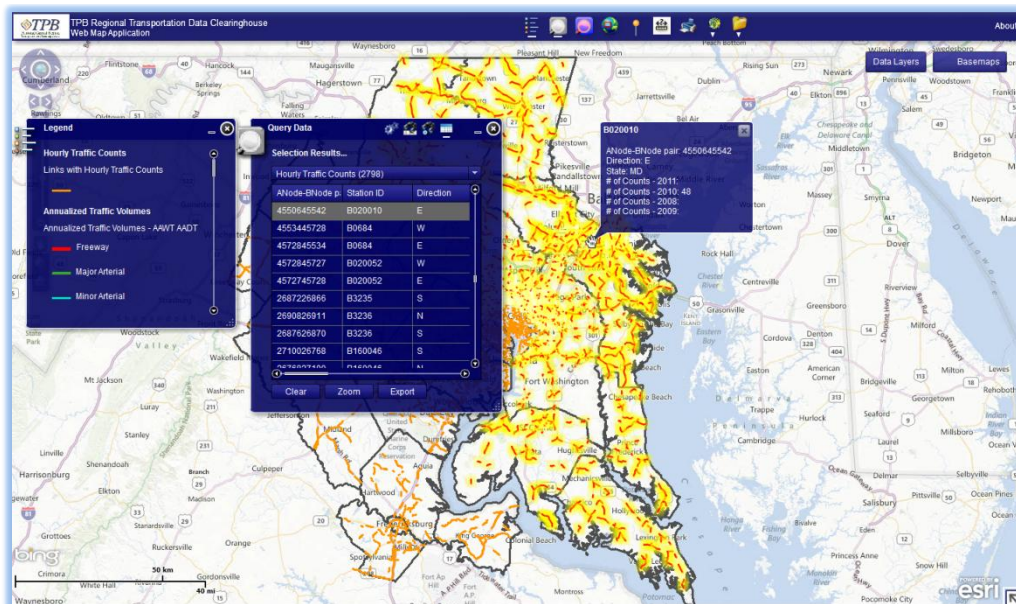# User Guide

Regional Transportation Data Clearinghouse

Web Map Application

Staff of

National Capital Region Transportation Planning Board

November 2012

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1   Introduction

Over the years, staff at the National Capital Region Transportation Planning Board (TPB) has collected transportation data from various sources, primarily member jurisdictions, state agencies, and transit authorities. This web application was developed to improve access and data sharing between TPB Members and other authorized users in the region.

This user's guide will introduce users to the Regional Transportation Data Clearinghouse (RTDC) web map application. This application was developed utilizing ArcGIS Server (version 10.0) and the ArcGIS Viewer for Flex. The application contains two primary types of web services- Map services and Geoprocessing services. The datasets contained within the application are maintained using ArcGIS. The application has been tested on the following browsers (Internet Explorer, Chrome, Firefox, and Safari). Users may experience slight variations in screen resolution, resizing, and/or other browser-specific display elements.

This application interface was designed for viewing, querying, and downloading data--not creating maps. Users are encouraged to utilize the application to obtain the spatial and tabular data necessary for their purposes for use in ArcGIS or other software.

1.1   Getting Started

To access the web map application, navigate to the application's homepage at the following URL: https://gis.mwcog.org/webmaps/rtdc. Users will read the disclaimer (Figure 1), prior to signing in using credentials provided by TPB (Figure 2). (If needed, contact Charlene Howard (Charlene@mwcog.org) to obtain credentials.)

Figure 1: Disclaimer

Figure 2: Sign In

When finished viewing the RTDC application, users can simply close the browser window to exit. The user will automatically be signed out. The map from the session will not be saved. In order to access the application again, the user must sign in and begin work from the default settings and view.

The RTDC map service layers ("Data Layers" in the application) contain one or more dataset, organized by data type. The table below describes each data layer in more detail and shows for which datasets additional query operations are available. Every data layer in the RTDC has popup menus configured to show attribute information for selected features, and each data layer can be downloaded for use in other software. All three functions – query, popup, and download – are explained more fully below.

Table 1: Web Map Data Layers

Layer Name	Description	Sublayers	Query
Hourly Traffic Counts*	Location and number of counts recorded for hourly count stations in DC, MD and VA for 2005-2011	-	Yes
Annualized Traffic Volumes	Location and AAWDT/AADT volumes for count stations in DC, MD and VA for 2005-2011	-	Yes
Transit Counts	Transit route description and 2011 average weekday ridership	-	Yes
MetroRail	WMATA MetroRail facilities- stations and lines	Metro Stations Metro Lines	-
Round 8.1 Coop. Forecast by TAZ	Round 8.1 Population, Household, and Employment data by Transportation Analysis Zones (TAZ)	-	Yes
Activity Centers and Clusters	Historical data. Round 7 COG Regional Activity Centers as identified by the COG Planning Directors. Also includes Activity Clusters.	Activity Centers Activity Clusters	-
Screenlines	Location and ID number for TPB Travel Demand Model Version 2.3 Screenlines	-	-
Metropolitan Washington Boundaries	Metropolitan Washington Boundaries	TPB Modeled Area TPB Member Jurisdictions MWCOG Members	-
*Related tabular information containing detailed hourly traffic counts. Only accessible via the 'Advanced Query' widget			

2 Application Interface

The screen shot on the next page (Figure 3, next page) shows the initial application interface.

1. The icons in the upper right corner of the application are **Widgets**, each of which carries a specific function. A full discussion of widgets appears in a later section of this document.

2. Under the widget row, the **Map Layer Controls** can be used to turn Data Layers on and off or to choose from a series of Basemaps.

3. The small arrow in the lower right corner provides an **Overview Map**. Clicking on the arrow icon will place a map showing the larger region in the lower right corner. Clicking the arrow again will turn off the Overview Map.

4. On the left side are the **Zoom/Pan Tools**. To view the map at larger/smaller scales, click the minus/plus buttons or move the slider down/up. The scroll button of the mouse can be used to zoom in and out.
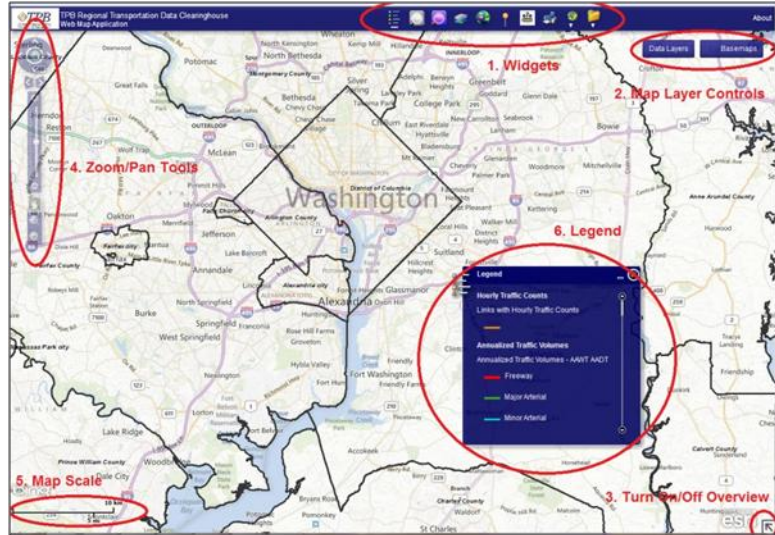

Figure 3: Application Interface

5. In the lower left corner is the **map scale**. The scale will automatically adjust when map extent changes.

6. The **Legend** window is located near the center of the application. It shows the symbology for all layers used in the map.

2.1 Map Layer Controls
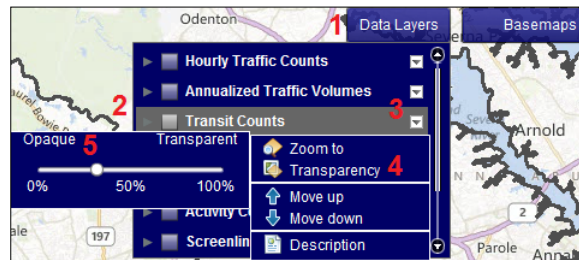
The *Data Layers* control is shown below (Figure 4)

Figure 4: Data Layers

1. The *Data Layers* (**1**) button allows users to control how Clearinghouse data is displayed on the map. Placing your cursor over the *Data Layers* (*'mousing over'*) button to display a dropdown menu that features all of the application's layers; initially, seven data layers are available.

2. Clicking the gray box to the left of the layer (**2**) name turns that layer on/off. More than one layer can be displayed at a time; however, displaying all layers at once may slow the

application down. Clicking the gray arrow at the left (**3**) shows the layers subcategories (not shown in Figure 4). These subcategories can also be turned on and off.

3. Clicking the down arrow to the right of the layer name displays a pull down menu (**4**). The ***Zoom to*** button will adjust the scale of the map so the chosen layer is visible. The ***Move up*** and ***Move down*** buttons will change the order of the layers in the ***Data Layers*** dropdown menu. The layers are drawn on the map in the same order as they appear in the dropdown menu. The ***Description*** button brings up a new window displaying the layer's metadata. Login credentials must be entered, a second time, for the metadata to be displayed.

4. Clicking on the ***Transparency*** button brings up a slider (**5**) that controls the transparency of the selected layer.

The screenshot on the right (Figure 5) shows the *Basemaps* control.

1. Mousing over the ***Basemaps*** button displays five basemap options. Changing the basemap background will not affect how the data layers are displayed.

Figure 5 Basemaps

2.2   Zoom/Pan Tool

The Zoom/Pan tools shown below (Figure 6) provide the user control over what part of the region is shown on the screen.

- Clicking on the globe icon zooms out the map so the entire planet is visible.
- The four directional buttons surrounding the globe allow the map to be panned in the four cardinal directions (up is north). Clicking in the area between the arrows enables the map to pan diagonally.
- The left and right arrows directly below the globe are the back and forward arrows. To revert back to the previous extent, click on the left arrow.
- The vertical sliding bar adjusts the map's scale or zoom level. This can either be controlled by sliding the ball or by clicking on the small plus and minus buttons that bookend the sliding bar.
- Selecting the hand icon allows the user to manually pan the map by clicking and moving the map to the desired location. This is the default setting for the mouse cursor.

Figure 6 Zoom/Pan Tools

- An alternate way to control the zoom level is by clicking on the larger plus and minus buttons located below the hand icon. The cursor will change to a crosshair when either of the icons is selected. If the plus icon is chosen, the map will zoom and center to

whichever area is highlighted on the map. Highlighting an area of the map while the minus icon is selected will center the map while zooming out.

- Zooming out too far from the National Capital Region may make some layers invisible. If this happens, zoom back in until the layer becomes visible again.

2.3 Viewing Features on the Map

The quickest and easiest way to interact with a layer and view data is to click on a feature in the map to enable the popup feature for the visible layer(s). When one or more layers are visible in the map, the user may observe data for individual features. The clickable layer features may be displayed as points, lines or polygons.

- Click on the feature to view a popup window containing attribute data (shown to the right in Figure 7)
- The window displays the identity of the feature. Below, attribute names and values for the feature are displayed. If necessary, additional attributes can be viewed by using the scroll bar on the right side of the window.
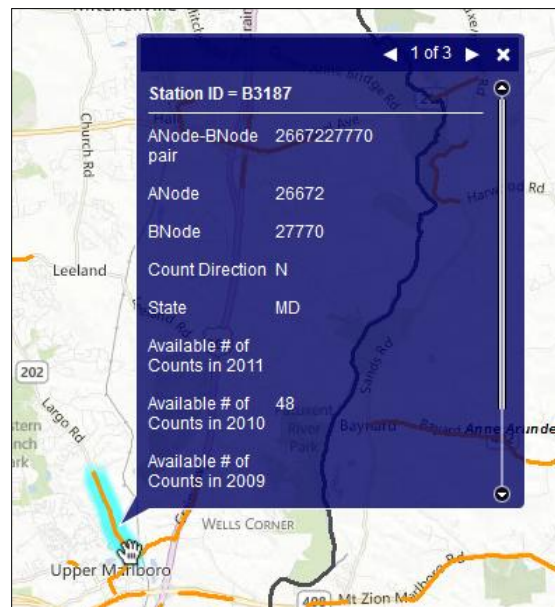- The selected feature will be highlighted in light blue on the map.

Often, more than one feature will lie in the selected location. The total number of features selected will be shown in the upper right corner of the window. Clicking on the left and right arrows will cycle through the features. The highlighted feature on the map will change along with the data in the popup window. Having several layers visible at once increases the number of popups returned upon selecting features, as each visible layer will return its own results.

Figure 7: Feature Popup Window

Exploring data layers via popups allows users to easily find attribute data needed for simple or advanced queries. Attribute data can be copied from the feature window and pasted into a query form.

3 Widgets

The ArcGIS Viewer for Flex comes with several widgets—blocks of code packaged and then displayed as buttons and/or menu items—that allow users to interact with the data contained in the application. Some widgets allow users to perform simple tasks, such displaying layer symbology, while custom geoprocessing widgets perform a series of tasks (with or without user interaction). The RTDC application contains both kind of widgets, and each used in the RTDC has been configured to work with our data in a specific way.

The widget row, shown right, is located at the top of the RTDC application interface. Each button represents a specific widget or widget group

(several similar widgets assembled in a menu, as identified by the downward arrow with the widget icon). The RTDC contains the following widgets: Legend (1), Query Data(2), Advanced Query/Show related data (3), Zoom to Jurisdictions (4), Find an address (5), Draw and Measure (6), Print (7), and widget groups Download Tools (8) and Documents (9). Users can view the name of each widget by holding the mouse over an icon.
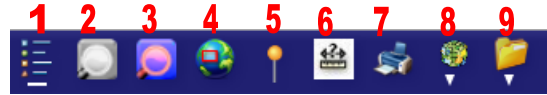
3.1   Legend Widget

Clicking on the *Legend* widget in the widget row at the top of the application opens the legend window (Figure 8). By default, the legend widget is open upon loading the application. Upon user login, the *Legend* widget populates with the symbology for the layers in the RTDC.

The *Legend* widget shows the symbology for layers visible at the current zoom level. The default setting shows all layers, even if none are selected. If a layer is turned off, its symbology will only be visible when the layer is activated and visible on the map. The layers are displayed in the legend in the same order as they exist in the *Data Layers* control.

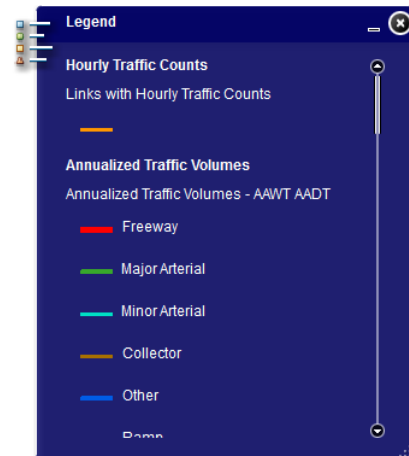When printing using the *Print* widget, the legend is not visible.

Figure 8: Legend Window

3.2   Query Data

The *Query Data* widget allows the user to look up a particular feature or set of features based upon search criteria. The *Query Data* widget is one of two widgets that allow the user to query application data.

- To access the *Query Data* widget, click on its icon in the widget row at the top of the application.
- The Data Query window will pop up. There are four clickable icons on the top of this popup window: *Select Options, Select by Attributes, Select by Location* and *Selection Results*.

To further explore the Query Data Widget, this section uses an example of a transportation engineer seeking traffic counts (AADT/AAWDT) for one jurisdiction.

3.2.1 Selection Options

To set up the query environment, click on the first (Selection Options*)* icon ![icon] the Query Data window (Figure 9). The **Selection Method** dropdown menu offers three options:

- **Create New Selection** – this query will ignore any previously selected features, if present.
- **Add to Current Selection** – the results of this query will be added to those features already selected.
- **Remove From Current Selection** – the results of this query will be removed from those features already selected.

The lower part of the window, labeled **Layers**, shows in parentheses the number of features in each layer that have already been selected. Clicking **Clear All Selections** will remove all selections from the **Layers** box. Alternatively, the user can remove selections from one layer at a time by right clicking the layer name in the **Layers** box and selecting **Clear Selected Features**.
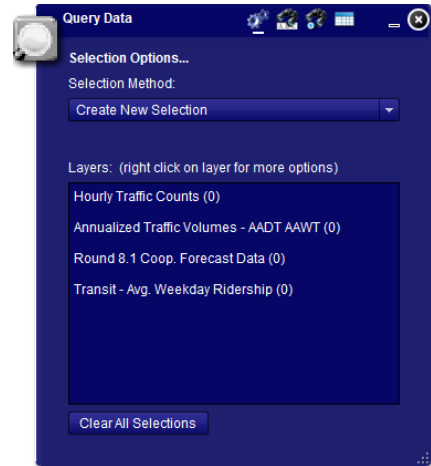

Figure 9: Query Data Window

For this example, select **Create New Selection** in **Selection Method**.

3.2.2 Select by Attributes

Click on the second (Select by Attributes) icon ![icon] (Figure 10). The user can now construct a SQL query to select the desired features.

- Use the **Target Layer** dropdown menu to select the layer to be queried.
- Double-click on the desired field name from the **Field** menu. Additional fields can be seen by using the scroll bar, if needed.
- The name of the selected field (or its alias) will populate the SQL text box at the bottom of the window.
- The **Values** box will also auto-populate with the unique values of the chosen field. If this has not happened, click **Get Unique Values**.
- Complete the desired SQL query. The symbol **%** can be used as wild card.
- Click the **Select** button to execute the query.
- The **Selection Results** window will appear and the application will pan and zoom to show all selected features on the map.

Figure 10 Query Data - Select by Attributes

Complete the following steps for this example:

- Select the layer of "TAZ – Round 8.1 Cooperative Forecast" in the **Target Layer**.
- Double click the "Jurisdiction" item in the **Fields** list.
- Click on the "=" in **Operators**.
- Double click on 'Falls Church' from the **Values** list.
- The SQL sequence will read: SELECT * FROM TAZ – ROUND 8.1 Coop. Forecast WHERE NAME = 'Falls Church'
- Click the **Select** button at the bottom of the window
- The **Selection Results** window will resemble Figure 11 to the right.

Figure 11: Query Data - Select by Attributes Results

3.2.3   Select by Location

Click on the third (Select by Location) icon to select all features of a layer that fall within a specified location (Figure 12). In this example, Select by Location will be used to select features from the "Annualized Traffic Volumes - AADT AAWDT" layer that fall within the location chosen in the previous step (Falls Church TAZs).

1. In the "Choose Layer(s) to Select Features from:" box, select **Annualized Traffic Volumes – AADT AAWDT**.

2. Use the **Search for Features that are** drop down menu to select "that are partially or completely within".

3. Click the **Source Layer** dropdown menu and select "Round 8.1 Coop. Forecast Data (9)".

4. The query statement reads "Select features that are partially or completely within those selected features of Round 8.1 Coop. Forecast Data".

Figure 12: Query Data – Selection by Location

5. Click **Select**.

6. The "Selection Results" window will appear. Use the drop down menu to switch between viewing the "Annualized Traffic Volumes – AADT AAWDT" and "Round 8.1 Coop. Forecast Data" tables. The map will also automatically zoom to the highlighted features that were just selected.
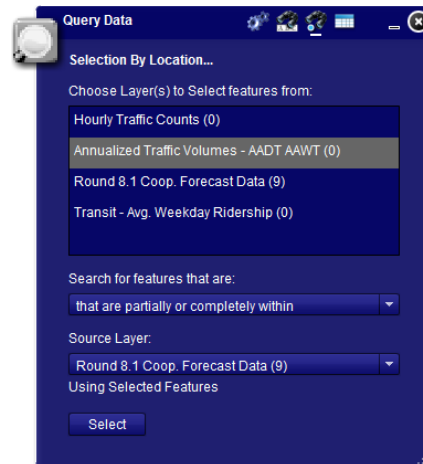
3.2.4   Selection Results

The final and fourth icon of the Query Data window is **Selection Results** ▦ (Figure 13, below). This window presents the results of a query in tabular format and it has automatically popped up after clicking "Select" in the previous examples.

- A drop down menu can be used to toggle between layers.
- The scrolling bars at the right and bottom of the table allow the user to view more records and fields, respectively.
- Moving the cursor over a record in the table will identify the corresponding feature in the map with a popup window that contains all the feature's attributes.
- Mousing over to one of the selected features in the map will also produce the same popup window.
- The **Zoom** button will zoom and pan the map to show the full extent of all selected data.
- The **Export** button allows the user to download the contents of the "Selection Results" table as a tab delineated text file.
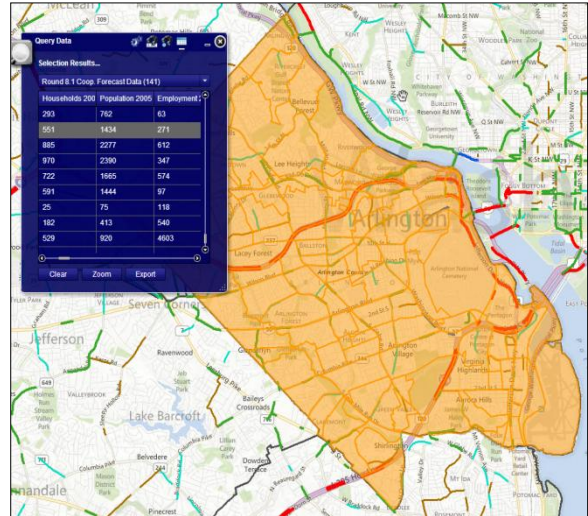

Figure 13: Selection Results

3.3   Advanced Query/Show related data

The application's second query widget is the Advanced Query/Show related data widget, which allows the user to perform two additional types of queries. Users can search for data within specific, user-defined geographic areas. For the Hourly Counts layer only, the widget also shows related data in a linked table.

- To access the widget, click on the Advanced Query/Show related data icon 🔵 from the widget row at the top of the application.
- The Advanced Query/Show related data window will pop up. There are four clickable icons on the top of this popup window: **Show Results in Grid**, **Select by Location**, **Select by Attributes** and **Show Results in Window.** ▦ 🌐 📊 ▦
- The related tables are only available for hourly traffic count data. The tables show the specific vehicle counts for all recorded hours at each station.

3.3.1   Select by Location

The second icon 🌐 from the left in the Advanced Query/Show related data window is **Select by Location** (Figure 14, next page). Data may be queried at or within four geographic areas: at a point, along a line, within a rectangle, or within a user-defined polygon. Checking the **enable multi-part graphics** box enables the user to search within multiple areas at a time (after selecting the areas to be queried, click on the **Search** button). The **Add search tolerance to point selection** box allows a feature to be selected when a user clicks in its vicinity with the

Select by Point or Select by Line tool selected. To add a buffer to any of the graphic search tools, select the **Buffer Graphic** box and enter the desired distance and unit of measurement

To further explore the Advanced Query/Show related data Widget, this section uses an example of a transportation engineer seeking hourly traffic count data for roads within a half mile of Falls Church and Alexandria.
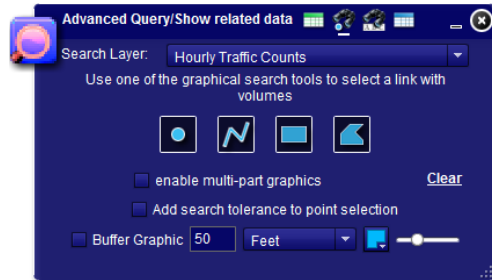
- Turn on the Hourly Traffic Counts and Metropolitan Washington Boundaries layers via the Data Layers dropdown button.
- In the Advanced Query/Show related data window, click the second icon from the left (Select by Location).
- Select **Hourly Traffic Counts** from the Search Layer dropdown menu.
- Click on the fourth graphical search tool (Select by Polygon)
- Check the **enable multi-part graphics** box.
- Make sure the **Add search tolerance to point selection** remains unchecked.
- Check the **Buffer Graphic** box and enter .5 and Miles for the buffer values.
- Pan and zoom the map so both Falls Church and Alexandria are visible.
- Draw a polygon loosely around Falls Church by single-clicking on its boundary vertices. A colored polygon will grow with each click. When the polygon covers all of Falls Church, double click on its final vertex to complete the geographic search. The polygon will disappear but the geographic search parameter has been recorded.
- Repeat the step by drawing a second polygon around Alexandria city (Figure 15). Again, the polygon will disappear when the final vertex is recorded with a double click.
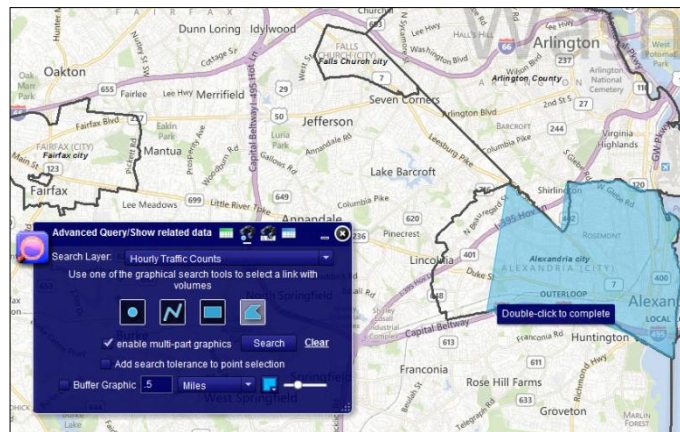

Figure 15: Select by Polygon

- On the Advanced Query/Show related data window, click on the **Search** button next to the "enable multi-part graphics" line.

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- The "Show Results in Window" window will appear and a new "Search Results" window will pop up. Both windows will show the same information; "Show Results in Window" present the query data in list form. The "Search Results" are in table form. (Figure 16)
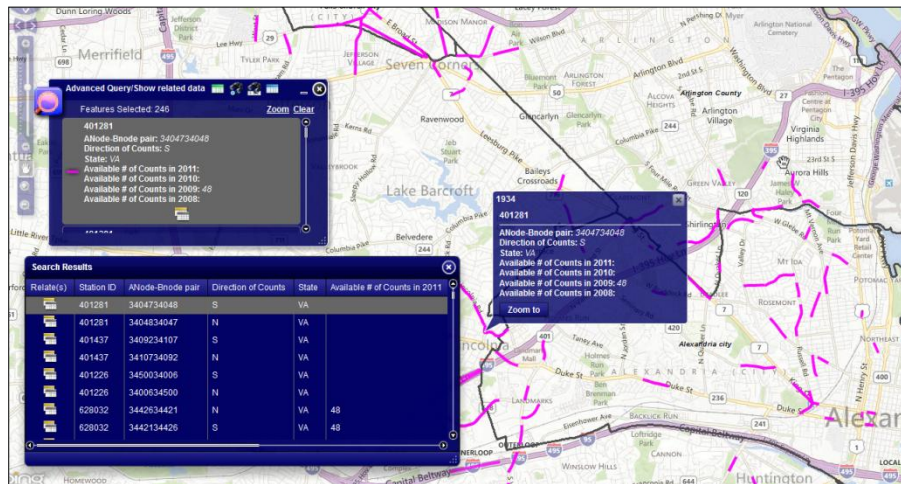

Figure 16: Advanced Query – Select by Location Results

- Moving the cursor over a record in the table will identify the corresponding feature in the map with a popup window that contains all the feature's attributes.
- Mousing over to one of the selected features in the map will also produce the same popup window.
- To view related traffic count data for Station ID 700091 East, click on the folder icon for that feature. In the popup window, click on "Hourly CountsVA".

- A new window called "Related HourlyVolumeVA Features" will pop up containing the vehicle counts for that feature in a table format. (Figure 17)
- To download the data, select either "Export to CSV…" or "Export to Txt…" and click **Export…**.

Figure 17: Related Table

3.3.2 Text Search

The third (Select by Attributes) icon of the Advanced Query/Show related data window allows users to query data by attributes using either a text search or utilizing a dropdown menu (Figure 18, next page). For the Hourly Counts layer, related tables are available.

The next example queries AADT for the segment of the highway network for a specific node in the highway network.

- In the Advanced Query/Show related data window, click the third icon (Select by Attributes).

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- In the "Search Layer" dropdown menu, select **Annualized Traffic Volumes – AADT/AAWDT.**
- Select **Anode-Bnode** from the "Search Layer Field" dropdown menu
- Type : %20276%
- Click the **Search** button.
- The "Show Results in Window" window will appear and a new "Search Results" window will pop up. Both windows will show the same information; "Show Results in Window" presents the query data in list form. The "Search Results" are in table form.

Figure 18: Text Search Window

- Moving the cursor over a record in the table will identify the corresponding feature in the map with a popup window that contains all the feature's attributes.
- Mousing over to one of the selected features in the map will also produce the same popup window.
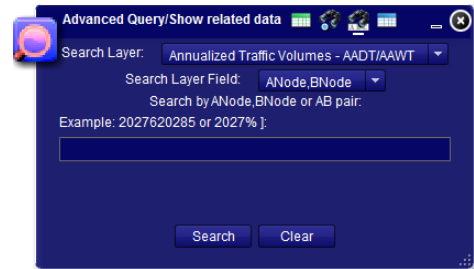
3.3.3 Show Results in Grid and Show Results in Window
Clicking on the **Show Results in Grid** icon 🔲 and the **Show Results in Window** icon 🔲 switches between table and list windows, respectively (visible in Figure 16, previous page). Using these icons, the user can return to either results window after closing them. Once the **Clear** button is clicked, the results will no longer be available.

3.4   Zoom to Jurisdictions
The Zoom to Jurisdictions icon 🔵 in the widget row enables users to quickly pan and zoom to specific jurisdictions within the National Capital Region. Users can also create custom zooms that will be bookmarked for the duration of the session.

3.4.1   Bookmarks
Clicking on the Zoom to Jurisdictions icon 📕 opens the **Bookmarks** window (Figure 19). By default all jurisdictions in the "Metropolitan Washington Boundaries" layer are bookmarked.

- To pan and zoom to a jurisdiction, double click on the desired location.
- To see more jurisdictions, use the scroll bar to the right of the window.
- Jurisdictions are listed in alphabetical order for counties and independent cities. Incorporated cities are listed under their county.

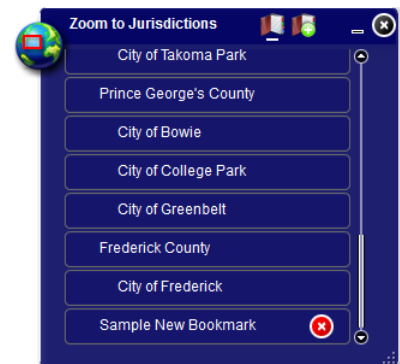**Figure 19: Bookmarks Window**

3.4.2   Add Bookmark
To create custom bookmarks for the widget, click the second (Add Bookmark) icon 📕 at the top of the "Zoom to Jurisdictions" window.

- Pan and zoom the map application to the desired extent.

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- Name the bookmark for the current view under the "Add current extent as a bookmark named" box.
- Click **Add Bookmark**.
- The new bookmark will be added to bottom of the "Bookmarks" list.
- The custom bookmark will remain on the list for the duration of the session. It will not be available in subsequent sessions.

3.5   Find an Address (North America)

The Find an Address icon 📍 in the widget row at the top of the application pans and zooms to any location in North America. Users can specify their desired location by address or by entered longitude and latitude coordinates.

3.5.1   Address

Clicking on the widget icon will open the Address window (Figure 20) by default.

- For the most accurate search, enter the most specific address possible, including zip code. Jurisdiction names or street intersections may also be entered; however, the widget will not be able to locate landmarks.
- Click the **Locate** button to search for the desired address.
- The "Results" window will appear (Figure 21). The widget will list all locations relevant to the entered search term, ranked by confidence score. The map will automatically pan and zoom to the highest ranked location.
- Clicking on a result from the list will pan and zoom the map to that address and highlight the location with a pin and popup window.
- Undesired search results may be removed from the "Results" window by clicking on the red "x" on the right side of the listing.
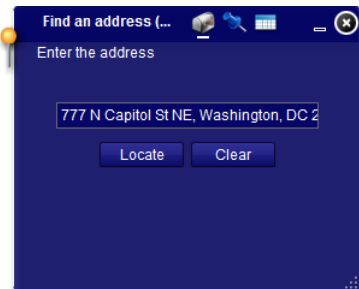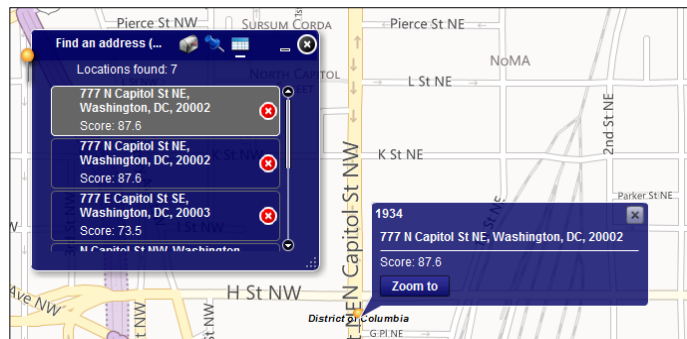

Figure 20: Find an Address Results

Figure 21: Find an Address Search

3.5.2   Coordinates

- Clicking on the second (Coordinates) icon 🔧 at the top of the widget window allows users to find a location by entering its geographic coordinates.
- Clicking on **Locate** to open up the "Results" window and pan and zoom to the desired coordinates.

3.6 Draw and Measure

The Draw and Measure icon ⊞ in the widget row allows users to highlight and annotate the map. The drawings and text are visible when printing via the Print widget.
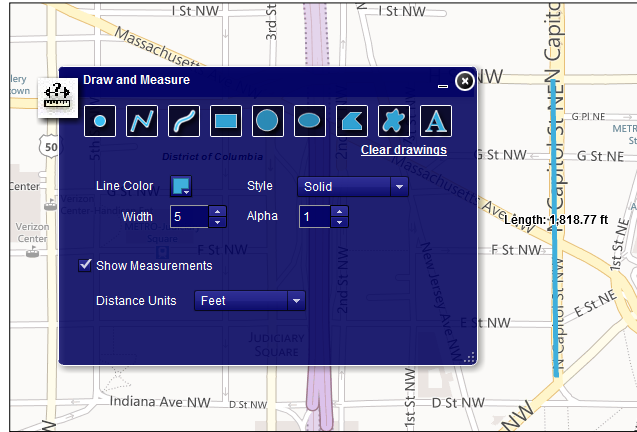

Figure 22: Draw and Measure

- Clicking on the widget icon opens the Draw and Measure window.
- Nine buttons are visible across the top of the window, representing different lines, shapes or text that can be drawn upon the map.
- For each button, users can edit the color, style and size of the shape to be drawn. The "Alpha" dropdown menu control opacity with "1" drawing a fully opaque object and "0" drawing a transparent one.
- When drawing ellipses, clicking on the map places the ellipse's center. When drawing polygons the map, clicking on the map places the polygon's vertices.
- The farthest button to the right (Add Text) enables users to annotate the map with custom text. The text must be entered into the "Text" box provided. The color and style of the text must be selected before the text is placed on the map. The center of the line of text is placed wherever the user clicks.
- To see the linear distance of a line or area and perimeter of a polygon, check the ***Show Measurements*** box prior to drawing on the map.
- Clicking on the ***Clear Drawings*** button removes all drawings and text from the map. Drawings cannot be removed individually.

3.7 Print

The Print icon 🖨 in the widget row prints the current map view. Widget and tool windows, including the Legend window, are not visible in the printed map. Drawings, basemaps, visible layers, highlighted features, popup features, identification windows and the scale bar are all visible in the printed map.

- To print the current map view, click on the Print widget.

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- The "Print" window will appear (Figure 23). The user can add a Title and Subtitle or can leave either row blank.
- Click the *Print* button to open the operating system's Print window.
- The Web Map Application is not intended to make detailed maps for presentations or reports. Users seeking to create high quality maps will download the necessary data as a shapefile or geodatabase and create the map with a geographic information system, such as ArcGIS.
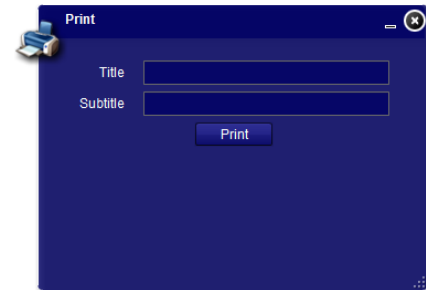

Figure 23: Print Window

3.8 Download Tools

The Download Tools widget group contains three separate widgets providing tools that allow users to download RTDC data. Clicking on the icon ⬇ opens up a dropdown menu (Figure 24) with three options. *Download Data* allows users to download one or more datasets in their entirety. Users can download datasets that have been clipped to a county in the region using the *Download Data by County* tool. The Hourly Count tables can be saved as text files by clicking on the *Download Hourly Count Tables* tool. This option downloads the hourly count tables in their entirety.
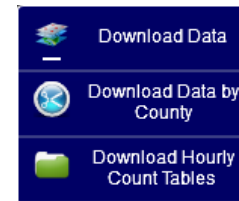
3.8.1 Download Data

Figure 24: Download Tools Dropdown Menu

The Download Data widget allows users to download any complete RTDC data layer for use in ArcGIS or other software. All layers are available for download as both File Geodatabases and Shapefiles. The extent of the data layers in the RTDC is the TPB Modeled Area.

- Click on the "Download Tools" widget icon and select *Download Data* (Figure 25).
- Select either "File Geodatabase – GDB - .gdb" or "Shapefile – SHP - .shp"
- Choose which layers to download
- Click the *Submit* button.
- A popup window will ask whether to save the data file. Click *Yes*. The default name of the output file is 'Output.zip.'
- Save the file to the desired folder.

Figure 25: Download Data Window

- The layer files will be compressed and will have to be unzipped prior to viewing.
- Once unzipped, the files will be ready for use in ArcGIS.
- If multiple data layers are downloaded, the output ZIP folder folder will either contain a geodatabase with separate feature classes for each downloaded data layer or individual shapefiles.

3.8.2   Download Data by County

Users can choose to download only data layers for a particular county. Data layers can be downloaded as a File Geodatabase or as Shapefiles. Only one county can be downloaded at a time using this option.

- After clicking on the "Download Tools" widget icon, select ***Download Data by County*** to open the "Download Data by County" window.
- Select either "File Geodatabase – GDB - .gdb" or "Shapefile – SHP - .shp".
- Choose which layers to download.
- Scroll down to the bottom of the widget window and select a county from the "Counties" dropdown list.
- Click the ***Submit*** button.
- A popup window will ask whether to save the data file. Click ***Yes***. The default name of the output file is 'Output.zip.'
- Save the file to the desired folder.
- The layer files will be compressed and will have to be unzipped prior to viewing.
- Once unzipped, the files will be ready for use in ArcGIS.
- If multiple data layers are downloaded, the output ZIP folder folder will either contain a geodatabase with separate feature classes for each downloaded data layer or individual shapefiles.
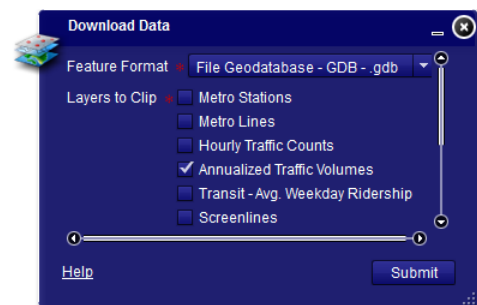
3.8.3   Download Hourly Count Tables

Tables for the individual counts from the Hourly Counts layer can be downloaded as a text file to be viewed in Microsoft Excel. The counts are saved in three text files, one for each state in the region. The three files are downloaded within one compressed file and will need to be extracted prior to viewing.

- After clicking on the "Download Tools" widget icon, select ***Download Hourly Count Tables.***
- Save the HourlyCounts.zip file.
- Extract the compressed file.
- Three text files will be saved: HourlyCountsDC.txt, HourlyCountsMD.txt and HourlyCountsVA.txt.
- These files can be linked to the TPB network files using the ABPair.

3.9   Documents

The Documents widget group contains a link to this documentation. Clicking on the icon 🚩 will open this document as a PDF in a new browser window. Additional documentation will be placed in this widget group as it becomes available.

4   Conclusion

Please notify the TPB Technical Services Team of any problems encountered when using the RTDC and provide us with feedback on the user experience. Contact Charlene Howard at charlene@mwcog.org. We look forward to hearing from you.

Appendix A

Attribute domains and subtypes; field names, values and descriptions

Several geodatabases used in the RTDC application utilize attribute domains and subtypes to standardize and organize field names and values; this allows databases to contain numeric values for fields while also providing detailed text descriptions where necessary. This section includes text descriptions for standard attributes used in several datasets.

The first table lists each RTDC dataset and whether it contains the fields listed. Additional tables for each field contain the numeric values and text descriptions for these fields. This information may be useful to users when searching data or performing a query by one of these fields. For example, the Query Data widget will list the FType (facility type) code in the query window. Using the table with FType code descriptions will allow users to select the appropriate links by facility type, if applicable.

Table A1: Overview of domain/subtypes by dataset

Dataset	JUR	FType	CTCode	Mode	Operation
Hourly Traffic Counts	-	-	-	-	-
Annualized Traffic Volumes	X	X	X	-	-
Transit Counts	-	-	-	X	X
MetroRail (Metro Stations and Metro Lines)	X	-	-	-	-
Round 8.1 Coop. Forecast by TAZ	X				
Activity Centers and Clusters	-	-	-	-	-
Screenlines	-	-	-	-	-
Metropolitan Washington Boundaries (TPB Modeled Area, TPB Member Area, MWCOG Members)	X	-	-	-	-

JUR – Jurisdiction code field. Values used in the TPB master network.

Table A2: JUR code

JUR Code	Jurisdiction	JUR Code	Jurisdiction
0	District of Columbia	12	Charles County
1	Montgomery County	14	Carroll County
2	Prince George's County	15	Calvert County
3	Arlington County	16	St. Mary's County
4	Alexandria	17	King George County
5	Fairfax County	18	Fredericksburg
6	Loudoun County	19	Stafford County
7	Prince William County	20	Spotsylvania County
9	Frederick County	21	Fauquier County
10	Howard County	22	Clarke County
11	Anne Arundel County	23	Jefferson County

FType – Facility type field. Value used in the TPB master network.

Table A3: Ftype

FType	Description
1	Freeway
2	Major Arterial
3	Minor Arterial
4	Collector
5	Expressway
6	Ramp

CT – Count type field. Codes are used to provide descriptive details about the type of count that occurred in a given year on a given link. The CT codes are the same for each year's attribute field—each year has a separate CT Code associated with it (CT2005 through CT2011).

Table A4: CTCode

CTCode	Description	CTCode	Description
0	Volume from a program count done in the current year	10	Volume from a program count done in the current year
1	Volume growth-factored from the previous year	17	Volume growth-factored from a previous year
2	Volume growth-factored from count taken two years ago	19	Volume from a continuous count site
3	Volume growth-factored from count taken three or more years ago	20	Average of more than one volume based on current year counts
7	Volume growth-factored from a previous year	21	Average of more than one volume based on counts done in a previous year
8	Volume based on a current-year count	29	Average of volumes from more than one continuous count site
9	Volume from a continuous count site	31	Average of more than one volume based on counts done in a previous year
		39	Average of volumes from more than one continuous count site

Mode – Transit mode. Values used in the TPB master network.

Table A5: Mode

Mode	Description	Mode	Description
1	Local Metrobus	9	Other secondary - Express bus
2	Express Metrobus	10	Bus Rapid Transit or Streetcar
3	Metro Rail	11	Drive Access link
4	Commuter Rail	12	Bus-to-rail Transfer link
5	Light Rail	13	Walking link
6	Other primary - Local bus	14	TBD
7	Other primary - Express bus	15	PNR-to-Rail station/Bus stop
8	Other secondary - Local bus	16	Zonal Access or Egress

Operation – Transit route type of operation. Values used in the TPB master network.

Table A6: Operation

Operation	Description
1	Peak
2	Off-Peak