TRANSNOMIS

Honolulu TrafficCentral
USER MANUAL

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1 Introduction

Hawaii City and County of Honolulu TrafficCentral Transportation Database is a web application accessible through modern browsers across Windows, macOS, Android, and iOS.

TrafficCentral automatically updates whenever it's opened or refreshed, meaning that users will always have access to the most up-to-date version of the application without any need for deployment or maintenance updates. It offers full support for simultaneous users across multiple devices or even a single user who is logged in to multiple devices.

The application has a map-centric user interface that can be configured to meet the needs of each user. When accessed through browsers that permit cookies, the application will remember the user's map locations and selections from the last login using the same browser.

Contact your System Administrator for the appropriate URL and login credentials to access the web application.

1.1 Troubleshooting

If users find that the website is not performing as expected, or if the content is not loading properly after a new software update, the user should press CTRL + F5 on their keyboard twice on Windows devices, or Command-Option-R on MacOS devices. This will clear the browser's cache and load fresh content from the server. For further support, please contact your system administrator.

2 Work With the Map

Users may work with the map in the following ways:

- Pan & Zoom the Map: Navigate the map using a mouse, touchpad, or touchscreen.
- Work With the Map: Select locations, routes, and areas using the system's geocoding tools.
- Customize the Map: Configure the map for specific purposes by changing the base map, data layers, data types, and the timeframe.
- Manage Pre-Configured Maps: Save and manage customized maps.

2.1 Navigate the Map

2.1.1 Pan & Zoom the Map

Panning and zooming the map varies from device to device.

Mouse

- To zoom in:
  - Click + on the map.
  - Double left-click on the spot of interest,
  - Scroll the mouse wheel.

- To zoom out:
    - Click − on the map.
    - Scroll the mouse wheel.

To pan the map, hold left-click and move the mouse in the desired direction.

Touchpad/Touch screen:

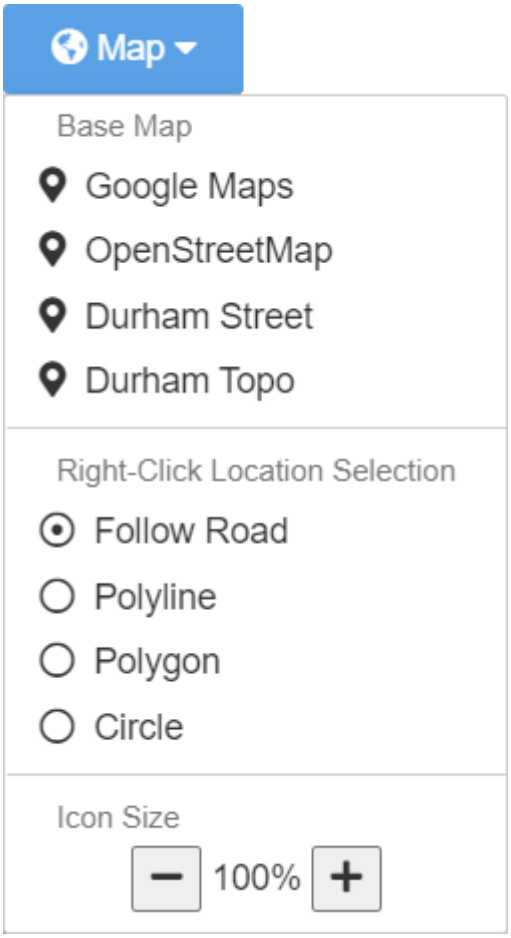
- To zoom in:
    - Tap + on the map.
    - Place two fingers on the touchpad and move both fingers down.
    - Place two fingers together on the touchpad and spread them apart.
    - Tap twice on the touchpad.
- To zoom out:
    - Tap − on the map.
    - Place two fingers on the touchpad and move both fingers up.
    - Place two fingers apart on the touchpad and pinch them together.

To pan the map, click and hold the left button or the left side of touchpad, then move a second finger in the desired direction.

2.1.2 Geocoding Tools

The following tools enable users to view the location, distance, and area information of selected points on the map. The selected location, route, or area may then be added to the system.

- View point information: Right-click on the map to select and view the location information of that point, including the nearby road information and GPS coordinates.
- Move a point: Drag and drop the red circle marker to a new location.



- Road distance: For the location information of each point selected and the total road distance between the points:

1. Click Map (Map).
2. Select Follow Road under Right-Click Location Selection.
3. Right-click on two (or more) points on the map. For touch screen devices, hold for one to two seconds on the points.

- Straight-line distance (Polyline): For the location information of each point selected and the total direct distance between the points:

1. Click Map (Map).
2. Select Polyline under Right-Click Location Selection.
3. Right-click on two (or more) points on the map. For touch screen devices, hold for one to two seconds on the points.

- Three+ point distance and area (Polygon): For the location information of each point selected, the total direct distance, and the area between the points:

1. Click Map (Map).
2. Select Polygon under Right-Click Location Selection.
3. Right-click on three (or more) points on the map. For touch screen devices, hold for one to two seconds on the points.

- Circular distance and area: For the location information of each point selected and the total direct distance between the points:

1. Click  (Map).
2. Select Circle under Right-Click Location Selection.
3. Right-click on the intended centre of the circle and then on a second point to set the radius of the circle. Select points in multiple pairs for multiple circles. For touch screen devices, hold for one to two seconds on the points.

- Clear location selections: Press Esc or click X on the Right-Click Location window.

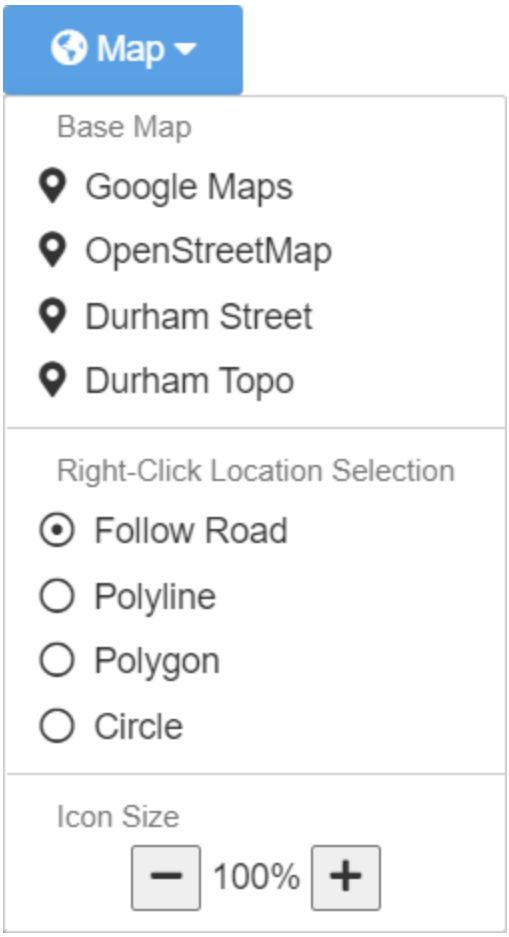
Users may also select or change the Right-Click Location Selection through the dropdown menu in Add Location Using found in Right-Click location window.

2.2 Customize the Map

Customize the map using the features on the map menu. The combination of options chosen under Data Types, Layers and Map will determine what will be visible to the user. In addition, the Now button can be clicked or tapped on to set the timeframe shown on the map.

The data types and layers are subject to change over time.

2.2.1 Change the Base Map

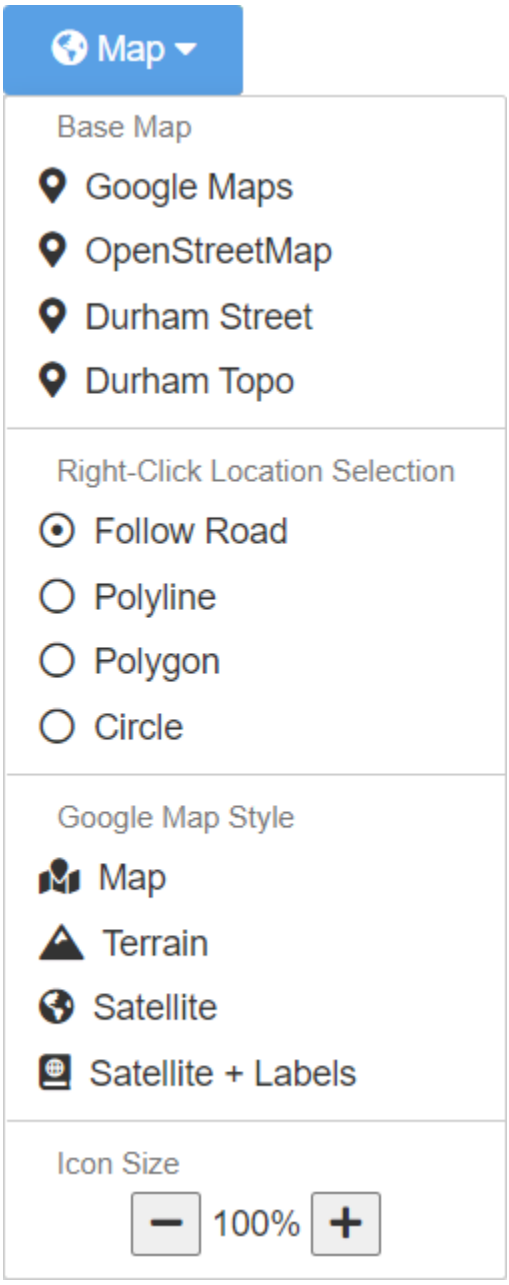


1. Click  (Map).
2. Select the desired base map.

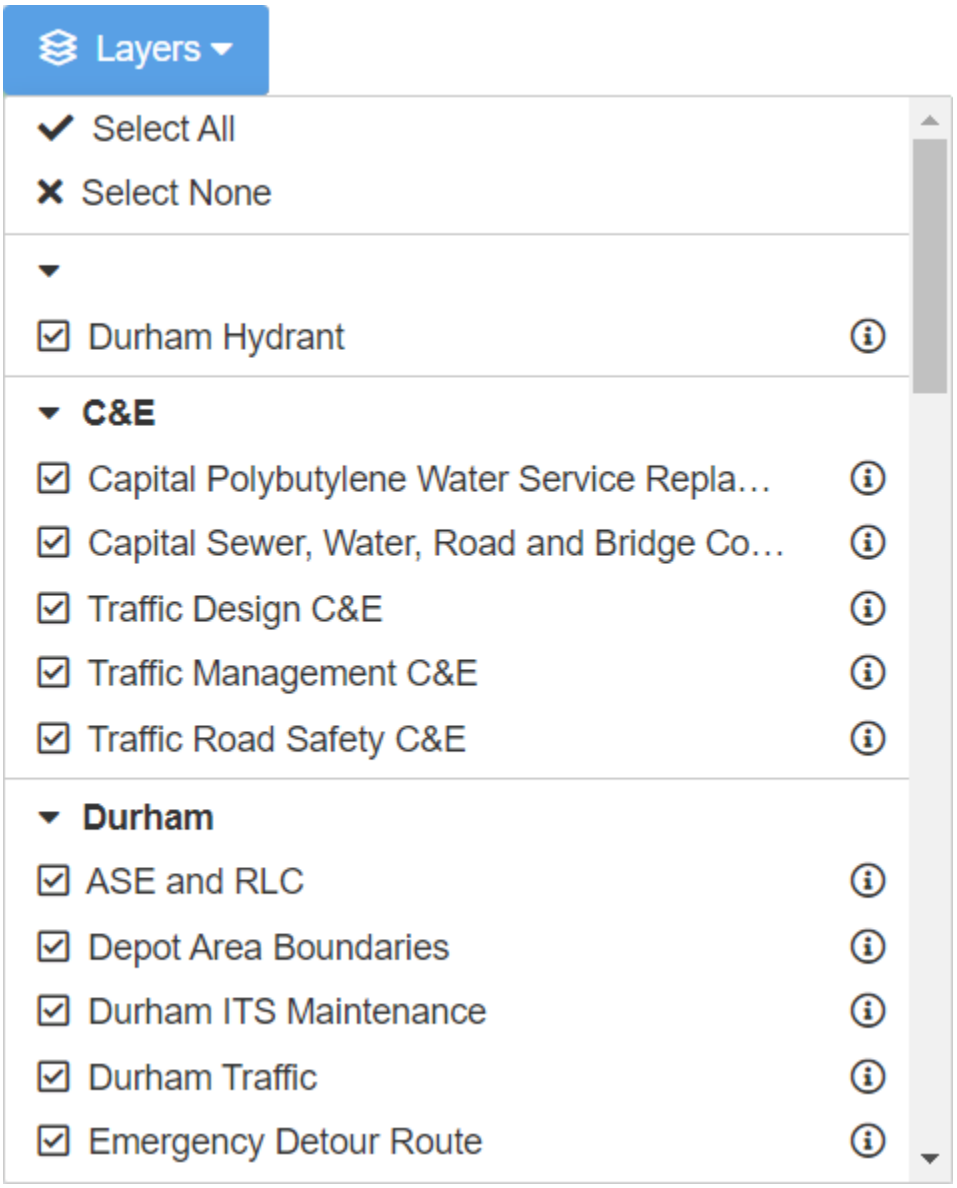
2.2.2 Google Base Map - Additional Features

When Google is the selected base map, the following additional features are available:

- Fullscreen View: To view the map in full screen mode. Click  to enter full screen mode and press Esc to return to normal mode.
- Google Street View: To view the street level of a specific location. Click, hold, and drag the  Pegman to the desired location on the map.
- Google Map Style: To set an alternate map style, click the Map button after setting the base map to Google and select the desired Google Map Style.



2.2.3 Change Data Layers



1. Click Layers.
2. Select or deselect from the data layers available, or click Select All or Select None.
3. To learn more about what a data layer contains, click the ⓘ icon next to the layer name.
   Users will only be able to view layers to which they have been granted permission by the system administrator.

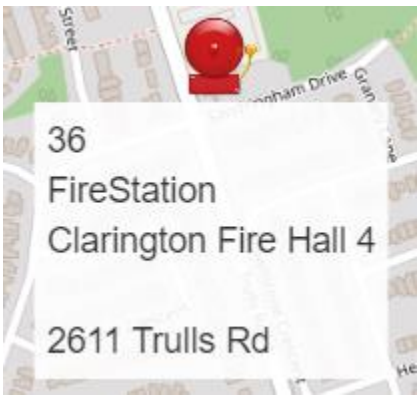
2.2.4 Work With Entities

Entities are the specific issues, devices, and data points present in the system. For example, a stopped vehicle identified by the system would be stored as an Issue data type entity. In TrafficCentral, the following entity types are supported:

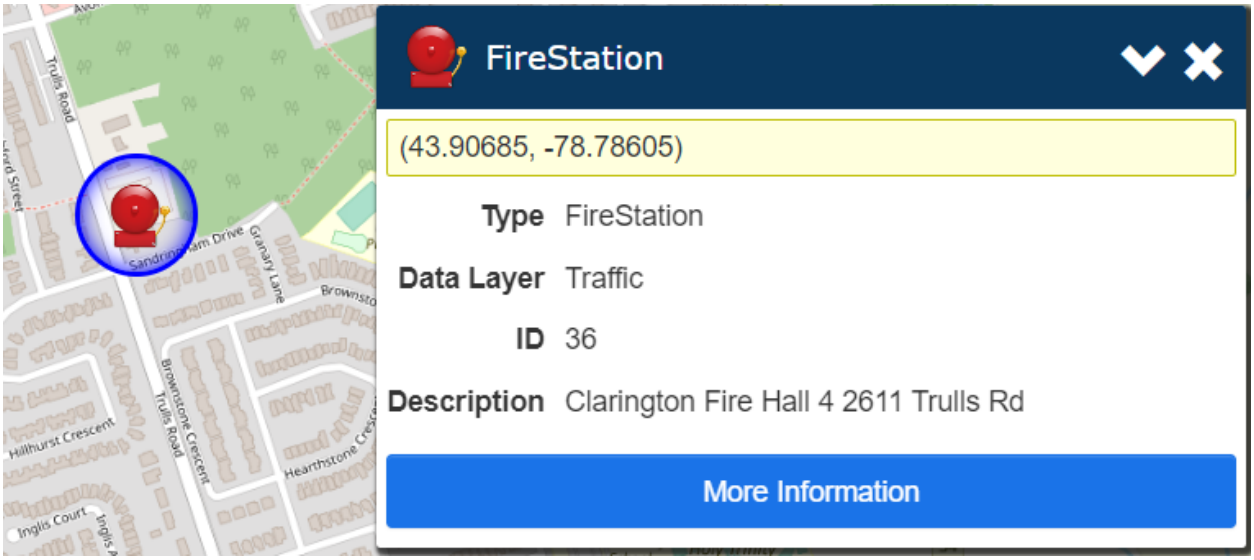
- Midblock Count: A count gathered from a point between two intersections. Midblocks typically contain traffic data in one or two directions. This could include vehicle counts, speed, classification, pedestrian, and/or bike data.
- Turning Movement Count: A traffic data count for an intersection. TMCs typically reflect vehicle turning movements and through movements, as well as the pedestrian counts at the crossings.
- Segments: A segment is a defined section of road with one or more associated count entities. Each segment stores a number of key metrics made up of data from all the midblock counts along that segment.
- Traffic Assessment: An entity used to store comments, photos, and files (such as traffic diagrams) associated with a specific location or intersection.

To see more information about an entity on the map:

For a single entity:



- Hover over an icon for a popup to appear identifying the entity with details, if applicable.



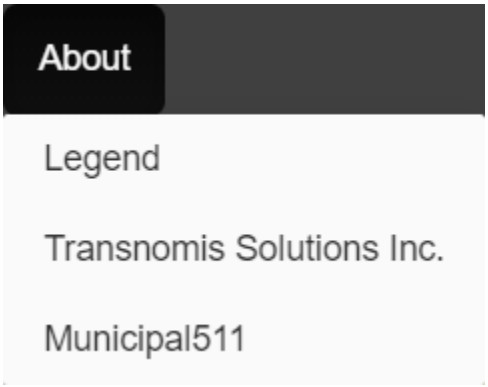
- Click on an icon for a popup window with the entity information to appear at the bottom right of the browser. Note that a selected entity is encircled in blue.

For grouped entities:

Icons with numbers indicate how many entities are grouped together. Numbers replaced by "+" indicates more than nine entities (and icons) overlapping.

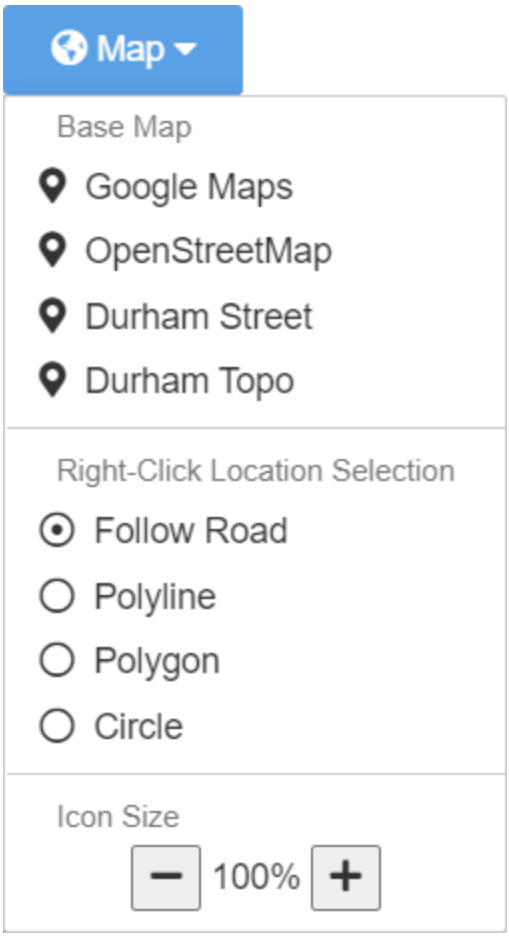
- Click on a grouped icon for a pop-up window listing all the entities included. Click on one of the entities listed for more information.
- Zoom into the map until the entities are all singular. Hover over or click the icon.

2.2.5 Map Icons



View Icon legend: To access the legend of distinct icons representing the data types in ITS Central:

1. Click About.
2. Click Legend.



Change icon size: To increase or decrease the size of the icons in the map:

1. Click Map on the map menu.
2. Under Icon Size, click + or − to increase or decrease the icon size.

For device maintenance issues to be visible on the map, both the device data type and the Issues data type must be selected.

2.2.6 Highlight Entities

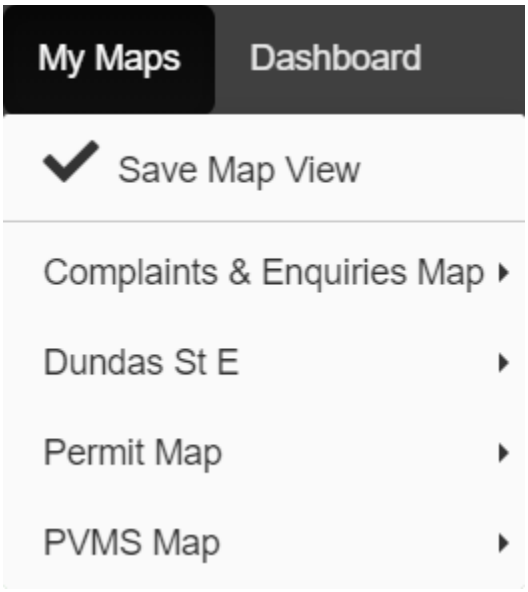
1. Click Now or, if not available, the orange button.
2. Under Highlight, select preferences from the dropdown menus. The user may highlight the following data types:
    - Latest Issues: To highlight issues that were created or updated within the selected timeframe.
    - Moved Entities: To highlight devices that were moved within the selected timeframe.
3. Click Close.

2.3 Manage Pre-Configured Maps

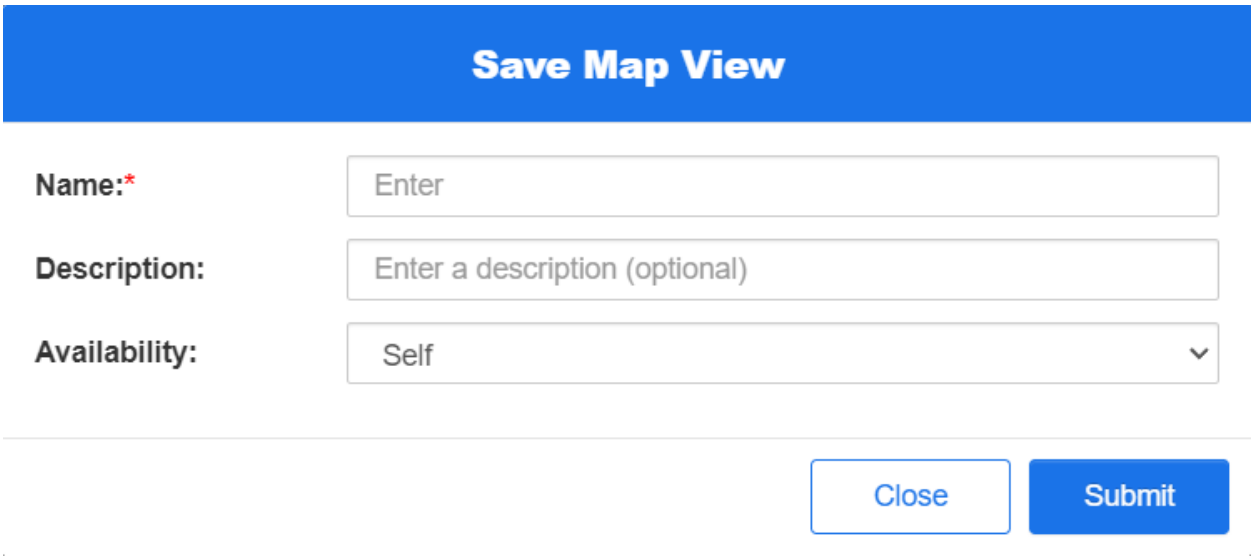
System administrators can pre-configure maps of districts, regions, or other areas of general interest for their organization's use. All users will be able to view the pre-configured maps of their organization. Only system administrators will be able to modify or delete the organization's maps.

Users may save customized maps so that the map and its configurations may be recalled quickly at a future date. Users may then manage their saved maps, making updates to the configuration as needed and deleting saved maps that are no longer required.

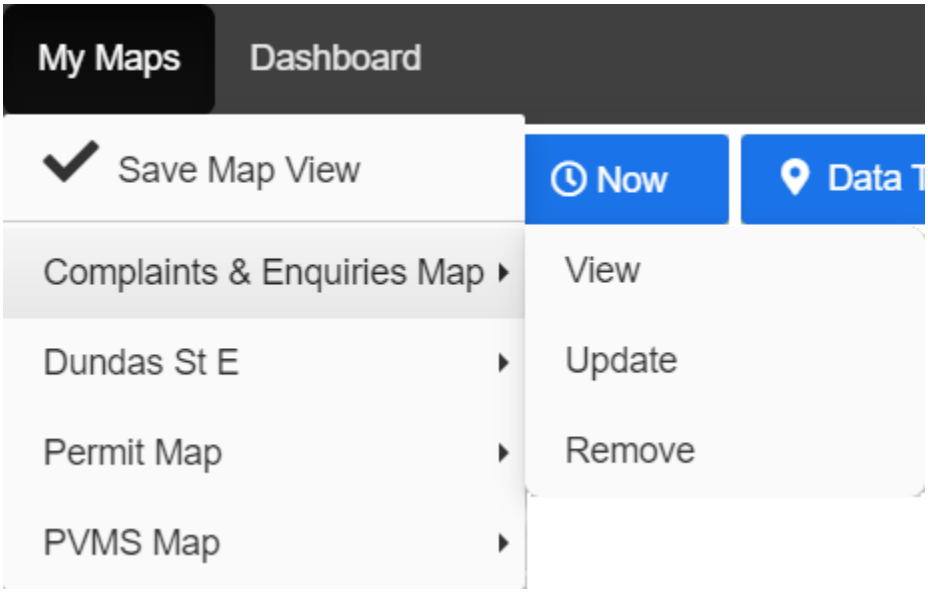
2.3.1 Save Maps



1. Click My Maps.
2. Click Save Map View.
3. Enter a name and, if desired, a description.
4. Set Availability.
    - Self (default): Saved map is available to the user only.
    - Organization-Wide: Saved map is available to all users of the same organization. This option is available to system administrators only.
5. Click Submit.
6. Click Close.
7. Click Refresh for the saved map to be visible under My Maps.



2.3.2 View Saved Maps



1. Click My Maps.
2. Click the name of the desired map. Click Refresh if recently saved map is not listed.
3. Click View.

2.3.3 Update Saved Maps

1. Load the map to be modified (see View Saved Maps).
2. Modify the map as desired.
3. Click My Maps.
4. Click the name of the map to be updated. Click Refresh if recently saved map is not listed.
5. Click Update.
6. Update the name, description, and availability.
7. Click Submit.
8. Click Close.

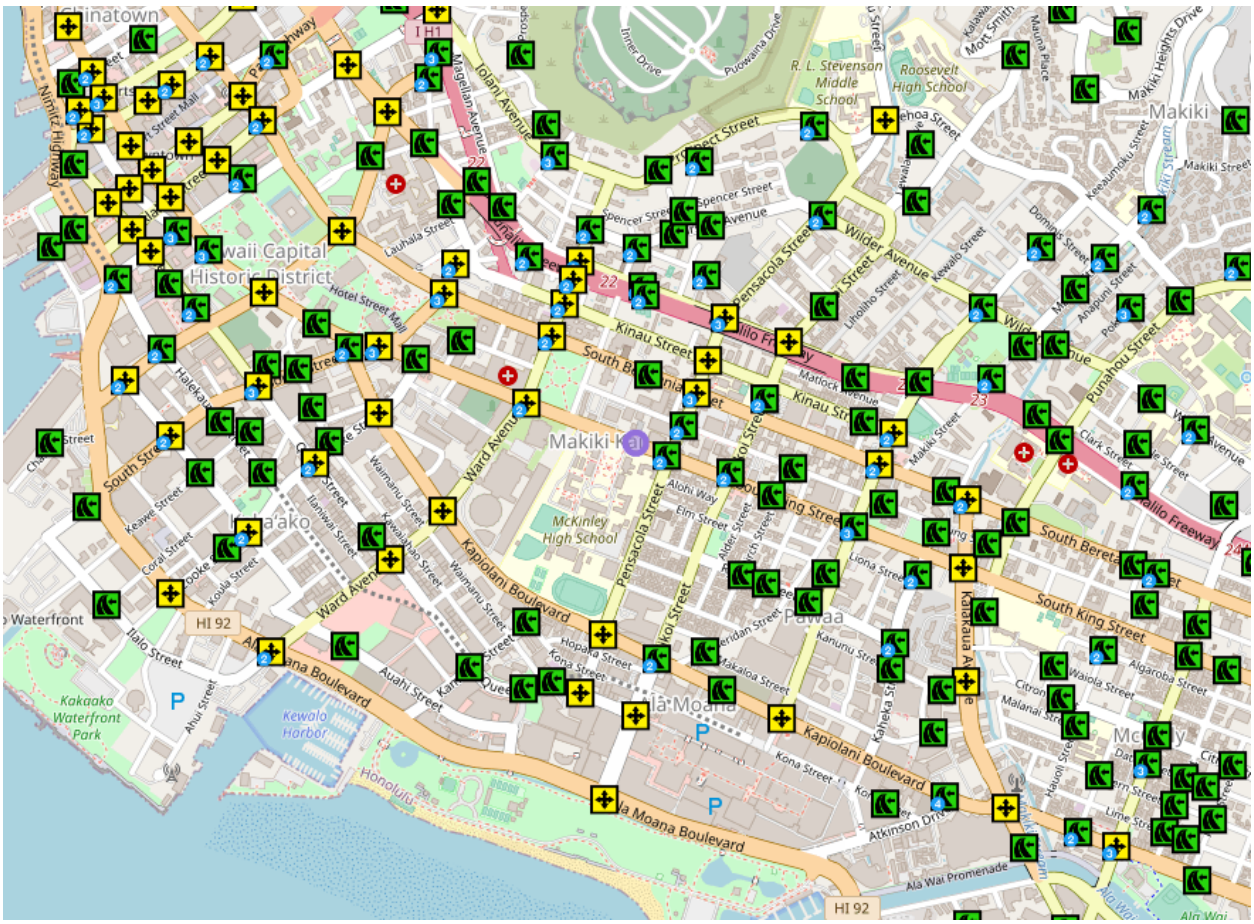
Organization maps may be updated by system administrators only.

2.3.4 Remove Saved Maps

1. Click My Maps.
2. Click the name of the map to be deleted. Click Refresh if recently saved map is not listed.
3. Click Remove.
4. Click Yes to confirm the deletion.
5. Upon successful removal, click Cancel.

Organization maps may be deleted by system administrators only.

3 Traffic Count Data



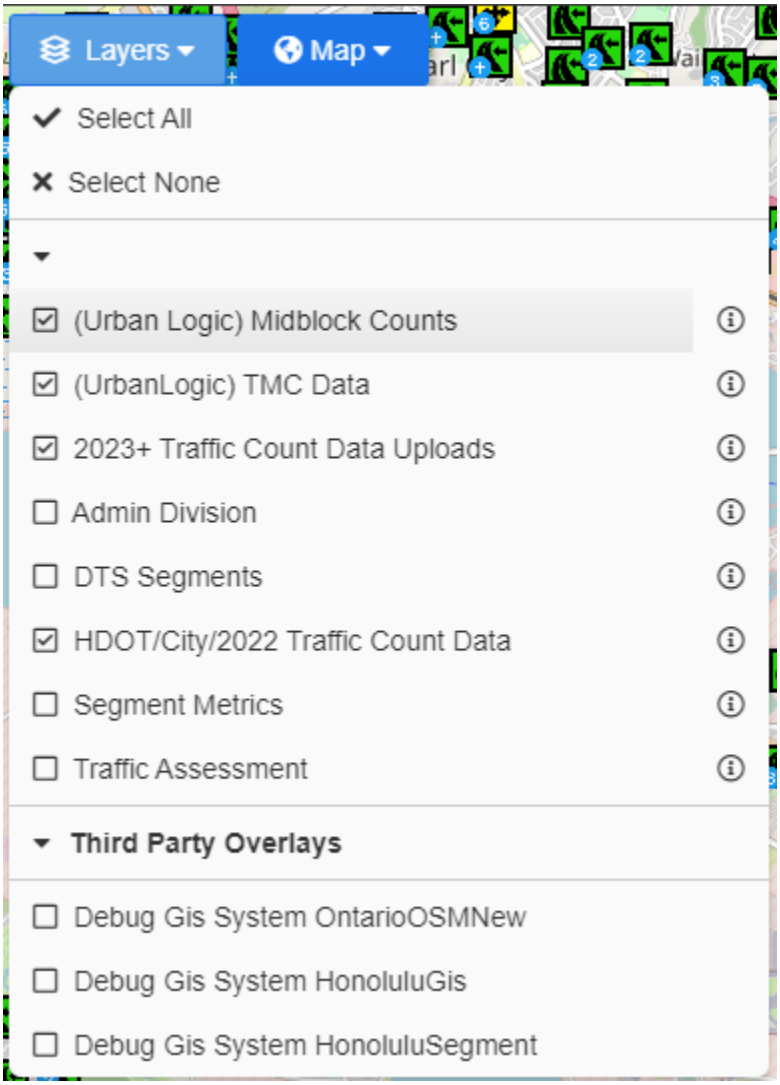
In TrafficCentral, counts are virtual entities that act as containers for vehicle and pedestrian count data. These entities store historical traffic data and are not actively connected to any physical devices.

Count entities are divided into two types:

- Turning Movement Count (TMC): A traffic data count for an intersection. TMCs typically reflect vehicle turning and through movements movements, as well as the pedestrian counts at the crossings.
- Midblock: A count gathered from a point between two intersections. Midblocks typically contain traffic data in one or two directions. This could include vehicle counts, speed, classification, pedestrian, and/or bike data.

Due to one-way roads and other conditions, a count may contain fewer directions of travel than its maximum (for instance, a one-way street's midblock count will only have one direction of travel recorded).

3.1 View Counts on the Map



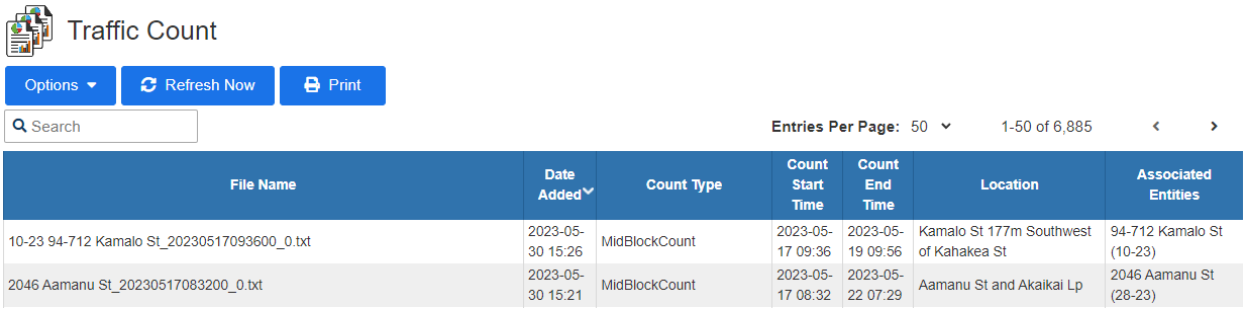
From the home page:

1. Click Layers.
2. Turn on one or more of the count data layers:
    - (UrbanLogic) Midblock Counts contains midblocks.

- (UrbanLogic) TMC Data contains turning movement counts.
- 2023+ Traffic Count Data Uploads contains both midblocks and TMCs.
- HDOT/City/2022 Traffic Count Data contains both midblocks and TMCs.
- Segment Metrics contains segment data (see Segments).
- Traffic Assessments contains traffic assessment entities (see Traffic Assessments).

3. Click on a count icon for more details on the entity. If the count is part of a group, you can select the desired entity from the list that appears in the information pop-up.
4. To access the count's reports and options, click More Information.
   Each data layer has an icon. Click the icon to see a description of what information the layer contains.

3.2 View Count List



To view a list of all available traffic counts:

1. Click Counts in the top menu bar.
2. Click Traffic Count List.
3. Click on any entry in the table to see more details about the count.
   To sort the list, click on one of the sortable headers to arrange the list by that column. The columns available for sorting are: * File Name * Date Added * Count Type (midblock or TMC) * Attribute (for looking for entities with speed or specific vehicle types).

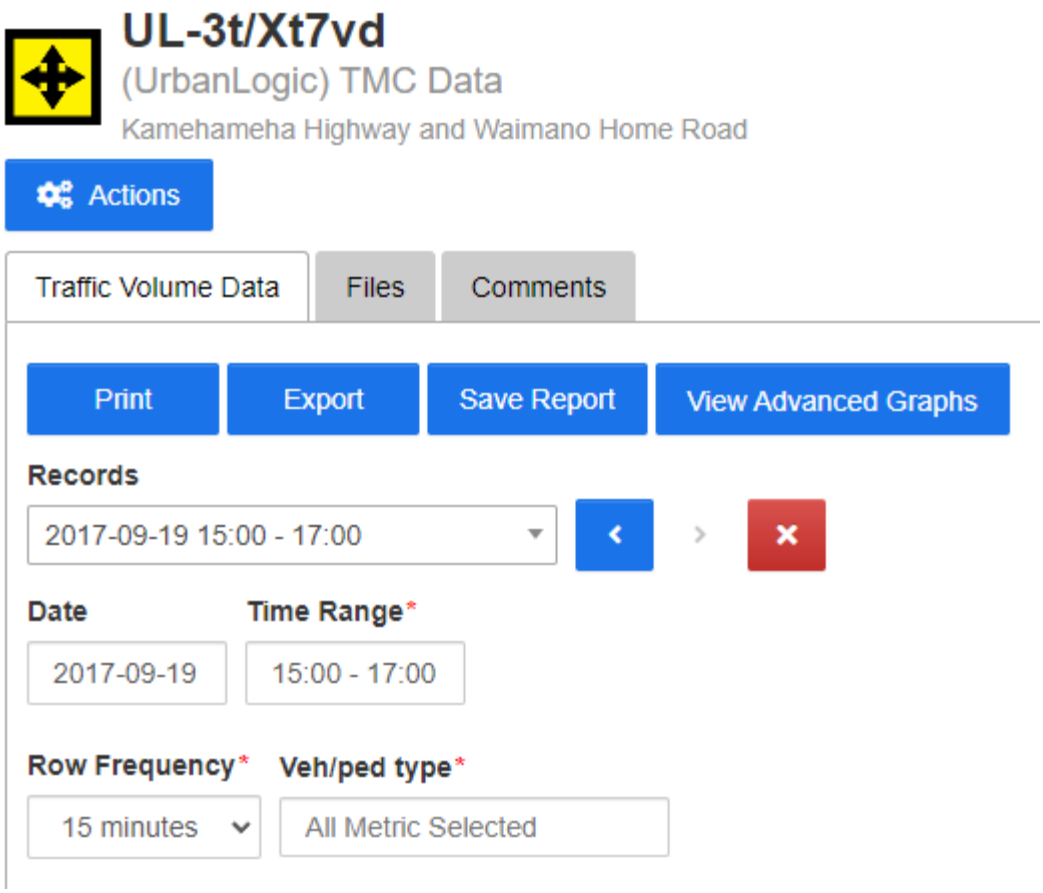
   Alternately, you can search using the search bar below the **Options** button. The search will find results in the filename and associated entities columns.

Filter Options

By clicking **Options > Filter**, you can further filter the list. The availalble filters are:

- Data Layer
- Count Type (midblock or TMC)
- Attribute (for looking for entities with speed or specific vehicle types)

3.3 View Count Details



After accessing an individual count's details page from the map or the count list, the system will default to showing the Traffic Volume Data tab, which includes pedestrian ("ped") count and peak count diagrams. The report can be customized with the options at the top or viewed by scrolling down to the graphics and tables below. See Traffic Volume Data for more details.

A count entity always contains at least one *record*. Each record covers a specific time period and contains all observations made during that period. Records can be anywhere from hours to years apart, with the overall count entity acting as a container that aggregates all data from each record. Individual records can be deleted without deleting the entire count entity with the red X button (see Traffic Volume Data Options for more details).

Two other tabs are available:

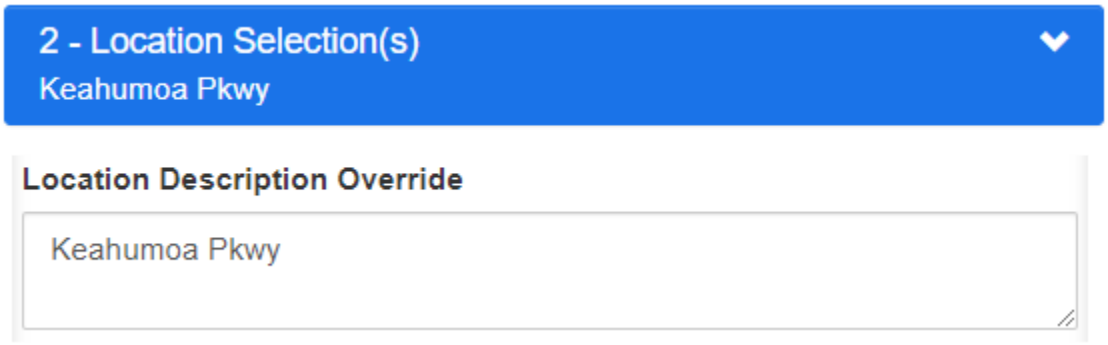
- Files: Contains any files associated with the count. The Upload button in this tab allows users to upload files in a variety of formats.
- Comments: Lists any existing comments about the count and allows users to add new comments.

Several administrative actions are accessible from the blue Actions button near the top of the page. Click the button and then select any of the following options:

- Edit: Make changes to the count's type, its location, or its basic information. See Editing Counts for more details.

- Remove: Delete the entity from the system.
- Copy: Create a duplicate of the entity in the system.
- Migrate: Move the entity to another data layer.
- Copy Link: Copy the direct URL to this entity's details page to your clipboard. Share the link (in an email, for instance) by pasting from the clipboard.

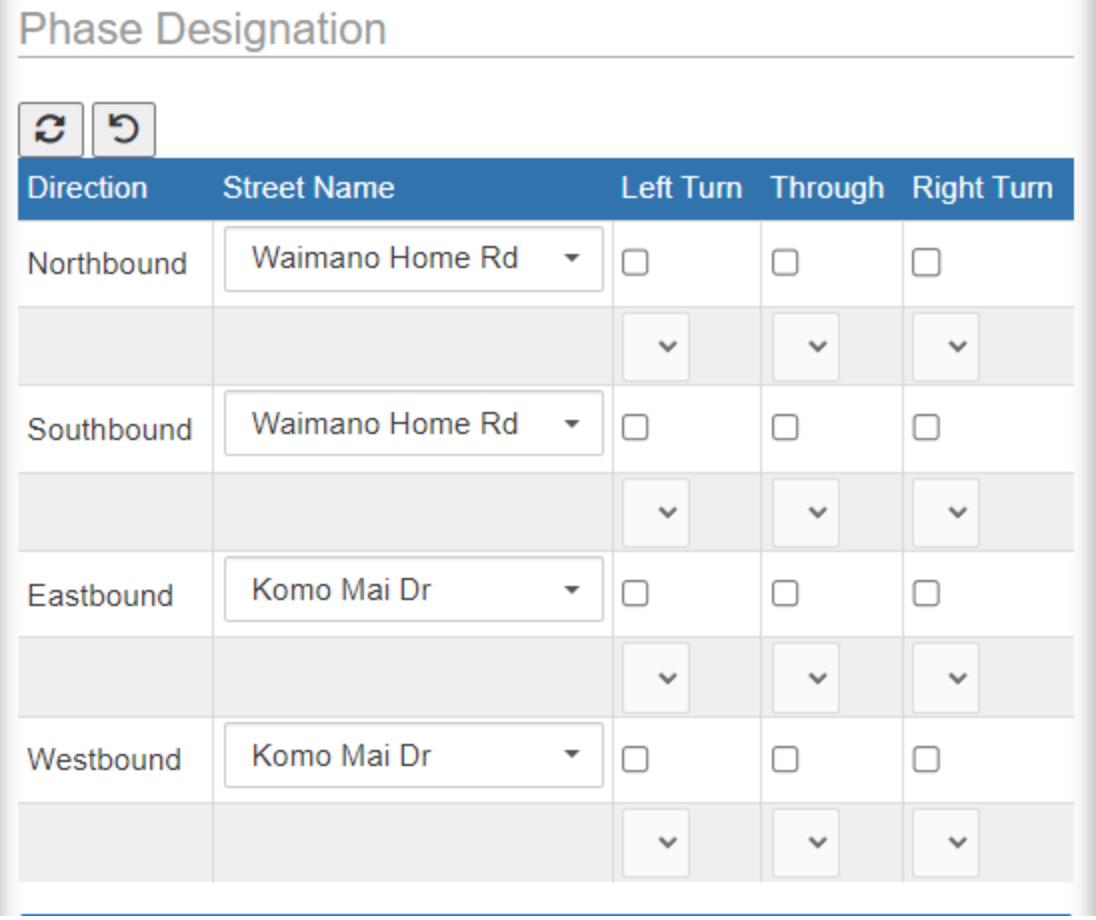
3.3.1 Editing Counts



All count entities can be edited to adjust their parameters. To access the edit menu, click **Actions > Edit** from the count details page.

Editors can adjust the entity's type, location, and ID. The most common edit for most users is adjusting the location description, which is the short snippet of text shown when the count is selected on the map. To adjust this setting, open the second section ("2 - Location Selection") and edit the text found under Location Description Override. After adjusting any other desired settings, click **Submit** to save the changes.

3.3.2 Edit Street Name Assignments

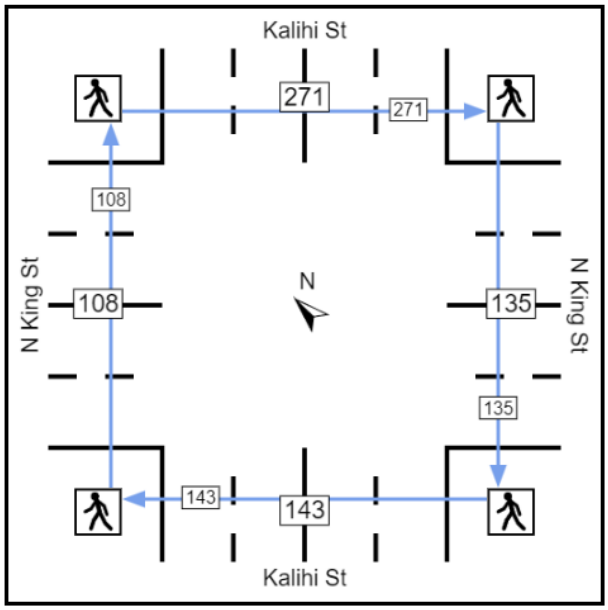


Advanced users can also edit the assignment of street names within the count. Most commonly, this is needed to change the street assigned to North/South or East/West in TMC diagrams. To adjust the name assignments:

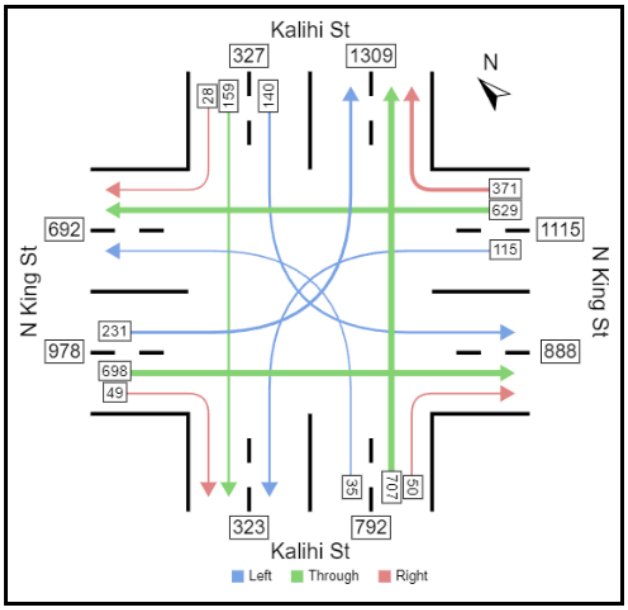
1. From a count's Details page, click **Actions > Edit**.
2. Open the **Entry Details** section, then scroll down to **Phase Designation**.
3. Adjust the street locations with the available controls:
    - Use the **two clockwise arrows** button to move the street names clockwise. The Northbound name will move to Eastbound, Eastbound to Southbound, and so on.
    - Use the **single counterclockwise** arrow button to move the street names counterclockwise. The Northbound name will move to Westbound, Westbound to Southbound, and so on.
    - Use the street name dropdowns to manually select what goes where.
        - Choosing **custom** will let you enter any name for a given direction.
        - Choosing **disabled** will hide that direction of travel from the Entity's details page.
    - The left/right/through options are currently not used and can be ignored.
4. Click **Submit** to save your changes.
5. Check the count's details page again to see the updated street name assignments.

3.4 Traffic Volume Data

Ped Count Report



Peak Count Report



The Traffic Volume Data tab begins with an illustration of the street, with arrows indicating the direction of travel and numbers listing the number of vehicles moving in the given direction. The ped count diagram shows only pedestrian travel, while the peak count diagram shows only vehicle data from the busiest one-hour segment.

The diagrams use coloured arrows to indicate direction of travel:

- Blue: Left
- Green: Through (this is the only colour shown for midblocks)
- Red: Right

Below the diagrams, two report tables are available. The first covers the entire duration of the selected time segment with a large column for each direction of travel, while the second table only covers the peak hour. The data shown varies between midblock and TMC entities:

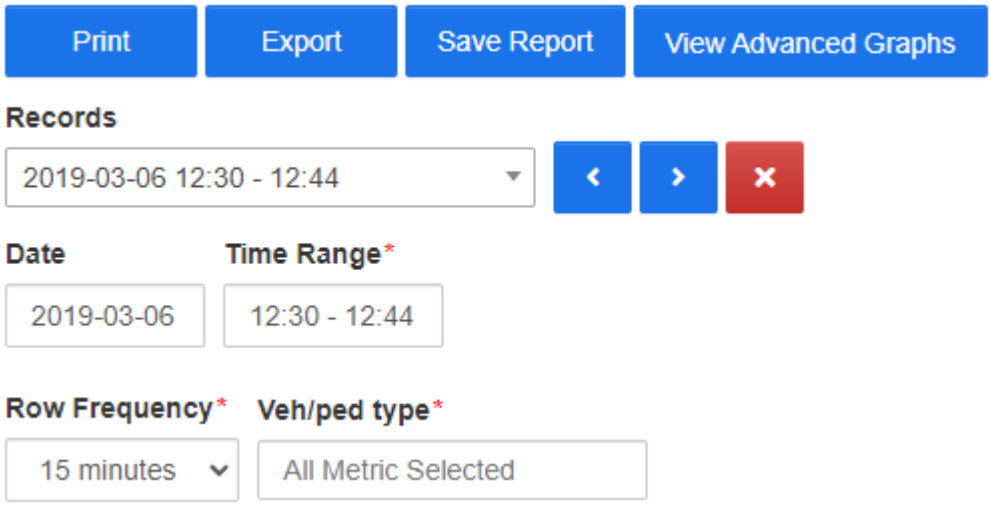
- Midblock tables only count the number of vehicles (and pedestrians, if that data is available for the count) that travelled in each direction for each 15-minute or hour-long segment. If pedestrian data is available, it will be listed under its own column.
- TMC tables break down the data by turn direction (**L**eft, **T**hrough, **R**ight) with the Veh APR Total column adding together left, right, and through totals for each approach and the Ped Total column referring to pedestrians.
- For both count types, the All columns (found at the far right side of the table) adds together the number of travellers in all directions across all classifications. All Veh covers vehicles while All Ped covers only pedestrians.

At the bottom of the first table, you can find the individual totals for each column as well as the approach (app) and total percentages. The approach value indicates how travellers in each direction were split between moving left, right, or through. The total percentage is similar, but rather than being restricted to each direction, the percentages given are for the total, overall count. To see what percentage of overall travel was in a given direction, check the All columns where they intersect with the total percentage row.

The peak hour table contains similar data, but restricted to the one hour of highest activity. Instead of the total percentage, the table includes the Peak Hour Factor (PHF) which is calculated at the bottom of each column.

The tables will cut off excess columns to fit within the user's browser window. To view the missing data, either expand the window or click on any row. If there is more data to show, the extra columns will be listed underneath the selected row.

3.4.1 Traffic Volume Data Options



There are a number of options available to customize the traffic volume report:

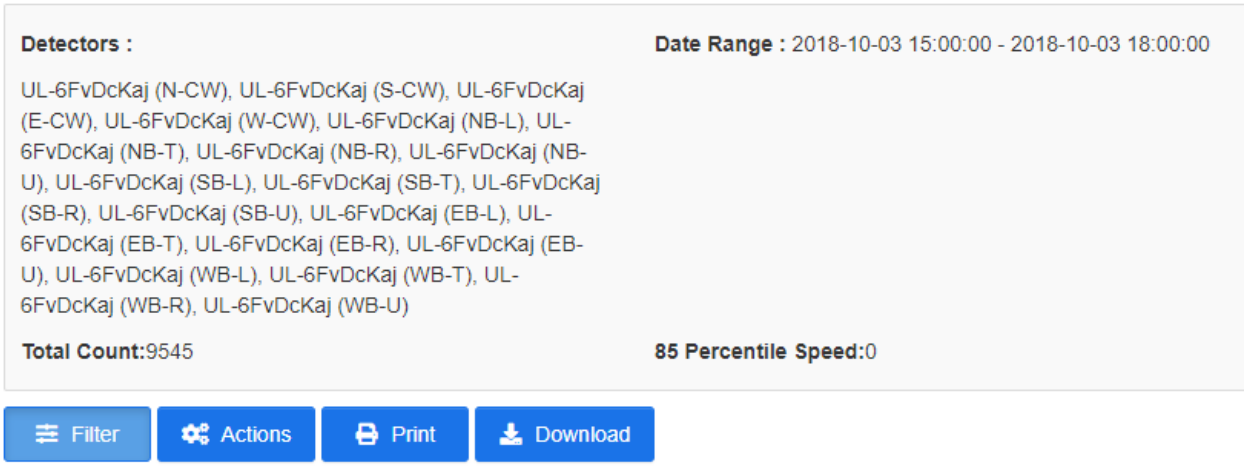
- Records: This dropdown lets you easily choose between individual time segments for count entities that have multiple observation dates (records) stored.
- Arrows: The left arrow moves backwards in time while the right moves forward. Use these buttons to easily click through each subsidiary record.
- Delete Record: The red X button allows you to delete individual records. If a count entity has only one record, this option will be greyed out.
- Date: Choose the date used in the report. Clicking this option will bring up a calendar to pick a new date.
- Time Range: Select the time range for the report. Clicking this option will bring up a small window with time options, corresponding to start hour, start minute, end hour, and end minute.
- Row Frequency: Sets the time increments used in the data tables. This option defaults to 15 minute, but can be increased to one hour.
- Object Classification: Choose which vehicle types should be included or removed from the report. Note that most counts do not record vehicle types, grouping together all motor vehicles under either Car or Unspecified. However, some counts do contain separate data for buses and bikes.

Several actions are available from the blue buttons above the date options:

- Print: Create a printable document containing the report diagrams, tables, and any files or comments from the other tabs.

- Export: Downloads a .zip-format archive file containing two .csv-format spreadsheet files. The first contains only the peak data, while the second contains all the raw data.
- Save Report: Save this page to either the user's account or to the whole organization. Make sure to give the report a useful name and description before clicking Submit.
- View Advanced Graphs: Access the suite of additional graphs and reports. These options are intended for advanced users.

3.4.2 Advanced Graphs



More detailed reports are available via the View Advanced Graphs button found at the top of every count's Traffic Volume Data tab.

The term "detector" is used on this page. Each detector is a virtual device that stores all data about one movement. Think of them as an abstraction used by the system and not as actual sensors. Midblock counts generally have two detectors, whereas TMCs will have as many as 24. For TMCs, the detectors are divided between those that contain pedestrian data, and those that contain vehicle data. Both types have names consisting of the count entity's ID followed by a directional designation.

- Pedestrian detectors follow the format of a compass heading followed by clockwise (CW) or counterclockwise (CCW). For example, E-CCW would have all the pedestrian data for travellers who crossed the east-west road on the eastern side, moving counter-clockwise (or, in other terms, moving from the southeast corner to the northeast corner of the intersection).
- Vehicle detectors follow the format of a -bound compass heading followed by a direction. For example, a detector with a designation of SB-T contains all the data for vehicles travelling southbound who pass through the intersection. The direction letters are the same as in the vehicle volume data tab (**L**eft, **R**ight, **T**hrough), with the addition of **U**, for u-turns.
    - Detectors for midblock counts only have the -bound heading in their designation.

The Advanced Graphs page is divided into four sections:

- The top info-box, which lists the detectors used in the report, the date range, and other top-level statistics from the report.
- The action bar, which offers options to save the report in various formats (see Advanced Graph Actions for more details on the available actions).

- The filter box, which contains all the options needed to customize the report itself (see Advanced Graph Filter Options for more details on the filter options). Clicking the Filter button will hide (or show, if hidden) the filter options.
- The report, which consists of several different graphical displays. All of the graphs have a connected button (Download Graph Raw Data) that will download the data used to generate the graph in a .csv file. In addition, the graph image itself can be downloaded in various formats by clicking the hamburger three-line icon in the upper right of the graph.

The available displays are:

- Vehicle Count by Speed - Graph: A bar graph showing how many vehicles were recorded moving at each speed bin.
- Speed Percentile Chart: Covers the same data as above, but displayed in a percentile chart.
- Vehicle Count by Vehicle Length - Graph: A bar graph showing the number of vehicles recorded, divided up between the vehicle size bins (very small, small, medium, large, and very large).
- Vehicle Count by Time - Graph: A bar graph showing the vehicles counted per time interval.
- Vehicle Count by Time - Table: Shows the same information as above, only in a table format. The table can be sorted by time or by vehicle count with the small arrows that appear when hovering over the header for a given row (the upwards arrow means ascending, the down arrow, descending).
- Traffic Fundamental Diagrams (Flow, Occupancy, Speed): Each of the three sub-graphs listed compares one of the three metrics against another: Flow vs Occupancy, Flow vs Speed, and Speed vs Occupancy.
- Vehicle Total Dwell Time by Time - Graph: A bar graph showing the total amount of dwell time spent by vehicles for each time interval.
- Vehicle Average Dwell Time by Time - Graph: Similar to above, this instead shows the average dwell time for each time interval.
- Vehicle Count by Time and Speed - Graph: Counts the number of vehicles recorded in each time group with speed data.

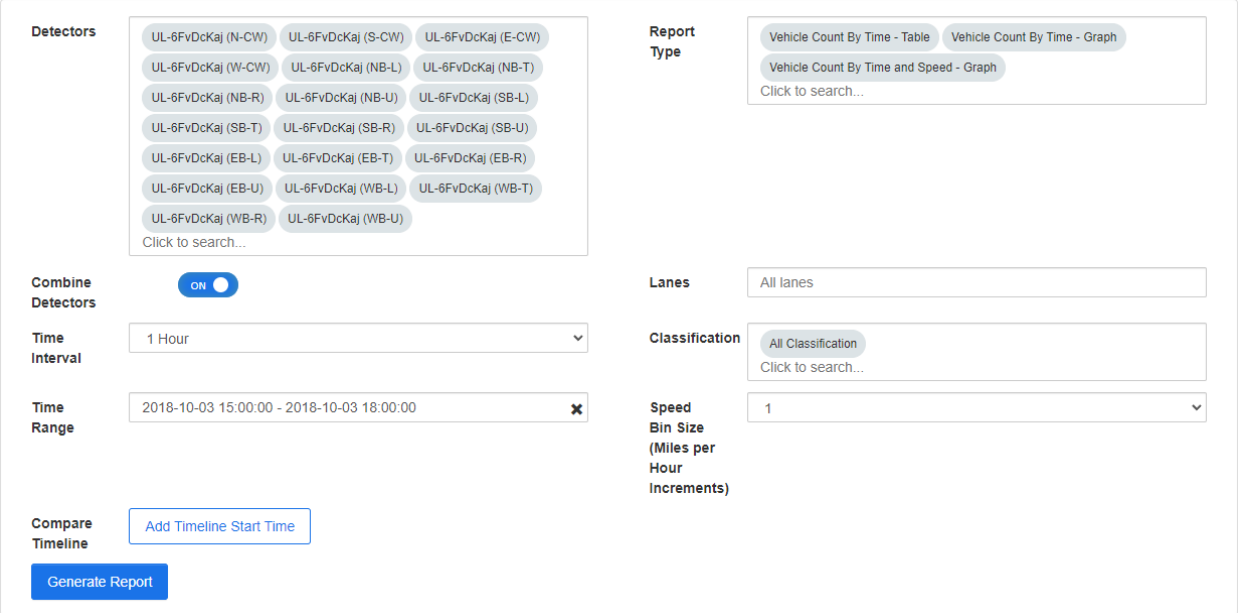
3.4.2.1 Advanced Graph Actions

There are several top-level actions accessible from the row of blue buttons near the top of the report page:

- Filter: Clicking this button shows (or hides) all of the options used to create a report.
- Actions: Only one action is available from this dropdown - Save New Report. After selecting this action, a pop-up window allows the user to customize the report's name and availability before saving it to the system. The options available are as follows:
    - Report Name: The name of the report. This is the only mandatory field.
    - Datetime Format: These options are used to customize the format of the date/time placeholder. The format can be adjusted from the default (4 digits for the current year) with the second dropdown.
        - Click the "Insert Text Into" option to add the placeholder to either the report name or its description. After saving the report, the placeholder text will be replaced with the current date information.

        - Different formats can be used (for instance, one format for the report name, and a different one in the report description).
    - Report Availability: Set the report to be available at either the user level or organization-wide.
    - Shared User Account: Select additional user accounts with this field. Each user selected will have this report listed in their personal Reports menu.
    - Description: Enter a text description of the report.
    - Date Range: This option is unavailable for advanced graph reports.
- Print: Creates a printable version of the report.
- Download: Three download options are available. All three download .csv-format spreadsheet files.
    - Download Vehicle Data: Contains a listing of each time a vehicle was counted, the lane it was in, and its speed.
    - Download CSV File (Lane): Provides a list of fifteen-minute time segments with the number of vehicles counted and average speed for each segment in each lane.
    - Download CSV File (Station): Provides the same data as the above option.

3.4.2.2 Advanced Graph Filter Options



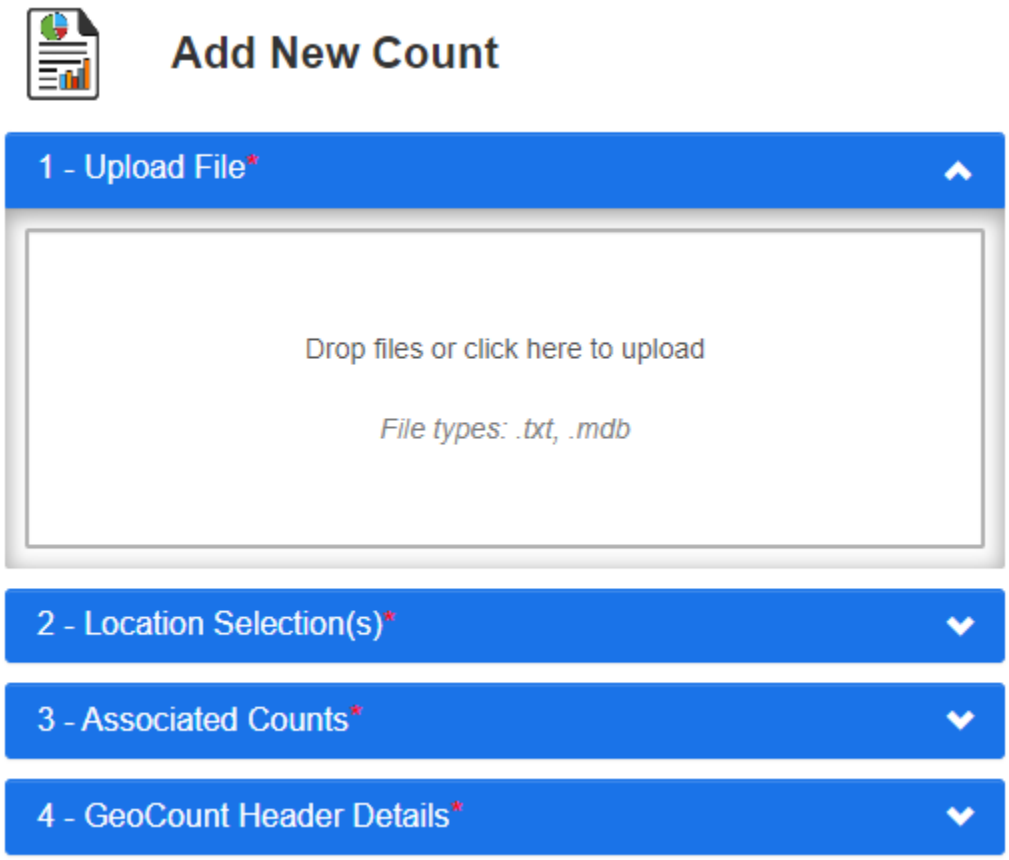
The filter box contains a number of options to customize and control the data used in the report:

- Detectors: This field allows the user to select one or more detectors to use in the report. Click on a detector's name to remove it from the report, or click in the search box to find and add new detectors.
- Report Type: Turn specific report types on or off.
- Combine Detectors: When set to On, this setting will merge all data from multiple detectors. When set to Off, different detectors will be shown with individual colours in the graphs below.
- Lanes: Choose which lanes to include in the report (from 1-8). Note that all counts currently available do not include lane data (all observations can be found under Lane 1).

- Classification: Choose which vehicle types to include in the report. The options available are the same as the size bins used in the Vehicle Count by Vehicle Length graph.
- Time Range: Select the desired time range for the report to cover. Note that the time range selected should cover a time when detector data is available or else the report will have no data to analyze.
    - At present, the best way to find a valid time period is to visit the detector's Details page, then noting the time period covered by the graph under the Data tab.
- Speed Bin Size: This setting controls what range of speeds are placed into the same bin. By default, each speed will have its own entry under the Vehicle Count by Speed graph (each bin contains exactly 1 speed). When increased, each bin will grow to hold more data.
    - For instance, at Speed Bin Size 5, speeds will be grouped into 20-24 mph, 25-29 mph, 30-34 mph, and so on.
- Compare Timeline: Add one or more days to the data used in the report.

After changing any of these options, click Generate Report to rebuild the report with the new settings.

3.5 Uploading GeoCount and Numetrics Count Files



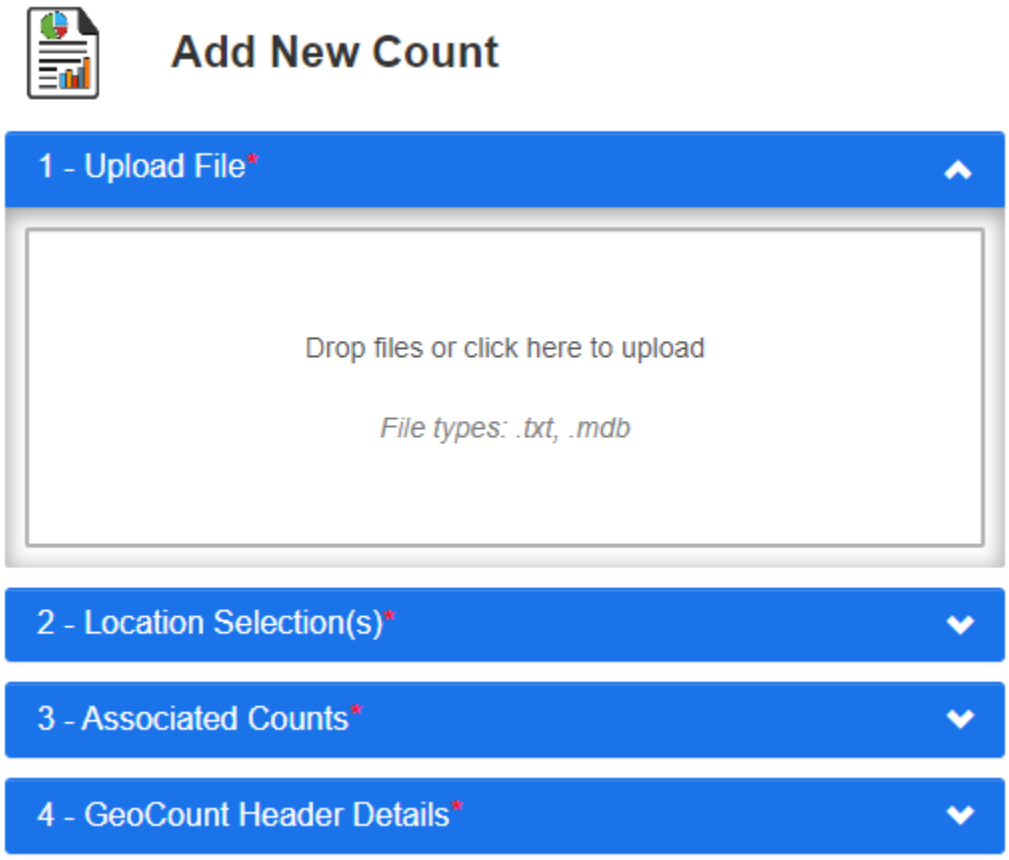
Advanced users can add new counts to the system. Uploaded count files must be GeoCount text (.txt) or Numetrics (.mdb) files to be succesfully added to the map.

To upload a new count:

1. Click Counts in the top menu bar, then Upload New Count.
2. Click inside the file selector box to open a file picker.
3. Choose the desired count file from your computer, then click Finish Upload Files once the file is uploaded. If you have multiple files, such as an .mdb for each lane, they can all be uploaded at once.
4. Either use the automatic location or click Clear Location, then right click on the map to set a location.
    - The selected point can be dragged with the cursor to relocate it, or deleted by hitting the Escape key while hovering over it.
    - Click Add Location to Issue to save the chosen location.
    - Edit the Location Description Override with a brief phrase indicating the location of the count.
    - Alternately, click Clear Location to delete the chosen point and start fresh.
5. Enter a name for the count under Associated Counts. If you instead wish to associate the count with an existing one, choose that count by clicking the radio button next to its name. Note that you cannot add a new record to an existing count if the times covered would overlap in any way.
6. For GeoCount files, check that the header details are correct under the GeoCount Header Details section at the bottom.
7. Click Submit at the bottom of the sidebar to finish entering the count data into the system.

The maximum speed value allowed by the system is 149 mp/h or 240 km/h. Any individual vehicle recorded with a speed higher than that value will not be saved to the system.

3.6 Uploading Excel Count Files



TrafficCentral also supports uploads using the Transnomis Excel templates (.xlsx). There are two templates available: one for midblocks and one for TMCs. This section of the manual will cover each format individually as there are some minor differences in the options and format required for each type. For more details on using the templates, see:

- Using the Midblock Template
- Using the TMC Template

Regardless of the template used, the process for uploading it to the system is the same.

1. Click Counts in the top menu bar, then Upload New Count.
2. Click inside the file selector box to open a file picker.
3. Choose the desired count file from your computer.
4. Either use the automatic location or click Clear Location, then right click on the map to set a location.
    - The selected point can be dragged with the cursor to relocate it, or deleted by hitting the Escape key while hovering over it.
    - Click Add Location to Signal to save the chosen location.
    - Edit the Location Description Override with a brief phrase indicating the location of the count.
    - Alternately, click Clear Location to delete the chosen point and start fresh.
5. Enter a name for the count under Associated Counts. If you instead wish to associate the count with an existing one, choose that count by clicking the radio button next to its name. Note that you cannot add a new record to an existing count if the times covered would overlap in any way.
6. Click Submit at the bottom of the sidebar to finish entering the count data into the system.

3.6.1 Using the Turning Movement Count Template

The TMC template is divided into three sheets (tabs) found at the bottom of the workbook. Each template can only contain a single day's worth of both pedestrian and vehicle observations.

When entering data to the worksheet, ensure you only write in the highlighted cells.

Location

	A	B	C
1		**TURNING MOVEMENT COUNT DATA SHEET**	
2		*enter data only in the highlighted yellow cells*	
3	**COUNT TYPE**	1	
4	**DESCRIPTION**	<ENTER LOCATION DESCRIPTION>	
5	**LATITUDE**	<ENTER LATITUDE>	
6	**LONGITUDE**	<ENTER LONGITUDE>	
7	**START DATE**	<yyyy-mm-dd>	
8	**TEMPLATE VERSION**	1.00	

- Count Type (not editable): The number here is used by the system to identify the count type.
- Description: Enter a description of the location (usually the name of the intersection).
- Latitude/Longitude: Enter the coordinates of the intersection here.

- Start Date: Enter the starting date for the observations in year-month-date format.
- Template Version (not editable): Lists the current version of the template file. Ensure you are using the most up-to-date version before proceeding!

TMC Veh Count

	A	B	C	D	E	F	G	H	I
1	**VEHICLES**	**TURNING MOVEMENT COUNT DATA SHEET**							
2		*enter data only in the highlighted yellow cells*							
3									
4	**VEHICLE TYPE**	<ENTER VEHICLE	TYPE IN NUMBER>		*(Enter "7" for cars, 6: Bike, 5: Truck, 9: Motorcycle, 3: Bus.)*				
5									
6									
7									
8		If you have separate data for cars, buses, trucks, motorcycles, or bikes make a copy of this worksheet as a							
9									
10		**NORTHBOUND**				**SOUTHBOUND**			
11		<ENTER NB STREET NAME>				<ENTER SB STREET NAME>			
12	LANES	<# LANES>	<# LANES>	<# LANES>	<# LANES>	<# LANES>	<# LANES>	<# LANES>	<# LANES>
13	**TIME**	**NBLT**	**NBTHRU**	**NBRT**	**NBU**	**SBLT**	**SBTHRU**	**SBRT**	**SBU**
14	12:00 AM								
15	12:15 AM								

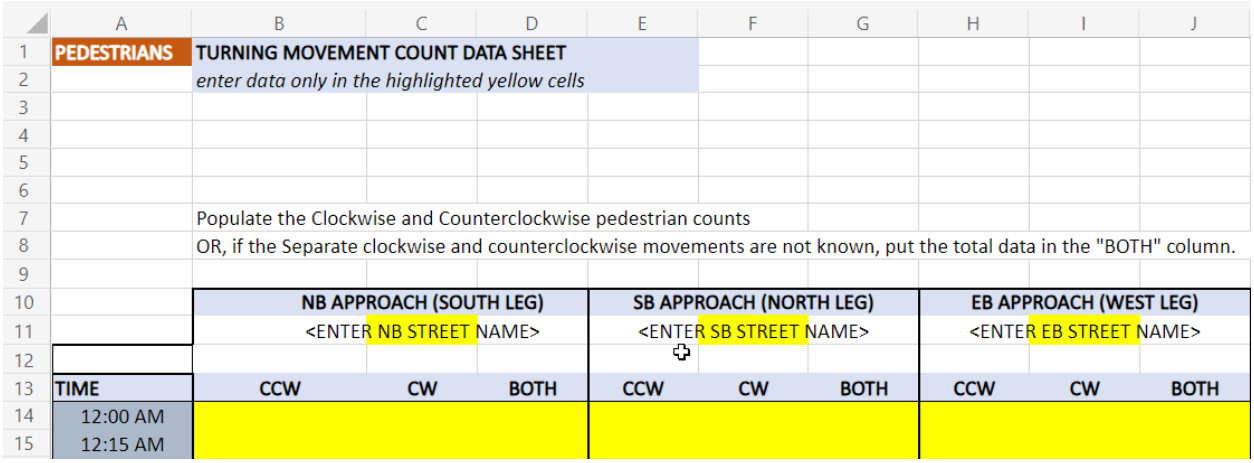
- Vehicle type: Enter one of the following numbers to indicate what type of vehicle is being counted:
  - 7 for cars
  - 6 for bikes
  - 5 for trucks
  - 9 for motorcycles
  - 3 for buses

See Recording Multiple Vehicle/Pedestrian Types for details on recording more than one vehicle type within the same file.

- Street names: Enter the street names desired for each direction.
- Lanes: Enter the number of lanes available for each movement. For instance, if there are two left turn lanes, enter the number 2 above the LT (left turn) column. If a lane doesn't exist (for instance, in a one-way street), leave the number of lanes and the column below it blank.
- Times: Each row covers a fifteen-minute time segment. Enter the number of vehicles recorded moving in each direction during each time segment:
  - LT: Left turn
  - THRU: Straight
  - RT: Right turn
  - U: U-turn (enter 0 above and leave the column blank if u-turns are not permitted in this direction or if the count did not track u-turns).

If a direction has 1 or more lanes available but no vehicles travelled that way during a time segment, enter 0 for the count data in that row. Only leave the cell blank if no data was collected for that movement.

TMC Ped Count



	A	B	C	D	E	F	G	H	I	J
1	PEDESTRIANS	TURNING MOVEMENT COUNT DATA SHEET								
2		*enter data only in the highlighted yellow cells*								
3										
4										
5										
6										
7		Populate the Clockwise and Counterclockwise pedestrian counts								
8		OR, if the Separate clockwise and counterclockwise movements are not known, put the total data in the "BOTH" column.								
9										
10		NB APPROACH (SOUTH LEG)			SB APPROACH (NORTH LEG)			EB APPROACH (WEST LEG)		
11		<ENTER NB STREET NAME>			<ENTER SB STREET NAME>			<ENTER EB STREET NAME>		
12										
13	TIME	CCW	CW	BOTH	CCW	CW	BOTH	CCW	CW	BOTH
14	12:00 AM									
15	12:15 AM									

- Ped type: Enter one of the following numbers to indicate what type of pedestrian is being counted:
    - 10: Unspecified (use as default if individual pedestrian types are not being recorded in this observation)
    - 16: Adult
    - 17: Child
    - 18: Elderly

See Recording Multiple Vehicle/Pedestrian Types for details on recording more than one ped type within the same file.

- Street names: Enter the street names desired for each direction.
- Times: Each row covers a fifteen-minute time segment. Enter the number of pedestrians recorded moving in each direction during each time segment:
    - CCW: Crossing counterclockwise.
    - CW: Crossing clockwise.
    - Both: Used for counts that did not record pedestrian crossing directions. If this column is used, ensure that the CCW and CW columns are left blank (and vice versa).

3.6.2 Using the Midblock Template

The midblock template is divided into three sheets (tabs) found at the bottom of the workbook. Each template can only contain a single day's worth of both pedestrian and vehicle observations.

When entering data to the worksheet, ensure you only write in the highlighted cells.

Location

	A	B	C
1		**MID BLOCK COUNT DATA SHEET**	
2		*enter data only in the highlighted yellow cells*	
3	**COUNT TYPE**	2	
4	**DESCRIPTION**	<ENTER LOCATION DESCRIPTION>	
5	**LATITUDE**	<ENTER LATITUDE>	
6	**LONGITUDE**	<ENTER LONGITUDE>	
7	**START DATE**	<yyyy-mm-dd>	
8	**TEMPLATE VERSION**	1.00	

- Count Type (not editable): The number here is used by the system to identify the count type.
- Description: Enter a description of the location (usually the name of the intersection).
- Latitude/Longitude: Enter the coordinates of the intersection here.
- Start Date: Enter the starting date for the observations in year-month-date format.
- Template Version (not editable): Lists the current version of the template file. Ensure you are using the most up-to-date version before proceeding!

Mid Vehicle Count

	A	B	C	D	E
1	**VEHICLES**	**MIDBLOCK COUNT**			
2		*enter data only in the highlighted yellow cells*			
3					
4	**VEHICLE TYPE**	<ENTER VEHICLE TYPE IN NUMBER>		(7: Car, 6: Bike, 5: Truck, 9: Motorcycle, 3: Bus)	
5					
6					
7					
8		To input data for multiple types of vehicles, make a copy of this worksheet, and code each			
9		sheet for the respective vehicle type, corresponding to that sheet's data count			
10		**NORTHBOUND**	**SOUTHBOUND**	**EASTBOUND**	**WESTBOUND**
11		<ENTER N-S STREET NAME>		<ENTER E-W STREET NAME>	
12	LANES	<# LANES>	<# LANES>	<# LANES>	<# LANES>
13	**TIME**	**NBTHRU**	**SBTHRU**	**EBTHRU**	**WBTHRU**
14	12:00 AM				
15	12:15 AM				

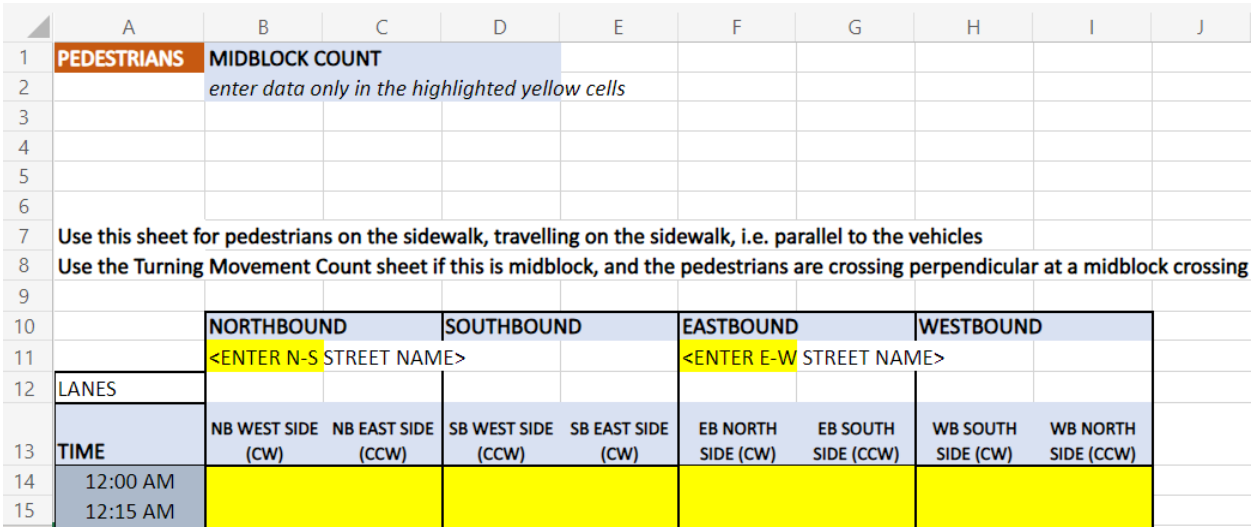
- Vehicle type: Enter one of the following numbers to indicate what type of vehicle is being counted:
  - 7 for cars
  - 6 for bikes
  - 5 for trucks
  - 9 for motorcycles
  - 3 for buses

See Recording Multiple Vehicle/Pedestrian Types for details on recording more than one vehicle type within the same file.

- Street names: Select the direction (North-South or East-West) and fill in the street name underneath that direction. Do not fill in anything in for the other direction.
- Lanes: Enter the number of lanes available for each direction. For instance, if there are two northbound lanes, enter the number 2 above the NBTHRU (northbound through) column. If a lane doesn't exist (for instance, in a one-way street), leave the number of lanes and the column below it blank.
- Times: Each row covers a fifteen-minute time segment. Enter the number of vehicles recorded moving in each direction during each time segment.

If a direction has 1 or more lanes available but no vehicles travelled that way during a time segment, enter 0 for the count data in that row. Only leave the cell blank if no data was collected for that movement.

Mid Ped Count



	A	B	C	D	E	F	G	H	I	J
1	PEDESTRIANS	MIDBLOCK COUNT								
2		*enter data only in the highlighted yellow cells*								
3										
4										
5										
6										
7	Use this sheet for pedestrians on the sidewalk, travelling on the sidewalk, i.e. parallel to the vehicles									
8	Use the Turning Movement Count sheet if this is midblock, and the pedestrians are crossing perpendicular at a midblock crossing									
9										
10		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		
11		<ENTER N-S STREET NAME>				<ENTER E-W STREET NAME>				
12	LANES									
13	TIME	NB WEST SIDE (CW)	NB EAST SIDE (CCW)	SB WEST SIDE (CCW)	SB EAST SIDE (CW)	EB NORTH SIDE (CW)	EB SOUTH SIDE (CCW)	WB SOUTH SIDE (CW)	WB NORTH SIDE (CCW)	
14	12:00 AM									
15	12:15 AM									

- Ped type: Enter one of the following numbers to indicate what type of pedestrian is being counted:
    - 10: Unspecified (use as default if individual pedestrian types are not being recorded in this observation)
    - 16: Adult
    - 17: Child
    - 18: Elderly

See Recording Multiple Vehicle/Pedestrian Types for details on recording more than one ped type within the same file.

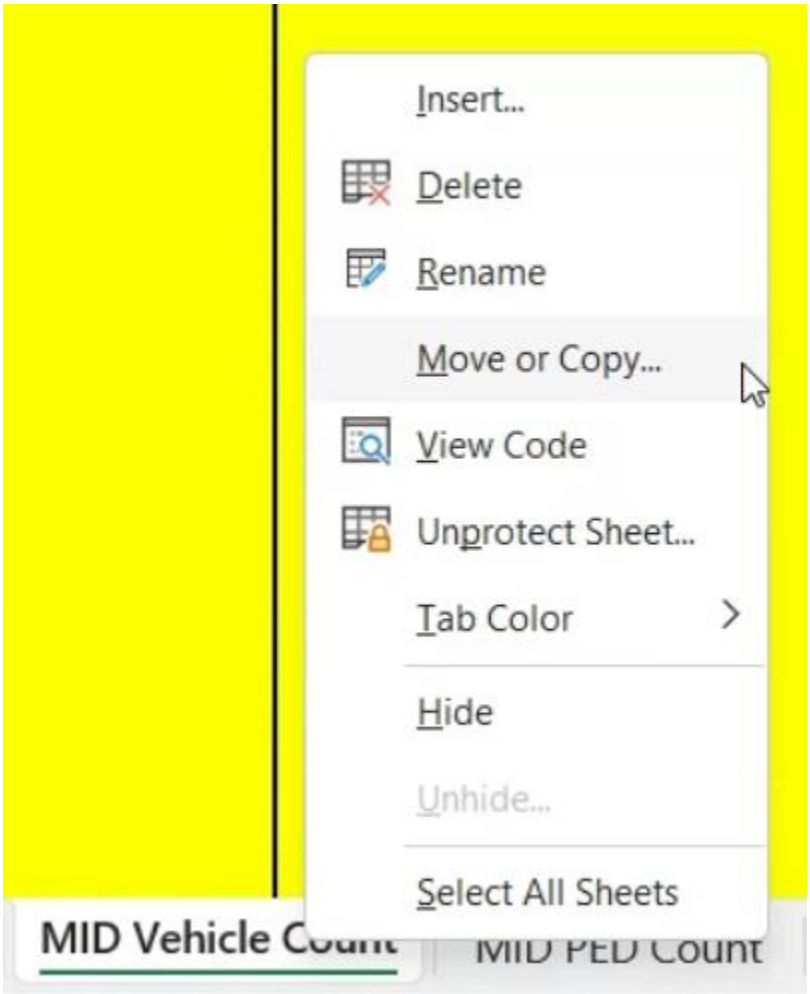
- Street names: Select the direction (North-South or East-West) and fill in the street name underneath that direction (the highlighted cell under Northbound or Eastbound). Do not fill in anything in for the other direction.
- Times: Each row covers a fifteen-minute time segment. Enter the number of pedestrians recorded moving in each direction during each time segment, divided between which side of the road they were walking on.
    - Enter 0 for each time segment where no one travelled in that direction.

Pedestrian midblocks are intended to count only the travellers who are walking on the sidewalk parallel to the vehicles on the road. To track perpendicular (crossing) movement, use the TMC template.

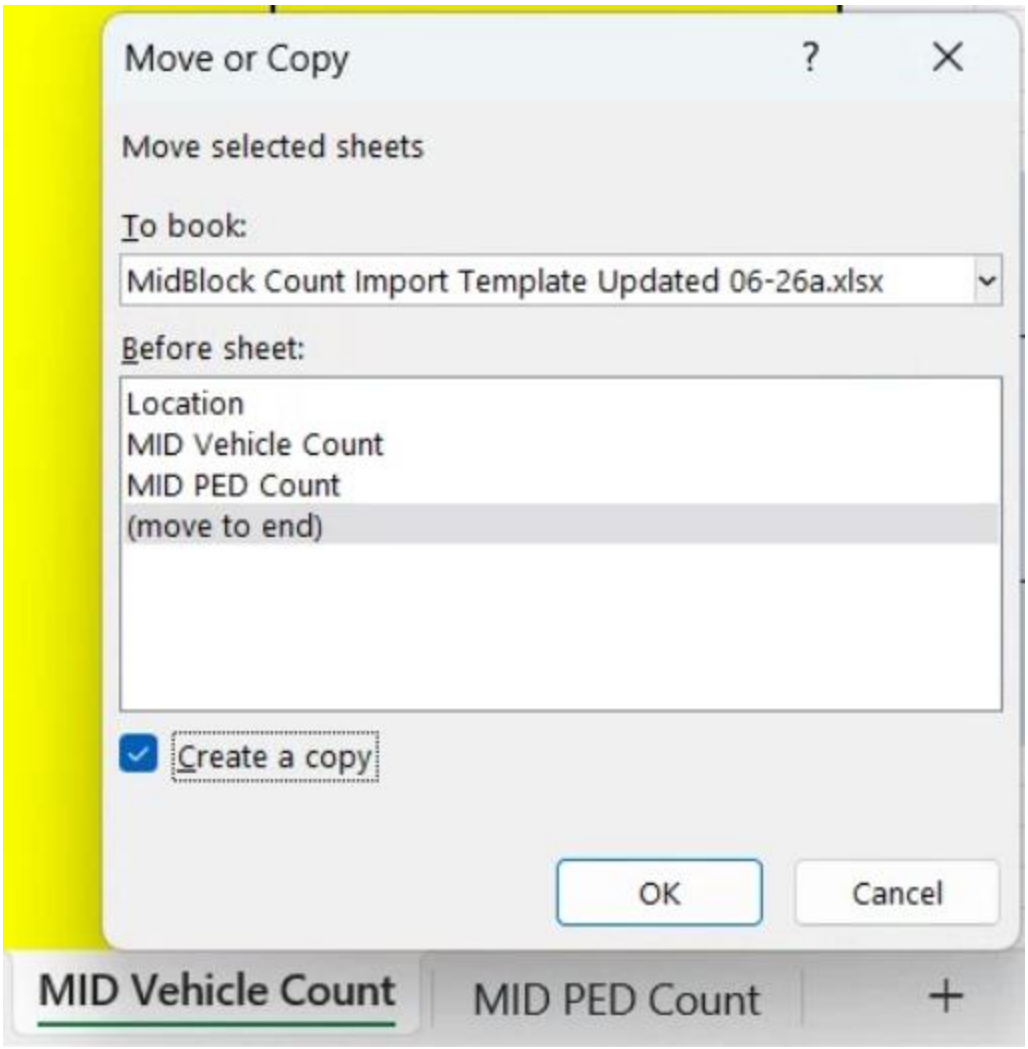
3.6.3 Recording Multiple Vehicle/Pedestrian Types

Copying the vehicle or pedestrian tab in the Excel template allows you to include more than one type in a single file. Note that the screenshots here show the process on the vehicle tab from the Midblock template, but the steps are identical for the TMC template. To duplicate a tab in Excel:

1. Right-click on the tab you wish to duplicate: MID Vehicle Count, MID PED Count, TMC VEH Count, or TMC PED Count. Click **Move or Copy** from the menu.



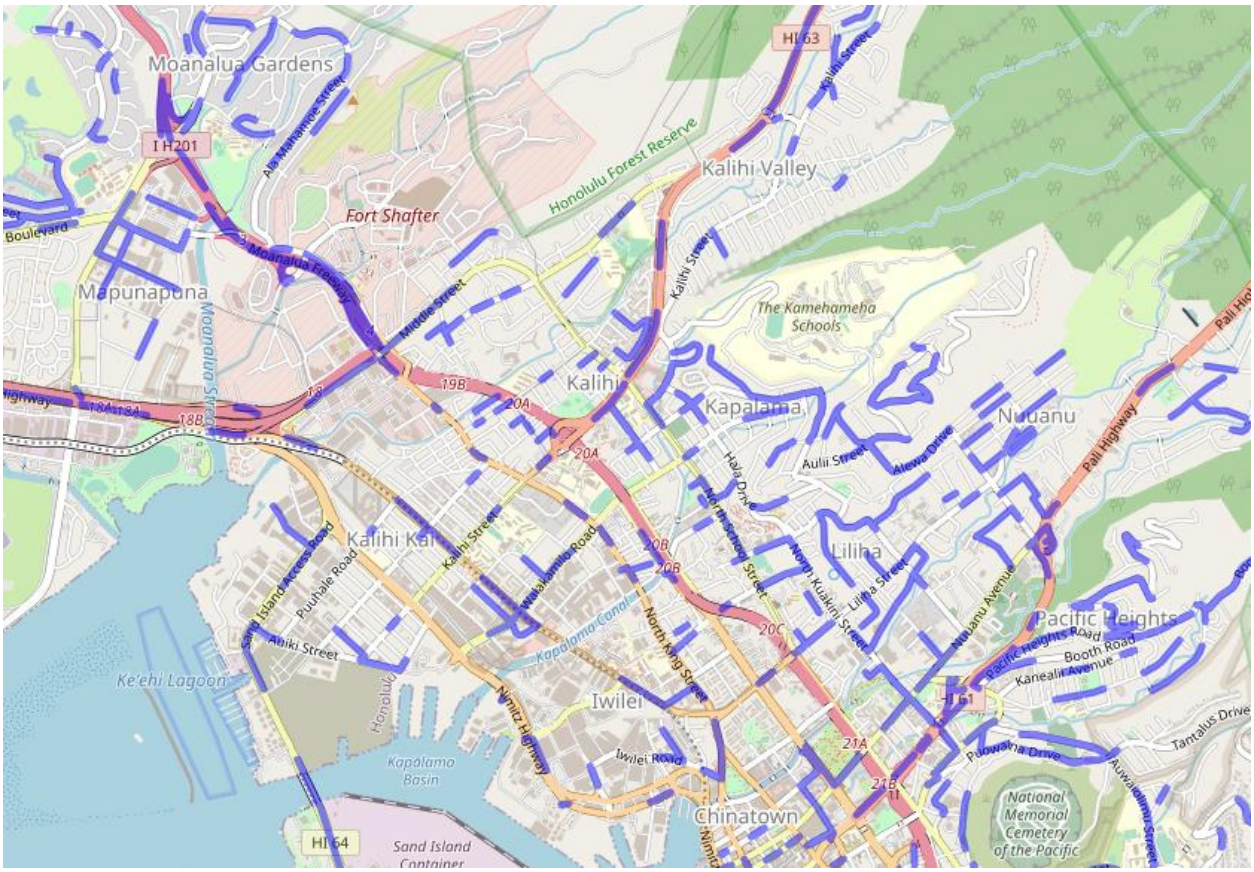
2. Select **(move to end)** and check the box next to **Create a copy**, then click **OK**.



3. Enter a new vehicle type number in the Vehicle Type cell or a new pedestrian type number in the Ped Type cell in the new tab:
    - 7 for cars
    - 6 for bikes
    - 5 for trucks
    - 9 for motorcycles
    - 3 for buses
    - 10 for unspecified pedestrian
    - 16 for adult pedestrian
    - 17 for child pedestrian
    - 18 for elderly pedestrian

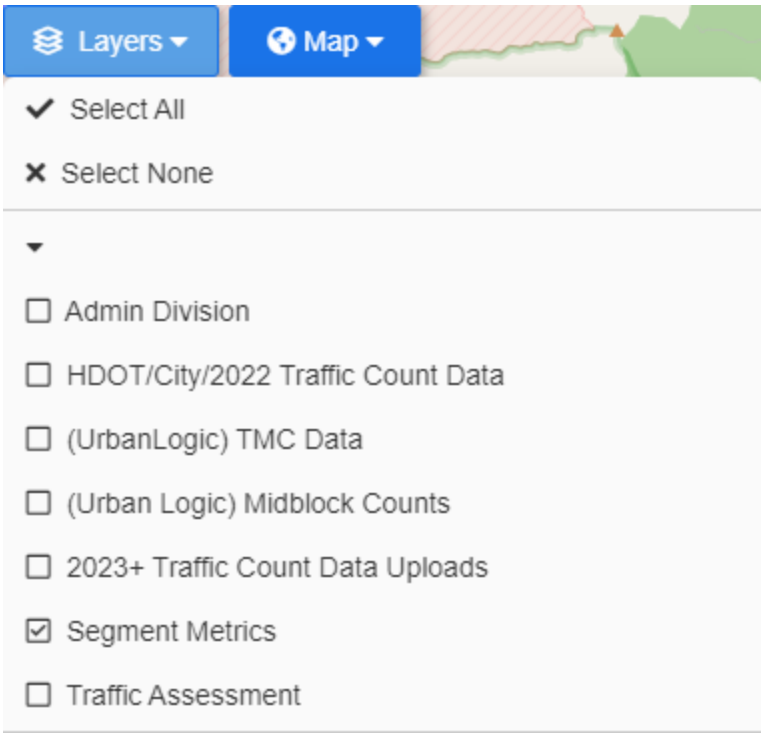
4. Enter all observations for the new data type. Repeat this process for each additional data type.
Feel free to rename the tabs ("MID Vehicle Count: Cars", "MID Vehicle Count: Bikes" etc.) if it makes it easier to put all the data in the right place. The system does not consider the names of tabs when it reads from an uploaded Excel file.

4 Segments



In TrafficCentral, segments are short sections of road that characterize the traffic data of that piece of roadway based on one or more midblock count entities. These segments capture a wide range of geospatial information and traffic metrics and can be exported for use in other GIS programs.

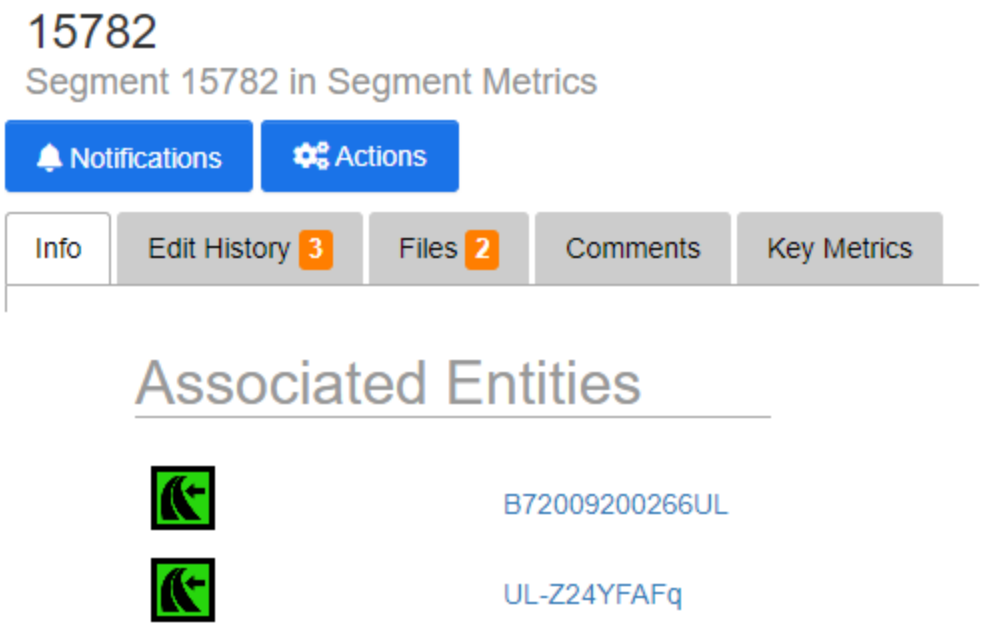
4.1 View Segments on the Map



From the home page:

1. Click Layers.
2. Turn on the Segment Metrics data layer.
3. Click on a segment for more details on the entity.
4. To access the segment's details, click More Information.

4.2 View Segment Details



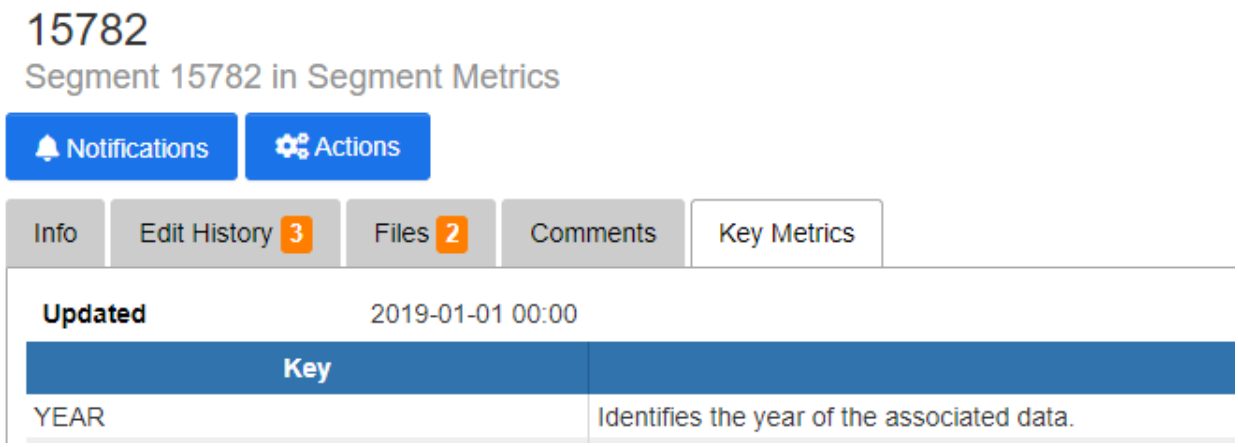
The segment details page provides a more detailed view of the segment's settings and key metrics. The default Info tab includes two important sections:

- Associated Entities: A list of each connected count. Clicking on the count ID will take you to that entity's details page.
- Custom Fields: A list of the special data fields that define the segment's location and size.

Several other tabs are available for segments:

- Edit History: A chronological list of all changes made to the segment.
- Files: Contains any files associated with the segment, as well as any files that were uploaded to the subsidiary count entities.
- Comments: Lists any existing comments about the count and allows users to add new comments.
- Key Metrics: A table listing every calculated metric. See below for more on reading the key metrics tab.

4.3 Segment Key Metrics



The Key Metrics tab contains a wide range of data generated from the associated count, based on the latest year's available data. The table is divided into five columns:

- Key: The name of the metric.
- Description: A full description of what the metric measures.
- Unit: If applicable, this column records what unit of measurement is used in the Value column. For instance, most speed metrics will have miles per hour as their unit of measurement.
- Value: The numerical value of the metric.
- Thresholds: This column is not currently used by the system.

There are two important concepts to know when reading metric names. The first is direction. Near the top of the table, the metrics DIR1 and DIR2 indicate what compass directions are going to be used throughout the metrics. For instance, if DIR1 has a value of 4, that indicates East, meaning all metrics with DIR1 in their name are only dealing with eastward travel. Note that the description for both DIR metrics lists what numbers correspond to what direction.

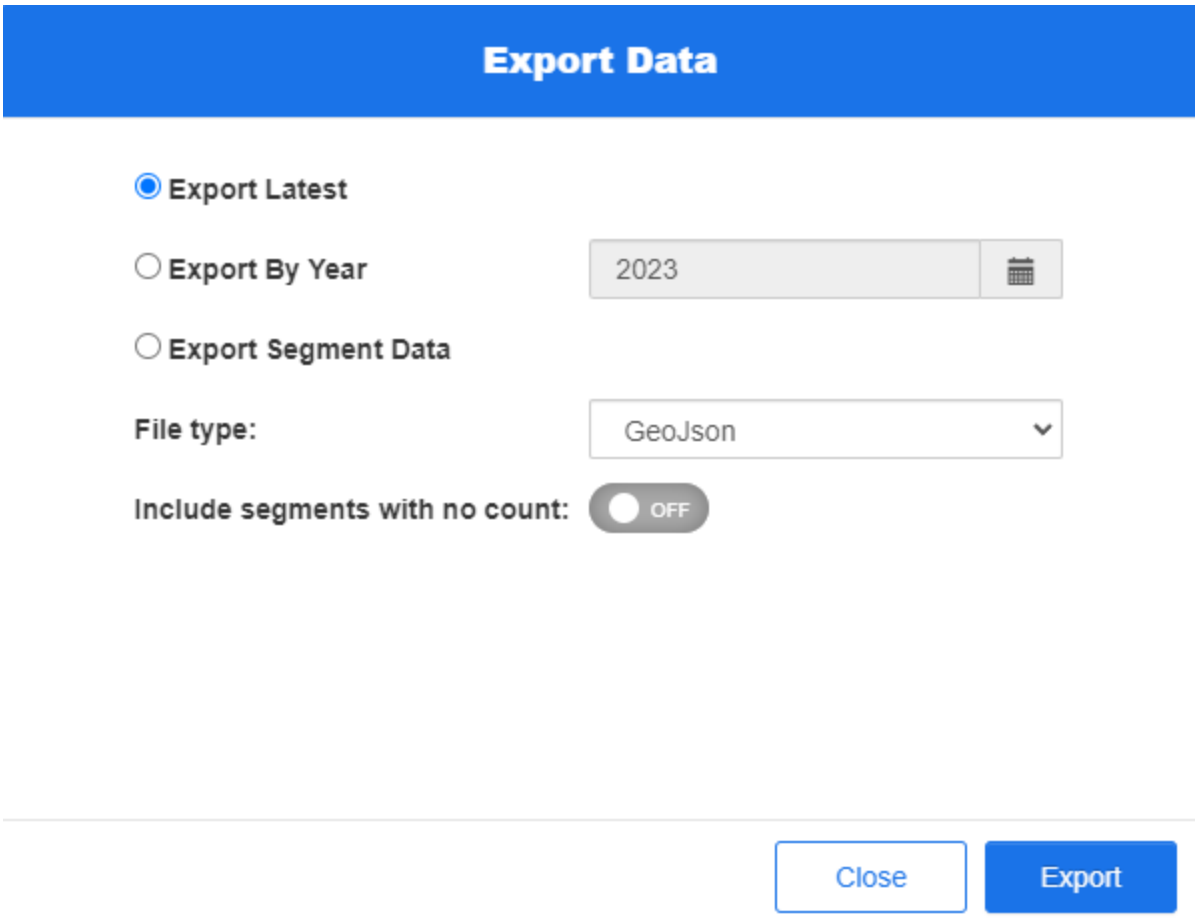
The second important concept is vehicle type:

- Metrics with *A* in their name refer to automobile (and all other motor vehicles, such as buses) travel only
- Metrics with *P* in their name refer to pedestrian travel only
- Metrics with *B* in their name refer to bike travel only

By combining these concepts and reading the metric descriptions, you can determine what vehicle type and direction is covered by each metric. For instance, 85PCS contains the 85th percentile speed value. 85PCS_A_DIR1 would refer only to cars travelling in DIR1's direction (in this case, East).

A value of -1 indicates that there is insufficient data available for a given metric to be calculated. In this system, it is common to see -1 for some speed values if the associated counts did not record speed data, or if there is less than one full calendar day of data to calculate the Average Daily Traffic.

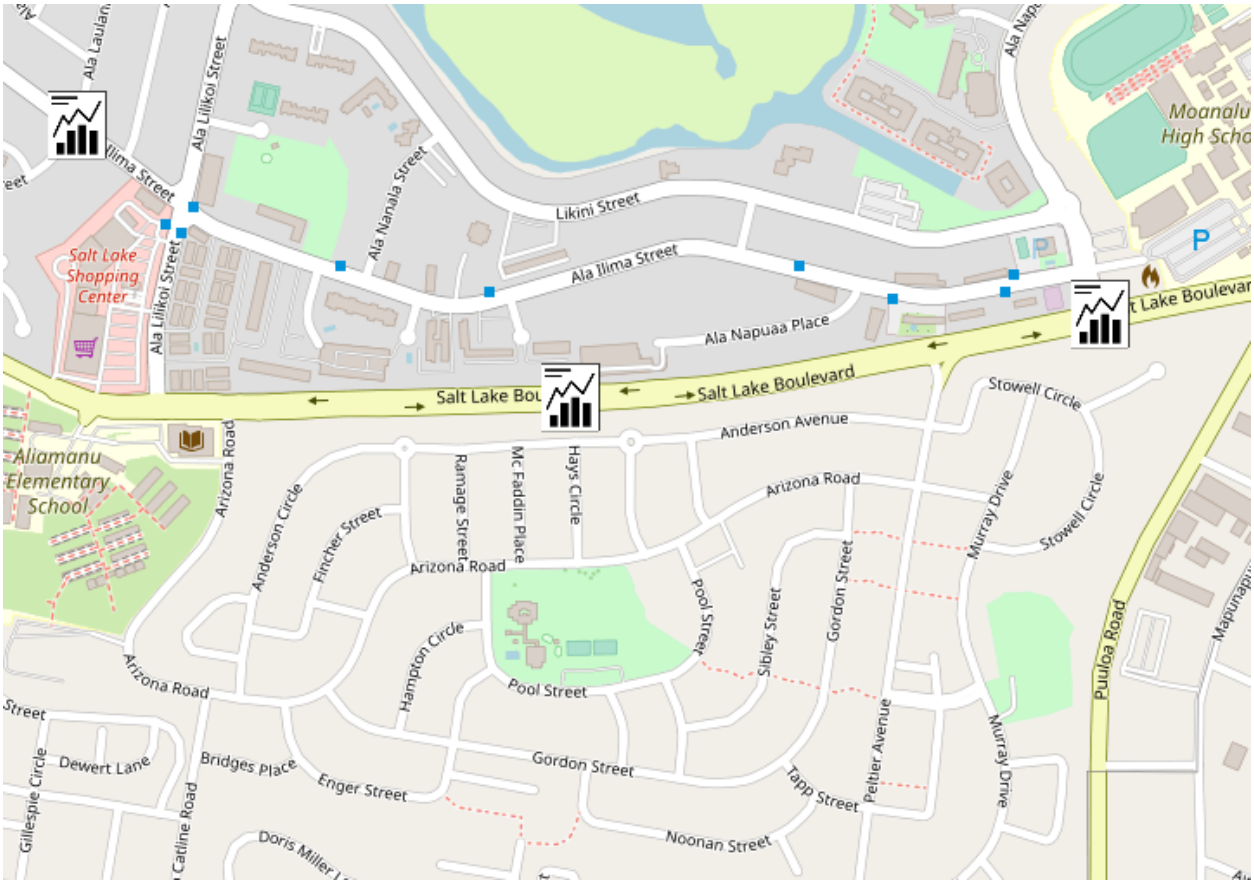
4.4 Exporting Segment Data



Segment data can be exported from the system for use in other GIS or analytical applications. To export data:

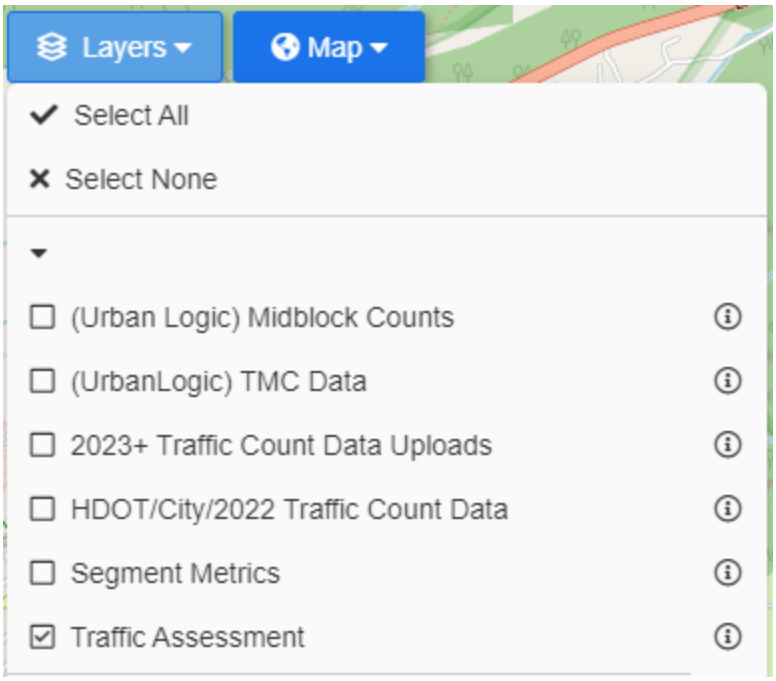
1. From the homepage, click **Counts > Export Data**.
2. Select from the available options:
    - Export Latest exports only segments with key metrics data from the current year.
    - Export By Year exports segments with data from the chosen year only.
    - Export Segment Data exports the same information as the above options, but also includes the GIS information noted under Custom Fields in the segment's details page.
    - File Type: Choose between GeoJSON and ESRI Shapefile for the export format.
    - Include Segments With No Count: When toggled on, this allows the export to include segments with no associated count entities.
3. Click **Export** to download the segment data.

5 Traffic Assessments



In TrafficCentral, traffic assessment entities are empty containers intended to hold miscellaneous files, reports, and comments about intersections. Suggested uses include uploading site plans or traffic impact assessment reports, as well as using comments to leave notes about specific areas for other users.

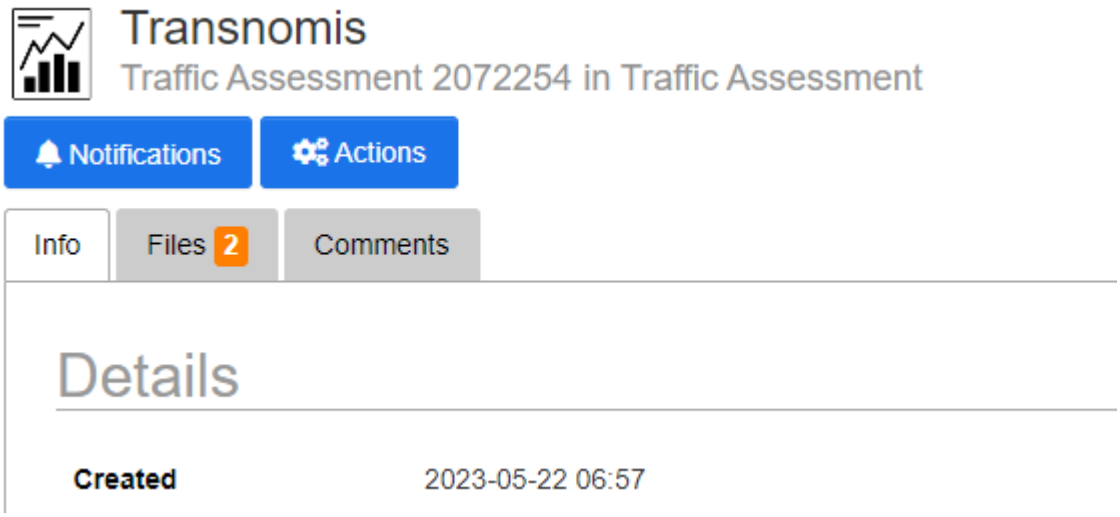
5.1 View Traffic Assessments on the Map



From the home page:

1. Click Layers.
2. Turn on the Traffic Assessment data layer.
3. Click on a traffic assessment icon for more details on the entity.
4. To access the entity's files and comments, click More Information.

5.2 View Traffic Assessment Details

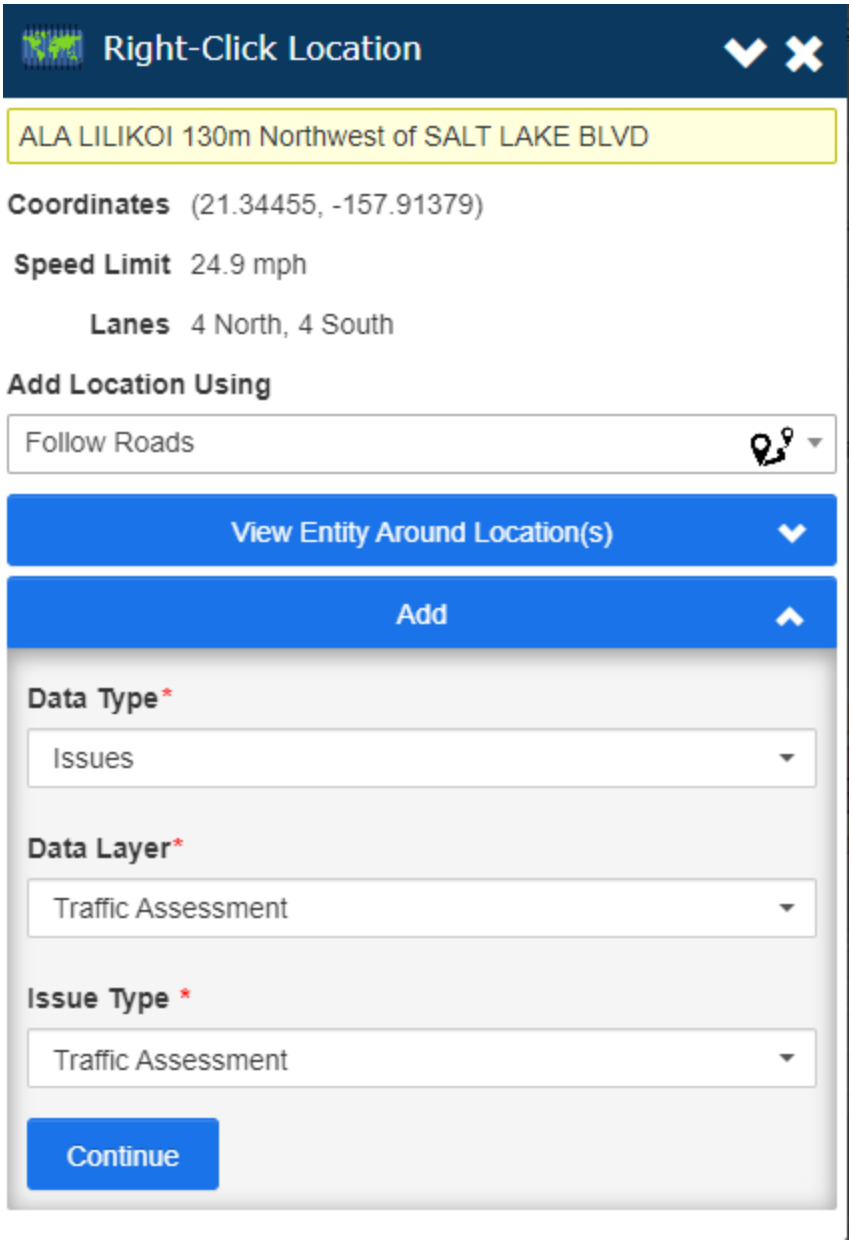


The Info tab displays some basic information about the entity itself. Two other tabs are available:

- Files: Contains a list of all uploaded files along with a description or preview (for images). Click the blue **Upload File** button to add a new file to the entity, or click the blue **Download** button to save any uploaded files to your local computer.

- Comments: Contains a list of all comments saved to this entity. To add a new comment, type your message in the text field, then click **Submit**.

5.3 Create New Traffic Assessments



To add a new traffic assessment entity to the system:

1. Right click on the map to select the location.
    - The red dot showing the prospective location can be dragged to fine-tune its location.
    - Hit **Escape** or click the X on the pop-up panel to cancel the location.
2. Click **Add** to open the Add Entity section.
3. Select **Issues** from the Data Type dropdown.
4. Choose **Traffic Assessment** from the Data Layer dropdown.

5. Select **Traffic Assessment** from the Issue Type dropdown.
6. Click **Continue** to add the entity to the system.