

Interactive Tennessee Road Improvement Program (iTRIP)

Introducing the new TDOT interactive Tennessee Road Improvement Program, or as we like to call it iTRIP. This program provides a comprehensive, authoritative, live roadway project database. The objective of iTRIP is to develop a dataset of focused information about TDOT's roadway projects. This database will serve as a valuable tool that is reliable, current, and easy to navigate for TDOT's variety of customers. iTRIP allows the user to locate detailed information on all Active and Let projects in TDOT's pipeline. The accessible projects include a range of programs such as, bridge, safety, resurfacing, and Legislative. The goal of this application is to provide a public-facing source for the user to access and review current roadway projects across the State of Tennessee. Providing this constantly updated (daily) project data to the public is a new accomplishment for TDOT.

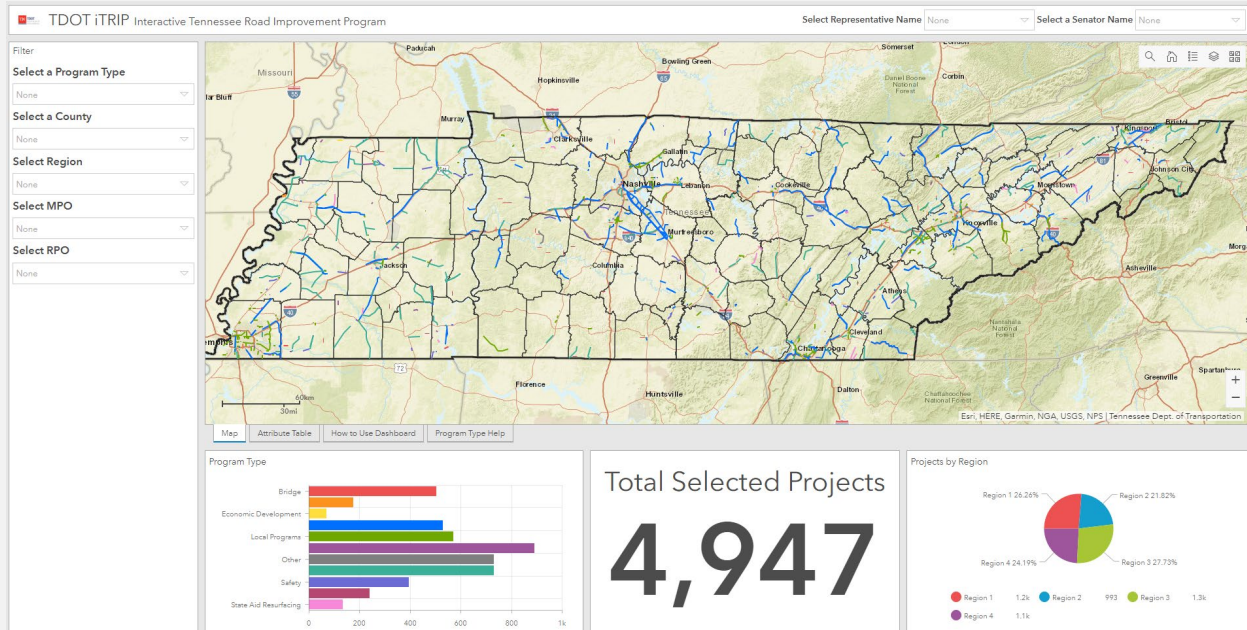
This documentation will provide a brief overview of the key functionality within iTRIP.

Click on the following link to navigate to the iTRIP's website.

<https://bit.ly/TDOTiTRIP>

Interfac

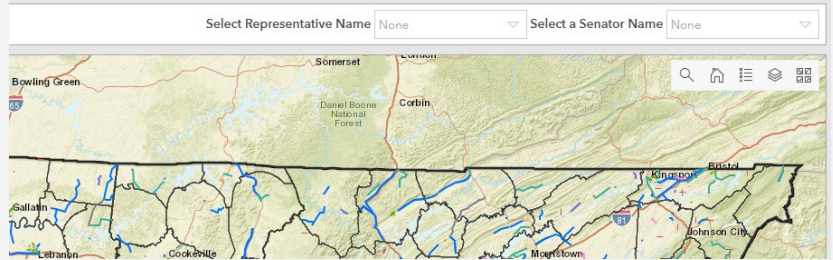
e



Filtering

Upper Right the user can filter on Representative Name and Senator Name.

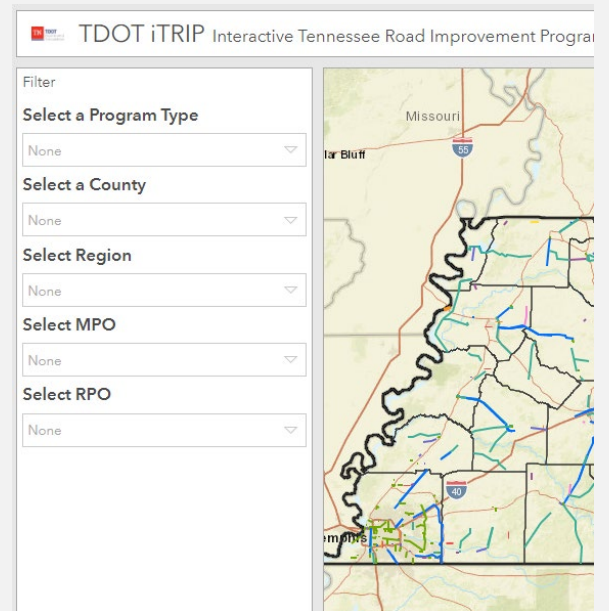
To select click the drop down and pick a name. To unselect click the small X to the right of the filter item.



Upper Left you are able to filter on Program Type, County, Region, MPO, and RPO.

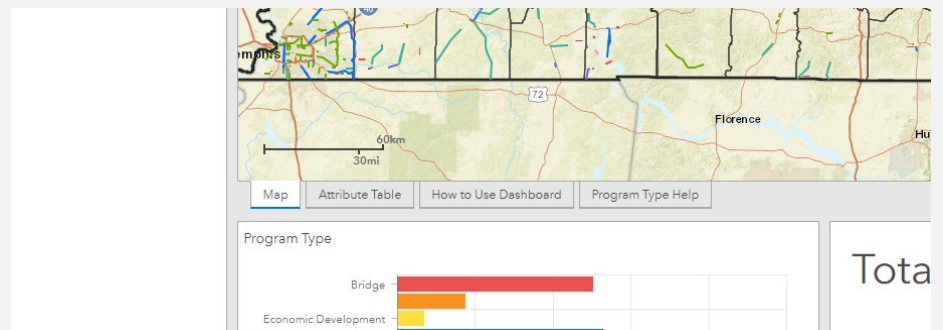
To select click the drop down and pick an item. To unselect click the small X to the right of the filter item.

- Program Type – Types of Programs and Projects at the TDOT. See Program Type Help tab.
- County – County Boundary.
- Region – Tennessee Regional Boundaries
- MPO – Metropolitan Planning Organization Boundaries.
- RPO – Rural Planning Organization Boundaries.



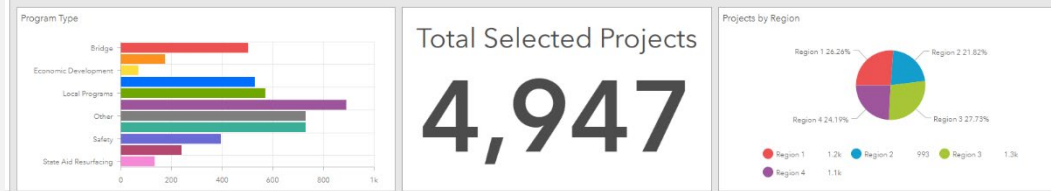
Left Center (Tabs) are individual tabs which offer help and additional product functionality. This will be further explained later.

- Map
- Attribute Table
- How to Use Dashboard
- Program Type Help

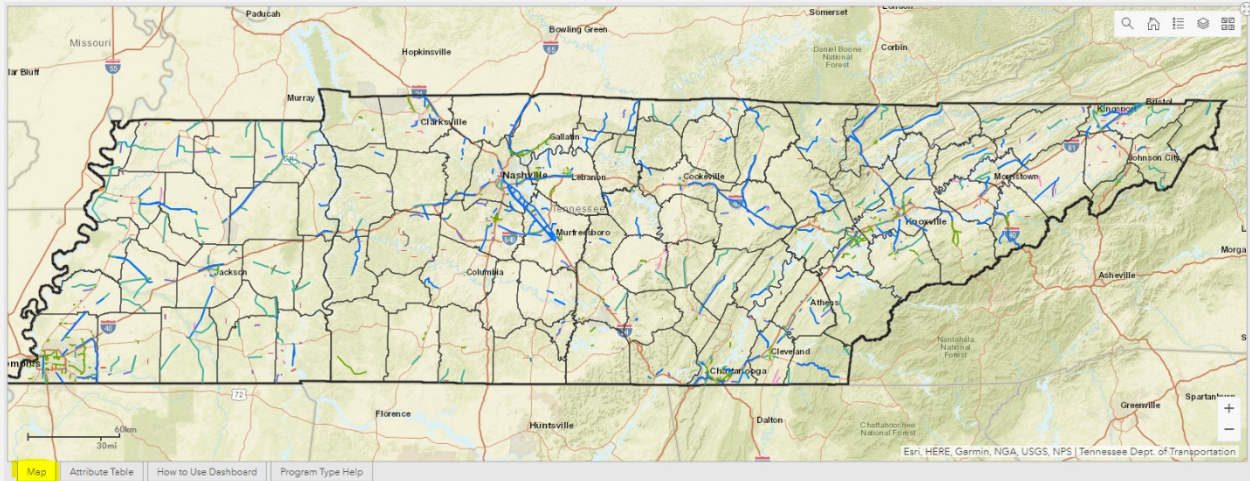


Indicators/Widgets

Located bottom center these are interactive and allow the user to click and filter what is seen on the map. Clicking on an item in the bar or the pie charts will update the map. Clicking on it again will update it again.



Map Functionality and Useability



These items will be highlighted but not discussed in depth because they are self-explanatory in nature. Here their mention is to make the reader aware such functionality does exist.

- Clicking with your mouse on any project (shown as a line) will display a pop up with the project information.
 - Blank entries are expected and not a result of filtering or exclusion.
- Lower right corner of the map is a zoom in and zoom out function.
- Upper Right you have a set of six tools individually described below
 - Magnifying Glass – Search, allows the user to search by PIN or Route Number.
 - Home – Return to full extent.
 - Bullet List – Legend of what can be seen on the map.
 - Layers – Toggle on and off individual layers of the map.
 - Four Squares – The background or underlying map image can be changed to suit the user's needs.
 - Full Extent Circle – This is a small circle with four outward facing arrows that enlarges the map.

Attribute Table Tab Purpose & Functionality

County	Region	MPO/RPO	TN House Districts	Representative Names	TN Senate Districts	Senator Names	Routes	PIN	Project Length	Program Type	Termini	Scope of Work	Project Numbers	Project Description
Jefferson	1	East TN South RPO					SR092	100494.00	0.30	Bridge	Bridge over French Broad River, LM 9.16 in Dandridge	SR-92, Bridge over French Broad River, LM 9.16 in Dandridge - Bridge Replacement	45011-1217-04, 45011-2218-04, 45011-3219-04, 45011-5219-04	The construction of a welded steel plate girder bridge on S. R. 92 over the French Broad River in

Purpose

To provide a more hands on way of querying and filtering the data and support the tabular exporting of this data.

**note* The Map tab and the Attribute Table tab are independent of each other. Meaning that a drop-down filter on the map will not interact with the Attribute Table Tab.*

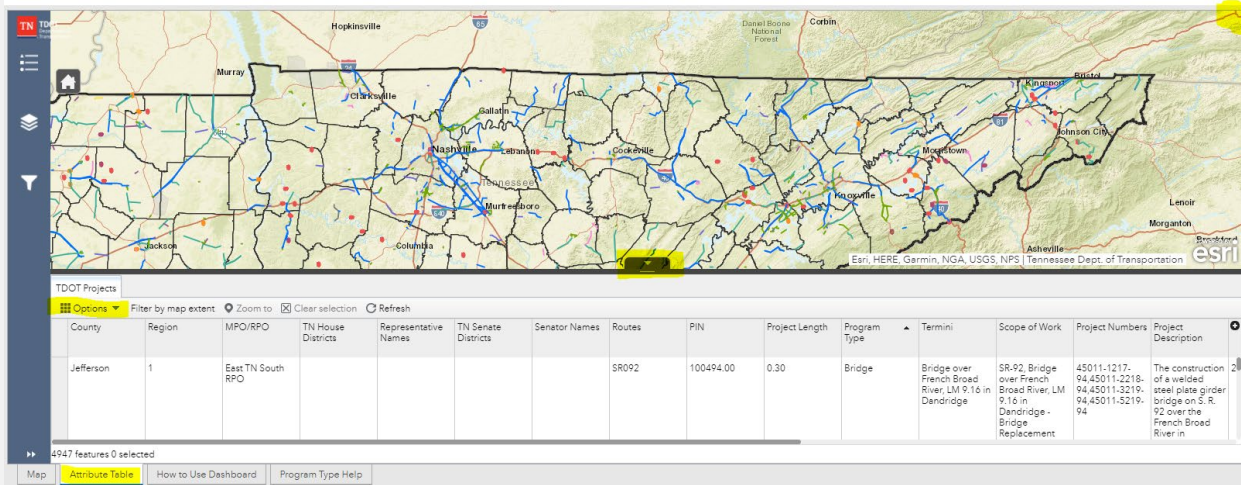
Both tabs link to the same underlying data but serve separate functions. They will not and cannot interact with each other.

There are two options or methods to perform queries with the Attribute Table Tab.

Option 1

At the bottom of the map you will see “Attribute Table”. Click this tab to open.

This tab presents the first possible option for displaying a table and exporting a table.



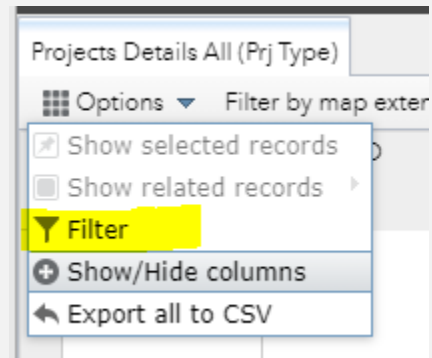
The screenshot shows the ArcGIS interface with a map of Tennessee. Below the map is the attribute table for TDOT Projects. The table has the following columns: County, Region, MPO/RPO, TN House Districts, Representative Names, TN Senate Districts, Senator Names, Routes, PIN, Project Length, Program Type, Termini, Scope of Work, Project Numbers, and Project Description. The first row of data is for Jefferson County, Region 1, East TN South RPO, with Route SR092 and PIN 100494.00. The table shows 4947 features selected.

County	Region	MPO/RPO	TN House Districts	Representative Names	TN Senate Districts	Senator Names	Routes	PIN	Project Length	Program Type	Termini	Scope of Work	Project Numbers	Project Description
Jefferson	1	East TN South RPO					SR092	100494.00	0.30	Bridge	Bridge over French Broad River, LM 9.16 in Dandridge	SR-92, Bridge over French Broad River, LM 9.16 in Dandridge - Bridge Replacement	45011-1217-04, 45011-2218-04, 45011-3219-04, 45011-5219-04	The construction of a welded steel plate girder bridge on S.R. 92 over the French Broad River in

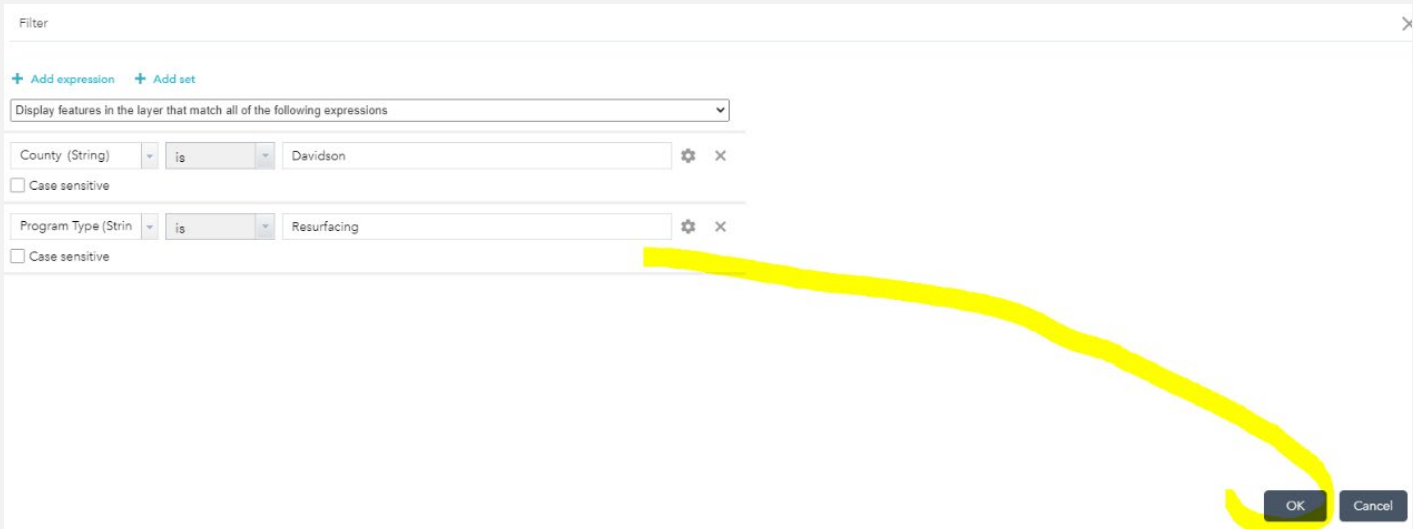
In the upper right there is an expand to full screen circle if you need more space.

In the left middle-center there is an “Options” button (seen right). Clicking it will show you the “Filter” option.

This will open a filter screen where you can create a single or multiple criteria filter. Below is a picture showing a completed query. It filters the data by Davidson County to show only Resurfacing Program Types. Clicking OK will apply this filter. This is a case sensitive query.



The screenshot shows the Options menu with the following items: Options, Filter by map extent, Show selected records, Show related records, Filter (highlighted), Show/Hide columns, and Export all to CSV.



The screenshot shows the Filter dialog box with the following content:

Filter

+ Add expression + Add set

Display features in the layer that match all of the following expressions

County (String) is Davidson

Case sensitive

Program Type (String) is Resurfacing

Case sensitive

OK Cancel

Clicking okay will return you to the tab table window.

Here we will see the results of the query which resulted in 40 selections.

County	Region	MPO/RPO	TN House Districts	Representative Names	TN Senate Districts	Senator Names	Routes	PIN	Project Length	Program Type	Termini
Davidson	3	Nashville MPO					SR006	122485.00	3.41	Resurfacing	From Nor Drive to B Street in Nashville
Davidson	3	Nashville TPO					SR255	123846.00	5.53	Resurfacing	From Airp Center Dr

Lets compare that to the main iTRIPS site to make sure this all matches.

It does not!

This is important because even though the home **Map** and the **Attribute Table** are outside links to the same underlying data *they are using different query methods*. The Map will select every Resurfacing project that Intersects a boundary, no matter what boundary that is. The Attribute Table is a tabular query that does not look at spatial location but only its attributes.

In the case of resurfacing you can see there is one project that intersects or touches the boundary which is left out of the tabular **Attribute Table** query.

This difference can also be seen in reverse. Where the **Map** may show different results from the **Attribute Table**. This is going to be due to missing geometry, meaning it has not been drawn in the map. Missing geometry is to be expected in this data and can be identified in the **Attribute Table** by a query of project length. (Seen Right)

ive	TN Senate Districts	Senator Names	Routes	PIN	Project Length	Program Type
ive	19	Senator Brenda Gilmore	I0040	124201.00	0.16	Bridge
ive	19	Senator Brenda Gilmore	I0065	130874.02	0.24	Bridge
			SR006	124223.01		Bridge

Now to export the results go back to the Attribute Table tab where your Davidson County Selection is.

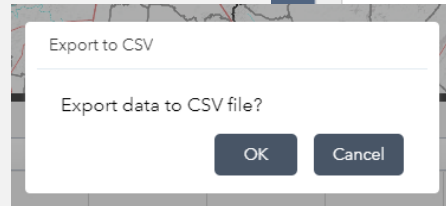
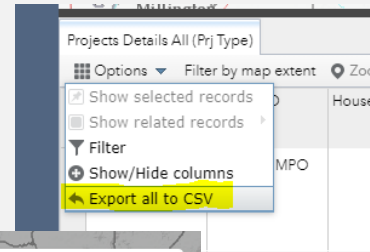
Click Options and then click "Export all to CSV"

It will prompt you to export.

Clicking okay will download the file to your downloads folder.

Opening the CSV will automatically open in excel.

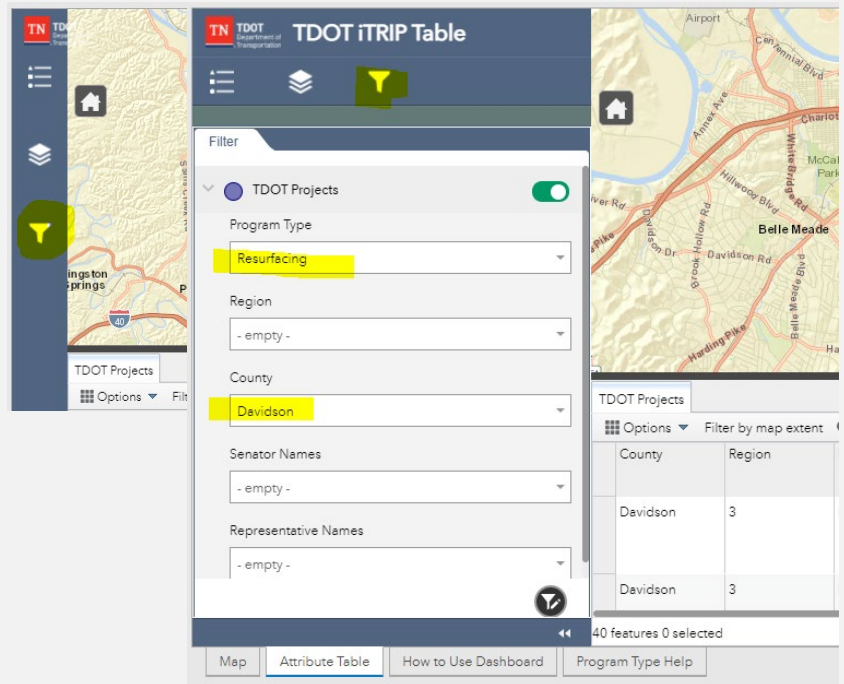
This concludes the demonstration of the Query of the Attribute Table Tab. Next, we review the function of the Attribute Table Tab.



function
Filter

Option 2

Clicking the Filter/Funnel will expand the tool and provide you with the familiar dropdown selection capabilities.



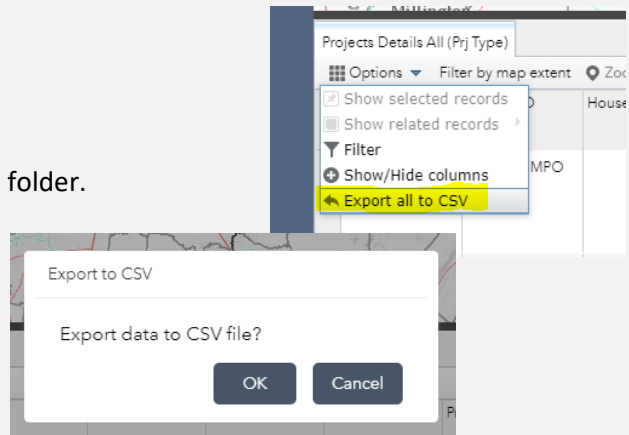
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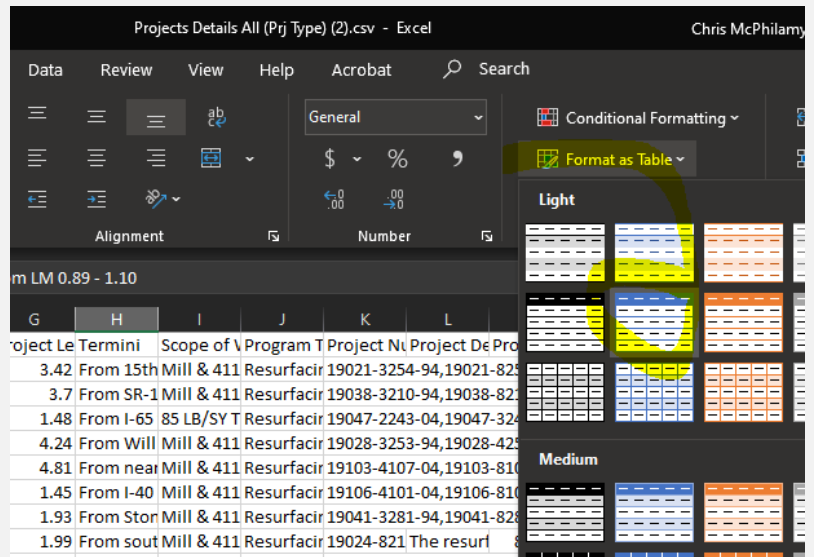
Opening the CSV will automatically open in excel.



Exporting and Reporting

**note* The technology this system is built on does not provide a report functionality. Formatting of this file is the responsibility of the user and it cannot be automated, preformatted, or generated in other formats.*

When you open in excel you will have an unformatted product. As shown in the below picture I used the excel default and clicked “Format as Table” and selected blue.



Doing so formats it nicely with filters as seen below. Comparing data counts you will see that there are again 18 matching records which match the above filters.

County	MPO/RPO	House Districts	Senate Districts	Route	PIN	Project Length
Davidson	Nashville MPO			SR001	127317	3.4
Davidson	Nashville MPO			SR024	129472	3
Davidson	Nashville MPO			SR155	129489	1.4
Davidson	Nashville MPO			SR011	129492	4.2
Davidson	Nashville MPO			I0040	129565	4.8
Davidson	Nashville MPO			I0024	129567	1.4
Davidson	Nashville MPO			SR024	129226	1.9
Davidson	Nashville MPO			SR006	129228	1.9
Davidson	Nashville MPO			SR001	129509	4.9
Davidson	Nashville MPO			SR065	129178	2.4
Davidson	Nashville MPO			SR106	129180	2
Davidson	Nashville MPO			SR001	127300.01	0.2
Davidson	Nashville MPO			SR100	127307.01	0.2
Davidson	Nashville MPO			I0040	127274	2.0
Davidson	Nashville MPO			I0024, I0024, I0024	127275	4.2
Davidson	Nashville MPO			SR106	127288	2.3
Davidson	Nashville MPO			I0040	129569	3.0
Davidson	Nashville MPO			SR024	129213	2.0

This concludes the demonstration of the exporting and reporting functionality of the Attribute Table Tab. Next, we will touch on the documentation Tabs.

Documentation

The documentation Tabs repeat much of the same information found here.

“How to Use Dashboard” is a quick reference guide on the basic functionality of iTRIP and the sites Disclaimer.

“Program Type Help” is a dictionary of the different Program Types providing the user with useful background on each type.

- **Bridge**, Federal/State funded bridge replacement projects that are typically
- **Bridge Maintenance**, Majority State funded repair and/or preservation projects on a compressed delivery schedule.
- **Economic Development**, projects that are initiated as a result of corporate
- **Legislative**, Federal/State funded projects that are regionally significant
- **Local Programs**, Federal/State funded projects typically managed by local
- **Maintenance**, State funded projects typically developed on an annual
- **Resurfacing**, Federal/State funded repaving and preservation of existing roads on a schedule.
- **Safety**, Federal/State/Local funded projects (HSIP, PHSIP and Spot Safe Construction) due to cost and environmental impact.
- **State Aid Bridge**, State funded projects that are typically budgeted for County Governments can get up to 98% of their bridge rehabilitated or
- **State Aid Resurfacing**, State funded projects that are typically budgeted for County Governments if they have the funding available in their resurfacing account m

Map Attribute Table How to Use Dashboard Program Type Help

The bottom of the website shows project information in the form of indicated

How to use dropdown filters:

1. Use the dropdown box to choose desired selection or selections. You may
2. To clear selection and/or make a new selection you must first re-click previous selection.
Note about Selections They are intersecting in nature. When you select so
3. The search bar (Small Magnifying Glass), on the right of the map may be used to search for project information. However, it cannot search physical addresses.

How to use filter in Attribute Table tab:

1. To filter the attribute table click the Attribute Table Tab under the map.
2. Click the "Options" tab on the top left of the attribute table and select "Filter".
3. Choose "Add Expression" and select a feature to filter, a qualifier (is, is not, etc.) and a value.
Example = County is Davidson or Program Type is Bridge.
4. Select "OK"

OR

1. Expand the side panel to the left of the map and choose the "Filter" icon (3x3 grid).
 2. Select what features to filter from the dropdown lists.
 3. To clear selection select "-empty-"
- *Note- this method only allows for one selection from each drop down. For multiple selections use the Attribute Table method.

To export attribute table selection:

1. Click the "Option" tab on the top left of the attribute table and select "Export".
2. Click "Ok," and once the download is complete you can open in data in Excel.

Disclaimer:

All data presented here is for informational purposes only. Every effort is made to ensure accuracy, but the Department of Transportation, the State of Tennessee, nor any agency thereof, is not responsible for any consequential damages resulting from the use or misuse of the data.

Email tdot.comments@tn.gov for questions or comments.

Map Attribute Table How to Use Dashboard Program Type Help

Please contact Catherine.Hawkins@tn.gov for further questions or a personal walk through of this functionality.