legislation from the 2010 legislative session**

Two important pieces of legislation in 2010 made candy and bottled water sales taxable. This paper focuses on these two proposals.

The Department estimates the following impact to local jurisdictions from these two proposals:

<b>Total sales tax impact to local jurisdictions</b>				
	<b>Calendar Year 2011</b>	<b>Calendar Year 2012</b>	<b>Calendar Year 2013</b>	<b>Calendar Year 2014</b>
Bottled Water	\$12.6 mil	\$13.1 mil	\$9.13 mil	\$0
Candy*	\$11.7 mil	\$11.8 mil	\$12.0 mil	\$12.2 mil

\*These numbers may differ from actual revenues realized due to our inability to anticipate which candy products would or would not be taxable at the time we were creating the estimate.

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**Estimated taxable sales of bottled water and candy**

Alternatively, we can look at the taxable sales of bottled water and candy. We need this information for our estimate below.

<b>Estimated Statewide taxable sales (adjusted for elasticity)</b>				
	<b>Calendar Year 2011</b>	<b>Calendar Year 2012</b>	<b>Calendar Year 2013</b>	<b>Calendar Year 2014</b>
Bottled Water	\$507.0 mil	\$524.9 mil	\$366.4 mil	\$0
Candy*	\$478.1 mil	\$484.9 mil	\$491.6 mil	\$498.1 mil

\*These numbers may differ from actual revenues realized due to our inability to anticipate which candy products would or would not be taxable at the time we were creating the estimate.

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# Step 1 - Determining Your Percentage of the Statewide Taxable Sales

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**Goal of this step**

In this step you will estimate your jurisdiction's percentage of statewide candy and bottled water sales. Once you determine this percentage, you will apply it to the statewide sales to determine the amount of your jurisdiction's local sales.

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**Issue with availability of data**

Unfortunately we do not have any data that directly measures at the local level the taxable retail sales of a given product. Instead, you must use business data that measures the local taxable retail sales for different types of businesses.

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**Algebraic depiction of the method**

First, assume that your jurisdiction's percentage of statewide candy and bottled water sales (what you are looking for) is the same as your percentage of statewide supermarket, convenience store, and warehouse club sales in your jurisdiction (what you are able to measure). Because these businesses retail the majority of the candy sold in the state, this percentage is likely to be reasonable.

*(What you are looking for) = (What you can measure)*

$$\frac{\text{Sales In Your Jurisdiction}}{\text{Statewide Sales}} = \frac{\text{All Local Retail Sales By Relevant Industries}}{\text{All Statewide Retail Sales By Relevant Industries}}$$

Next you multiply this percentage by the statewide sales to get an estimate of your local sales. You will use this amount in later steps to estimate your increase in revenues.

Note that since some cities receive revenue from their county through the criminal justice and public safety taxes, they will have to do a separate estimate for the entire county. I will go into that in detail in the example below.

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# Step 1 - Determining Your Percentage of the Statewide Taxable Sales, Continued

## Accessing the data

The Department’s website provides all of the data necessary for this part of the estimate. The data you find here gives you the amount of taxable retail sales at the local level for different types of businesses. The website provides several years worth of data.

- To get to the data, go to our home page located at [www.dor.wa.gov](http://www.dor.wa.gov).
- Click on “Get Statistics and Reports” which is under the “Quick clicks” heading part way down the page on the left-hand side.



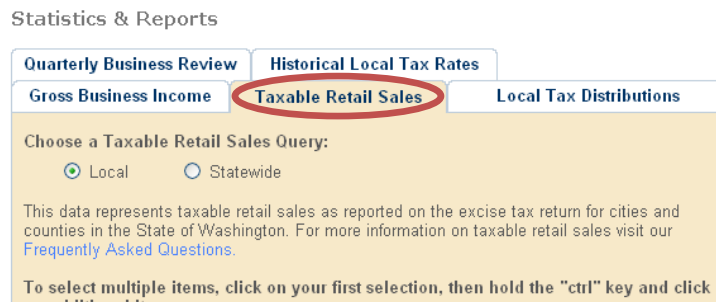
- On the right-hand side, click on “Create a Report.”

### Create a report

Use our [Create a Report](#) tool to create customized reports specific to your needs! With this tool you can get:

- [State and local taxable retail sales](#)
- [Statewide gross business income](#)
- [Quarterly Business Reviews](#)
- [And much more...](#)

- Click on the “Taxable Retail Sales” tab.



On this screen you can select the location code(s) in your jurisdiction and the industries that you find relevant for what you are estimating. The NAICS code options allow you to select certain industries. The link reading “List of NAICS codes” gives you a full list of all available codes.

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## Step 1 - Determining Your Percentage of the Statewide Taxable Sales, Continued

**Numeric example: City of Bellevue candy sales tax**

I used the following settings on the website for this example:

- Select the “2009” tax year
- Select “1704 Bellevue” for the location
- Select “Sales” for the tax type
- For “Sum By” select “Six Digit NAICS” since there are very specific industries I am interested in.
- For “NAICS” use a range from “000000” to “999999” so I can see all industries. I will pick the ones I am interested in off of this list.
- Select HTML for format. This gives a quicker view.

After running the report and reviewing the list of NAICS codes, I decided on several NAICS codes that are likely to sell most of the candy. I also repeated this process for all of King County. We will need this amount in order to calculate Bellevue’s increased criminal justice tax revenues.

	Retail Sales in Bellevue, 2009	Retail Sales in King County, 2009	Retail Sales in Washington, 2009
445110 – Supermarkets and Other Grocery Stores	\$58,150,260	\$803,505,374	\$2,719,730,315
445120 – Convenience stores	\$11,111,193	\$157,491,601	\$394,801,829
447110 – Gas stations with convenience stores	\$15,330,129	\$261,524,204	\$1,186,257,721
452112 – Discount department stores	\$39,467,769	\$537,729,888	\$1,530,581,657
452910 – Warehouse clubs and supercenters	\$64,676,157	\$1,665,428,374	\$6,320,271,589
452990 – All other general merchandise stores	\$2,930,293	\$69,538,772	\$550,753,138
<b>Total</b>	<b>\$191,665,801</b>	<b>\$3,495,218,213</b>	<b>\$12,702,396,249</b>

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## Step 1 - Determining Your Percentage of the Statewide Taxable Sales, Continued

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**Numeric example: City of Bellevue candy sales tax (continued)**

Using these numbers we come up with:

$$\frac{\text{All Local Retail Sales By Relevant Industries}}{\text{All Statewide Retail Sales By Relevant Industries}} = \frac{\$191,665,801}{\$12,702,396,249} = \mathbf{1.509\%}$$

Therefore we assume that 1.509% of statewide candy sales are made in the City of Bellevue. Multiplying this percentage by the 2011 statewide sales (page 3) we get:

$$\$478.1 \text{ mil} \times 1.509\% = \mathbf{\$7.21 \text{ mil}}$$

We estimate a \$7.21 million increase in taxable retail sales in the City of Bellevue as a result of the candy legislation.

Repeating this calculation for all of King County we get:

$$\frac{\$3,495,218,213}{\$12,702,396,249} = \mathbf{27.516\%}$$

$$\$478.1 \text{ mil} \times 27.516\% = \mathbf{\$131.56 \text{ mil}}$$


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**Can this percentage change from year to year?**

The percentage you calculate in this step may change from one year to the next. This could be for any number of reasons. Using the example of Bellevue and the sales tax on candy, we get the following percentages if we use different years worth of data:

Bellevue's Estimated Percentage of Statewide Candy Sales	
2005	1.643%
2006	1.605%
2007	1.542%
2008	1.498%
2009	1.509%

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## Step 1 - Determining Your Percentage of the Statewide Taxable Sales, Continued

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**Can this percentage change from year to year?**  
(continued)

It is difficult to determine what this variation results from. As a jurisdiction you may be aware of trends going on in your local economy that could explain your variation. Use this knowledge to predict what percentage is the best forecast for the future: the most recent, the lowest, the average, etc.

Having some variation may mean you want to give a range for your estimate. In the case of Bellevue, we could use the highest and lowest percentages to come up with a range. That would give us a range of \$7.16 mil - \$7.86 mil.

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## Step 2 – Using Your Tax Rate to Determine the Total Revenue Raised In Your Jurisdiction

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**Goal of this step**

Using the amount of sales you calculated in step 1, multiply by your local tax rates to get the total amount of revenue raised in your jurisdiction. Note that this does not equal your local revenue impact since you still have to account for the way the tax is distributed, which is what we do in step 3.

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**Algebraic depiction of the method**

In this step you simply multiply the estimated amount of sales by the tax rates of that you impose. Note that you should include components that are credited off of the state portion of the sales tax since this represents revenue to you. You should not include any lodging or rental car taxes since they apply to neither candy nor bottled water.

$$\begin{aligned} \text{Sales In Your Jurisdiction} \cdot \text{Tax Rate 1} &= \text{Raised Revenue 1} \\ \text{Sales In your Jurisdiction} \cdot \text{Tax Rate 2} &= \text{Raised Revenue 2} \end{aligned}$$

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**Calculating step 2 - cities**

For most cities this step will be as simple as multiplying the sales in their jurisdiction by their total regular and optional sales tax rates. Most cities impose the regular 0.5 percent sales tax and the optional sales tax at 0.5 percent. As a result, they would multiply the sales in their jurisdiction by 1 percent. Any other taxes that are imposed by the city should also be taken into account.

Note that since some cities receive distributions from county taxes like the criminal justice and public safety taxes, they will have to do a separate calculation involving the entire county's increased taxable sales. This process is depicted in the example.

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**Calculating step 2 - counties**

Many counties impose not only the regular and optional components of the sales tax, but other sorts of components as well. For example, many counties impose the criminal justice sales tax, the emergency communications sales tax, etc. They should make sure to include all of these components in their calculation.

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## Step 2 – Using Your Tax Rate to Determine the Total Revenue Raised In Your Jurisdiction, Continued

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### Calculating step 2 – other jurisdictions

Most other jurisdictions impose only a single sales tax. For instance, transit districts of all kinds typically impose a single tax within their jurisdiction. This is true for public facilities districts as well. These jurisdictions can simply multiply the sales in their jurisdiction by the rate of the tax they impose.

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### Numeric example: City of Bellevue candy sales tax

In the previous step we estimated that the City of Bellevue will have a \$7.21 million increase in taxable retail sales. In this step we multiply that by the taxes Bellevue imposes. The only two taxes Bellevue imposes on candy are the regular and optional taxes for a total of 1 percent. As a result:

$$\$7.21 \text{ mil} \times 1\% = \$72,100$$

Since Bellevue also receives criminal justice tax distributions we need to estimate the increase to the criminal justice tax in King County. In step 3 we will figure out how much of this money is distributed to Bellevue. The criminal justice tax is imposed at 0.1 percent in King County, so we get:

$$\$131.56 \text{ mil} \times 0.1\% = \$131,560$$

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## Step 3 – Accounting For the Distribution Process

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**Goal of this step**

In this step you produce the final result: the estimated local revenue impact of the legislation. In order to do this, you must account for the way the new revenue dollars are distributed.

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**Distribution process – administrative fee**

Many local sales tax components have a 1 percent administrative fee subtracted from them. The Department retains these funds to cover administrative costs. You must subtract 1 percent from your step 2 estimates of each sales tax component that has an administrative fee applied. Administrative fees apply to the following components:

- Regular (aka Basic)
  - Optional
  - Transit Tax (imposed by PTBAs)
  - Criminal Justice
  - Public Facilities (but not regional centers or regional theaters taxes)
  - Regional Transit Authority (starting in May 2010 a fee will be subtracted)
  - Juvenile Correctional Facilities
  - Emergency Communications
  - Public Safety
  - Transportation Benefit (imposed by TBDs)
  - Mental Health
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**Distribution process – regular and optional revenue sharing**

The regular and optional sales tax revenues are shared between cities and counties. Though the sharing scheme is quite complicated, the result is typically that 15 percent of the revenues collected in the cities are shared with the county. Counties keep 100 percent of the collections from the unincorporated area. For those cities and counties which have a different rate structure or revenue sharing agreement than this, they will have to do a more complicated calculation to properly account for their distribution process.

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**Distribution process – criminal justice and public safety revenue sharing**

The Department and State Treasurer distribute the criminal justice and public safety taxes on the basis of a population scheme. The schemes are as follows:

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## Step 3 – Accounting For the Distribution Process, Continued

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**Distribution process – criminal justice and public safety revenue sharing**  
(continued)

Criminal Justice:

- 10 percent distributed to the imposing county
- 90 percent distributed to the imposing county and all cities within the county based on the proportion of the county’s total population in each of their jurisdictions (the county receives the amount for the population in the unincorporated area.

Public Safety:

- 60 percent distributed to the imposing county
- 40 percent distributed to the cities in the imposing county based on their proportion of the total incorporated population in the county.

As mentioned in steps 1 and 2, cities in the counties where these taxes are imposed will need to do a county-wide estimate to determine what portion of these taxes they will receive.

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**Distribution process – other taxes and inter-local agreements**

Most taxes are distributed directly to the jurisdiction which imposes them after any administrative fee is subtracted. However, some jurisdictions have inter-local agreements that result in revenues being shared with others. Jurisdictions that have set up these types of agreements will have to do additional steps in their estimation to account for this.

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**Population data**

The Office of Financial Management updates and maintains the population data that is used by the State Treasurer for local tax distributions. You will need this data if you are estimating a criminal justice or public safety tax. The data can be found at the following link. Retrieve the data located under the option that reads “Population of Cities, Towns, and Counties Used for the Allocation of Selected State Revenues.”

<http://www.ofm.wa.gov/pop/april1/default.asp>

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**Numeric example: City of Bellevue candy sales tax**

In the previous step we calculated that the increased regular and optional collections in Bellevue will be \$72,100 in total. However, we must account for the portions that do not actually get distributed to Bellevue. Part of the revenue is shared with the county and part is subtracted to cover the administrative fee. The actual revenue that Bellevue will receive is:

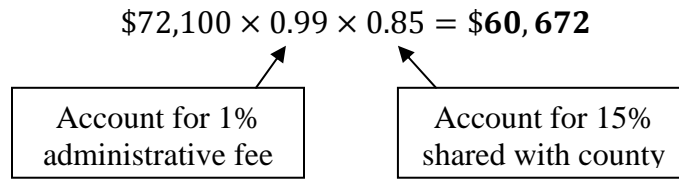
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## Step 3 – Accounting For the Distribution Process, Continued

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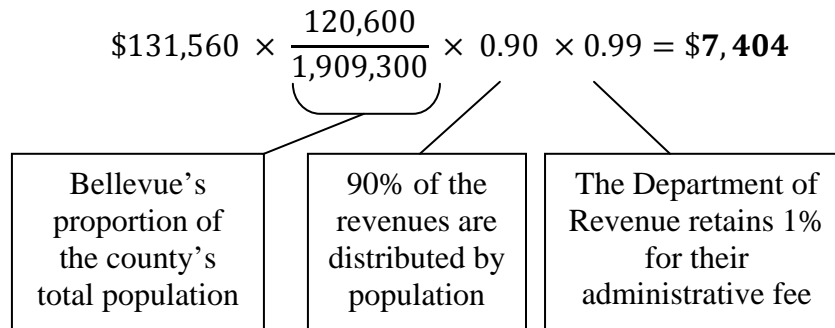
**Numeric example: City of Bellevue candy sales tax (continued)**



Now we must calculate the increased criminal justice revenues that Bellevue will receive. In the previous step we calculated the total increase in criminal justice revenue for King County. Now we must figure out which portion of that revenue Bellevue would get. We use the criminal justice distribution mechanism described above to do this. The data we need for this is:

- The total increase in criminal justice revenues in the county (from step 2): \$131,560
- The total population of the county (from the population data mentioned above): 1,909,300
- The population of Bellevue (also from the population data mentioned above): 120,600

Putting these together we get the following amount for Bellevue's increased criminal justice revenues:



Now we can finish our estimate. Bellevue will see increased revenues from the regular, optional, and criminal justice sales taxes. We add these amounts together to get our estimate of Bellevue's total revenue impact from the candy legislation:

$$\$60,672 + \$7,404 = \$68,076$$


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