

# Appendix D: Online Tool Guide

This guide is provided to help users get the most benefits out of the JTC Road-Rail Crossing online tool. The tool was built to help local and state agencies access a statewide database of relevant crossing information, which can be used to prioritize crossing needs and to assist in identifying improvement projects. This guide represents information current as of December 2016. The following topics are discussed:

1. How do I open the online tool on my computer?
2. What do the final rankings represent?
3. How do I find information on a specific crossing?
4. The crossing I want is shown as a black dot (not one of the 302 prominent crossings). How do I find information about those crossings?
5. Can we change the background to something different?
6. Is there a way to compare two crossings side-by-side?
7. Each crossing has lots of data. What are the most relevant things I should know about?
8. Can I search for crossings by their USDOT number?

## How do I open the online tool on my computer?

The online tool does not require any special software, but runs on common internet browsers. This works both on desktop and mobile devices. Copy the following internet address (URL) to your web browser address bar:

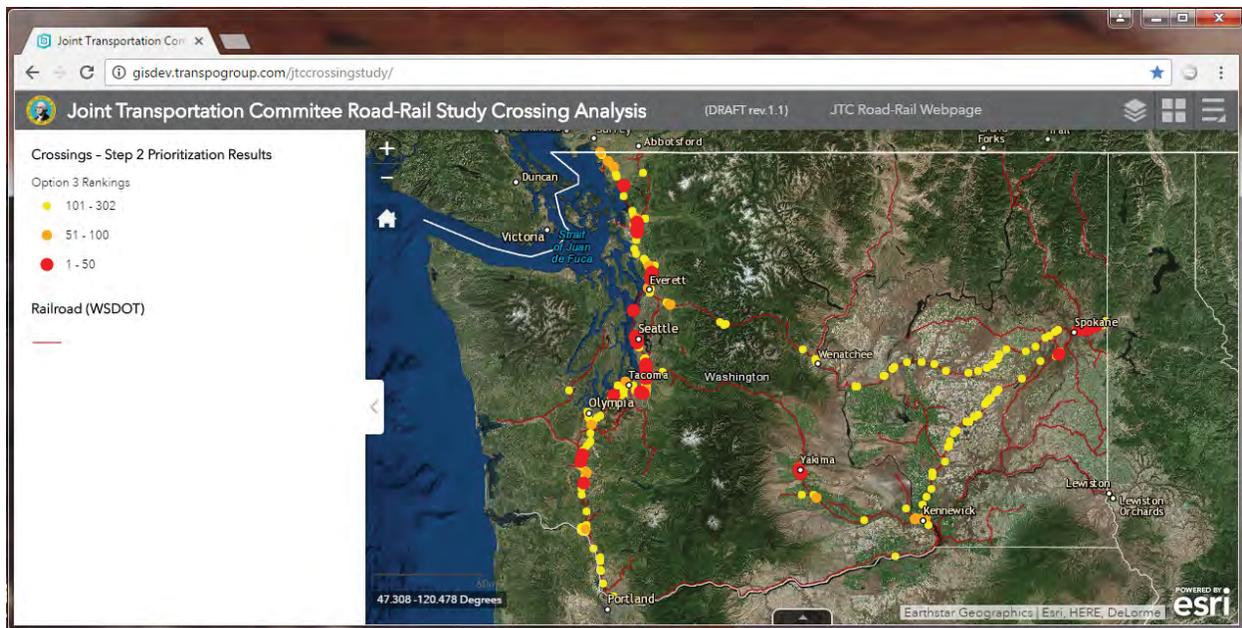
<http://gisdev.transpogroup.com/jtccrossingstudy/>

The default view is the full state of Washington. To pan around, click-and-drag anywhere on the map. To zoom in click the plus/minus buttons, use the mouse wheel (desktop), or pinch fingers (mobile).

## What do the final rankings represent?

In the JTC Road-Rail Crossing Study, a total of 302 prominent crossings were selected from a total of 4,171 crossings within Washington State to be evaluated in more detail and ranked. These 302 prominent crossings are public, at-grade crossings with moderate-to-high train or vehicle volumes. The ranking is how each prominent crossing compared against the other 302 prominent crossings. The ranking represents the final ranking of the crossing based on its final score. A Top 50 ranking means that the crossing is one of the most prominent in the state, looking at statewide criteria related to mobility, safety, and community. A high ranking does not indicate that an improvement project is warranted or feasible, but that communities should consider how to best address the apparent road-rail conflicts at the crossing.

When you first open the tool, only the 302 prominent crossings are shown. The color indicates if the crossing was in the top (red dots), middle (orange dots), or bottom tier (yellow dots) of prominent crossings. If you zoom into the prominent crossings, the final ranking appears as a label near the crossing.



*Final Rankings are the default item when tool is first opened.*

## How do I find information on a specific crossing?

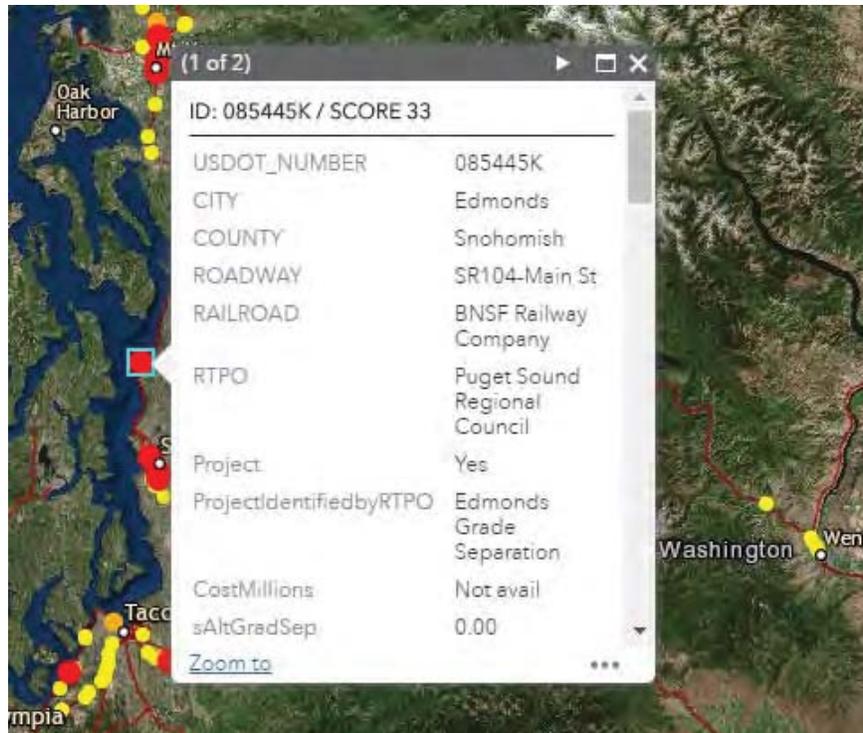
There is a lot of information tied to specific crossings. The two methods to generally find information is first shown, then a quick example is provided.

### **General Method #1: Click on Point**

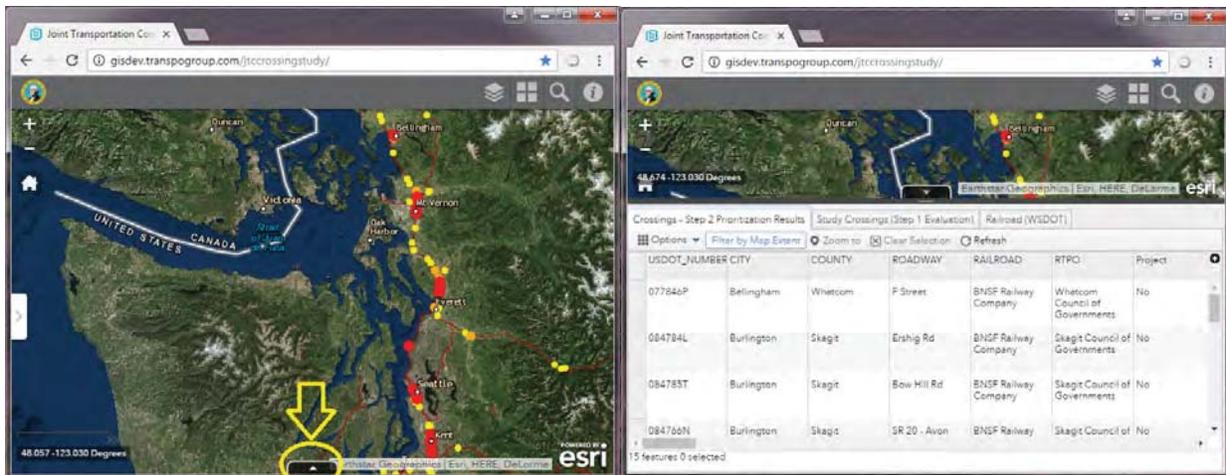
When you click on a crossing point, a pop-up box shows the data stored for that crossing. There is a lot of data stored for each crossing so you may need to scroll down. Appendix A includes a data dictionary that defines what each of the database fields represent.

### **General Method #2: Attribute Table**

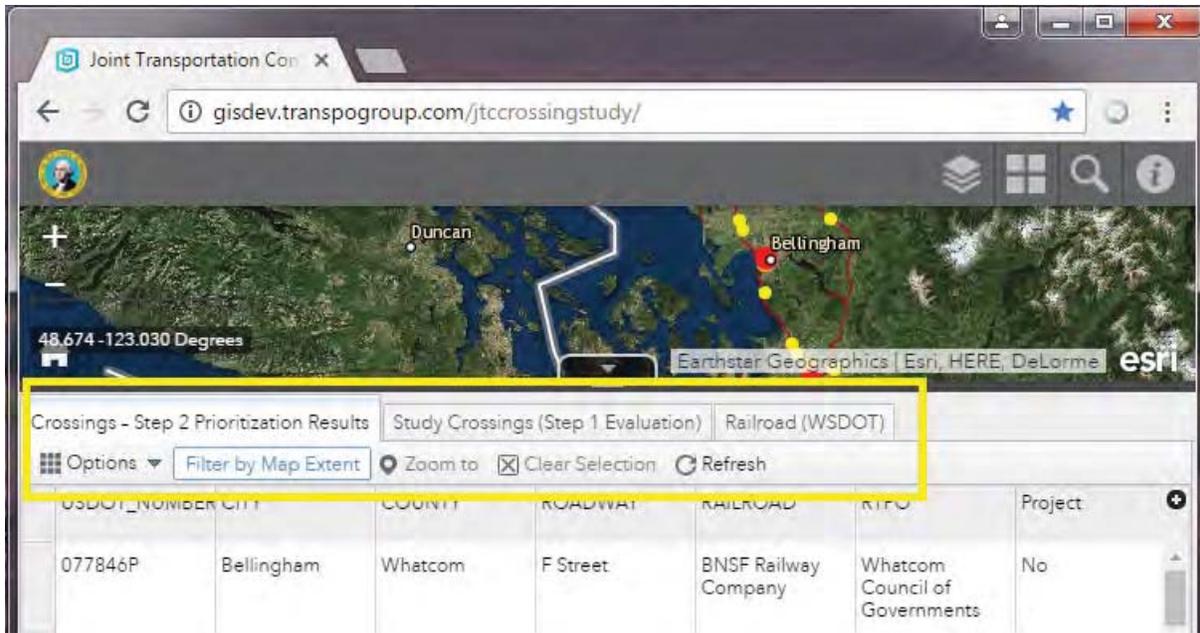
Another option is to use the table view to look at an attribute table. Click on the black arrow tab at the bottom of the map to bring up the table. By default, only the crossings currently shown in the map window are shown in the table window (you may need to scroll down to see all the table rows). You will notice that the table has three tabs at the top: [1] "Crossings – Step 2 Prioritization Results"; [2] "Study Crossings (Step 1 Evaluation)"; and [3] "Railroad (WSDOT)". That first tab has detailed information about just the 302 crossings. The second tab has detailed information relating to approximately 2,180 crossings (the larger group of public, at-grade, active crossings) known as Step 1 crossings, which includes the 302 crossings. The third tab is reference information about the rail line and not the crossings.



(Method #1) Clicking on a crossing opens a pop-up box.



(Method #2) Clicking on the black arrow tab at the bottom of the screen opens the attribute table.



(Method #2) The table has three tabs referencing three data sets.

#### **Example: Finding Information about a Crossing in Edmonds**

The following example shows how to find information about the crossing using the two methods above. We will be looking at a crossing in Edmonds, WA (#085445K).

1. Open the tool and navigate the map to Edmonds, WA. Zoom into the city until you only see two crossings: #33 (red dot) and #101 (yellow dot).
2. **[Example Method #1]**. Click on the red dot labeled “33” and a pop up box appears.
3. **How do I find the rank of the crossing?** The label actually shows the rank “33”. You can also find the value in the popup box by scrolling down about 90% of the table and look for the row called “Ranking”. On the right you will see “33” next to “Ranking”.
4. **How do I find the scores for mobility, safety, and community?** Looking in the same pop-up box, look five rows above “Ranking” and you will see “SafetyScore”, “MobilityScore”, and “CommScore”. These are the scores. For this crossing the safety score is 37.34, mobility score is 58.16, and community score is 48.14. Also provided is the final weighted average score (“TotalScore”) which is 50.45.
5. **How do I find the values for traffic volumes and collision history?** Looking in the same pop-up box, scroll back up to top to about 20% down on the table. You will see “mExVehVols” with a value of 5,667. This is the total existing daily vehicle volumes at the crossing. Above that you will see “sIncidTotal” with a value of 1.0. This is total number of collisions reported in the last five years. NOTE: do not use fields that end in “1” (such as “sIncidTotal1” = 12.0) as this is the score for that individual metric.
6. **Where are the train volumes?** Those are not shown in the default pop-up box, but are listed in the attribute table. We will use Method #2 to find train volumes.

7. **[Example Method #2]**. Click on the black arrow tab at the bottom of the screen to open the attribute table.
8. Click on the middle tab named “Study Crossings (Step 1 Evaluation)”
9. Scroll the table to the right to about the 80% location, where numerous fields start with “L1...” Look for the “L1 Mobility Value: Freight (existing)” with value of 19. This is the existing freight train volumes per day. Similarly, “L1 Mobility Value: Unit (existing)” is 16, and “L1 Mobility Value: Passenger (existing)” is 14. These are the number of unit trains and passenger trains, respectively. The total number of existing trains using this crossing is the sum of these three values, or 49 trains.

## The crossing I want is shown as a black dot. How do I find information about those crossings?

The black dots are the approximately 2,180 crossings known as Step 1 crossings. They represent all active, at-grade, public crossings in Washington State. They automatically appear when you zoom in close enough. You can see their information in the table view (see previous question).

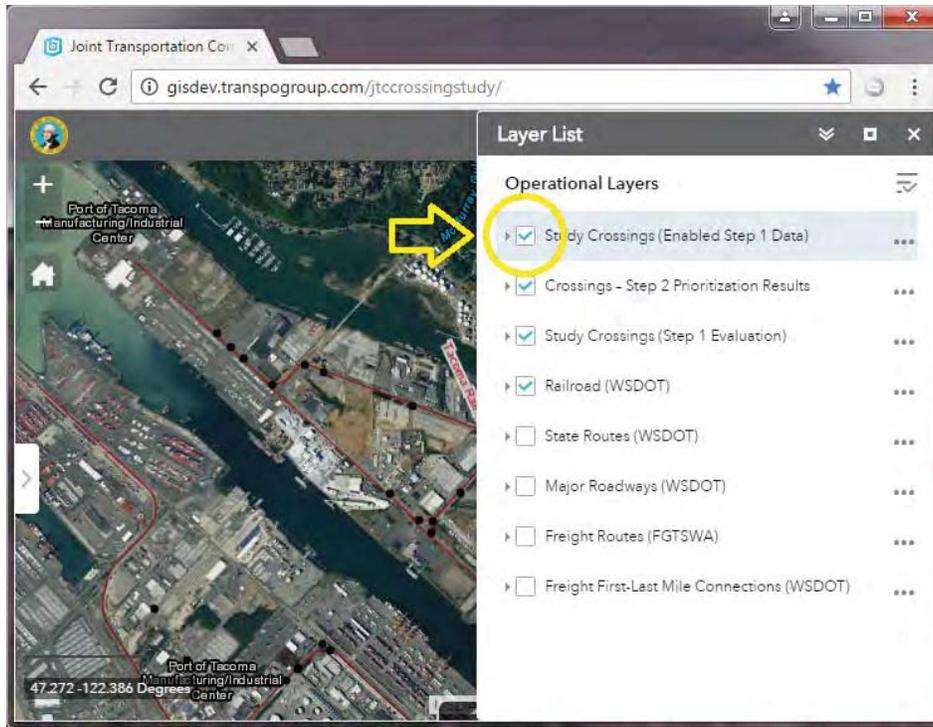
To click on the black dot and see crossing information, you must first turn-on a GIS layer that contains the data. In the upper right corner, click on the “Layer List” button.



*Click on the Layer List Button*

Then check the box next to the first layer called “Study Crossings (Enabled Step 1 Data)”.

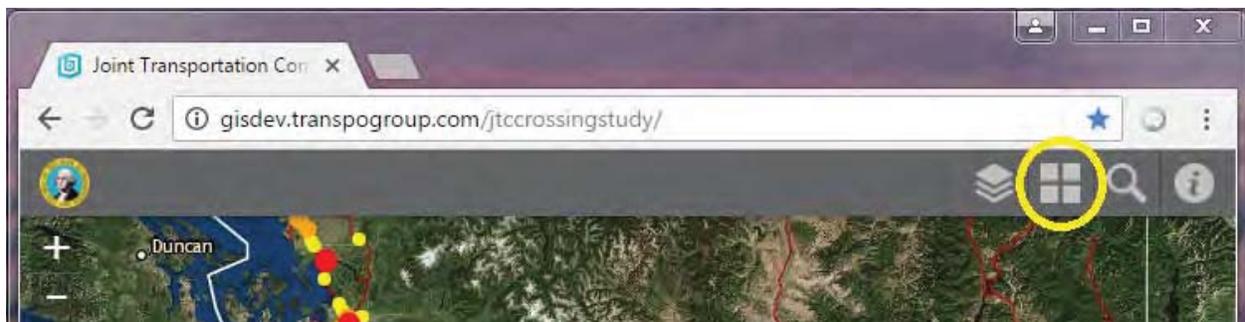
With that layer enabled, you can now click on a black dot (or any colored dot) and see Step 1 information pop-up about that crossing. Appendix A includes a data dictionary that defines what each of the database fields represent.



Check the “Study Crossings (Enabled Step 1 Data)” to enable pop-up information for all crossings.

### Can we change the background to something different?

The aerial photo background is the default for this tool but can be changed based on viewing preferences. To change the background, click on the “Basemap Gallery” button in the top-right corner. There are 12 different choices for backgrounds.



Click on the “Basemap Gallery” Button

### Is there a way to compare two crossings side-by-side?

At this time there is not a way to select distant crossings and compare side-by-side.

## Each crossing has lots of data. What are the most relevant things I should know about?

There are two tables (or databases) shown in the online tool. The “Crossings-Step2 Prioritization Results” pertains to only the 302 prominent crossings, and mostly includes data directly used in the scoring of the crossings. The “Study Crossings (Step 1 Evaluation)” pertains to the 2,180 crossings that represent public, at-grade, active crossings. This database has a much broader array of information. All of the information in these two databases fall into three general categories:

1. Attributes, which are descriptive data about the crossing
2. Criteria, which are measured values of various impacts based on the attributes
3. Scores, which are calculated for Steps 1 and 2 based on the measured value (criteria) for a crossing compared to the range of measures for all crossings. In addition, weighted scores were calculated and used for the final ranking.

Some attributes that might be useful for users to reference include:

### Crossings - Step2 Prioritization Results Table

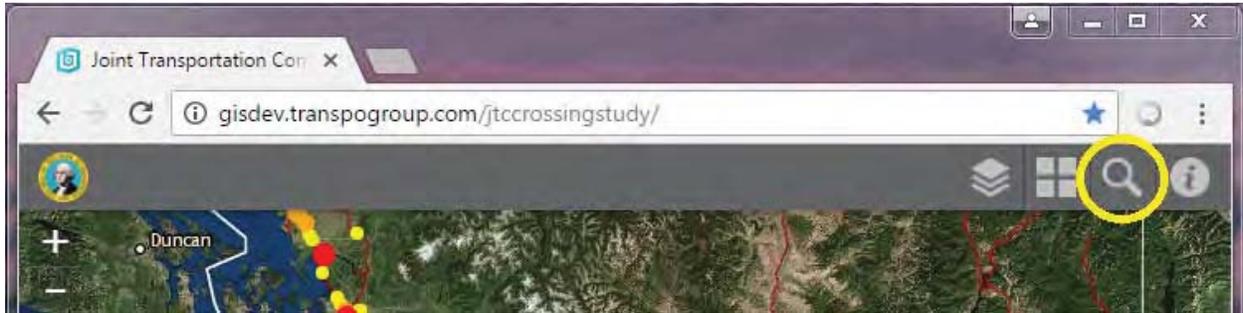
- “**USDOT\_NUMBER**” – this is a unique identification number for each crossing. Can be used for later referencing the crossing or searching.
- “**ProjectIdentifiedbyRTPO**” – this lists the improvement project(s) as identified by RTPOs that would impact that crossing
- “**sIncidTotal**” – this lists the number of collisions reported at the crossing
- “**mExVehVols**” and “**mFutVehVols**” – this lists the daily vehicle volumes at the crossing for 2015 and 2035, respectively.
- “**mGateDownTime**” – this lists daily number of minutes that the gate is down (estimated by number of trains and type of train).

### Study Crossings (Step 1 Evaluation) Table

- “**USDOT\_NUMBER**” – this is a unique identification number for each crossing. Can be used for later referencing the crossing or searching.
- “**L1 Mobility Value: Freight (existing)**” – this lists the number of freight trains at the crossing per day. Note that total trains are the sum of freight, passenger, and unit trains.
- “**L1 Mobility Value: Passenger (existing)**” – this lists the number of passenger trains at the crossing per day. Note that total trains are the sum of freight, passenger, and unit trains.
- “**L1 Mobility Value: Unit (existing)**” – this lists the number of unit trains at the crossing per day. Note that total trains are the sum of freight, passenger, and unit trains. Unit trains are different than freight trains in that they are much longer and typically carry only one type of commodity (e.g. oil, grain, coal).

## Can I search for crossings by their USDOT number?

Yes. Click on the “Search Button” in the top-right corner, and type in the USDOT number. The USDOT is a unique code for each crossing and is a good way to cross-reference a crossing location.



*Click on the “Search Button” to find locations by USDOT Number*