

NON-MOTORIZED DATABASE SYSTEM USER GUIDE

Non-Motorized Database System

[Dashboard](#)

[Analysis](#)

[Admin](#)

Filters

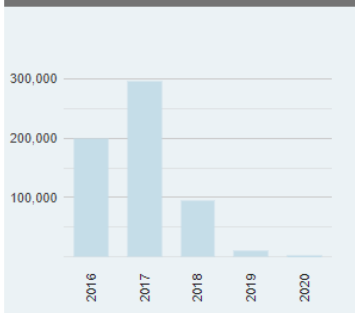
Year **All**

Mode **All**

County **All**

Community **All**

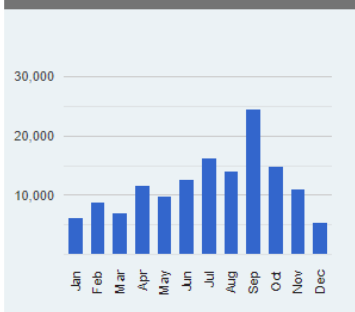
Yearly Volume



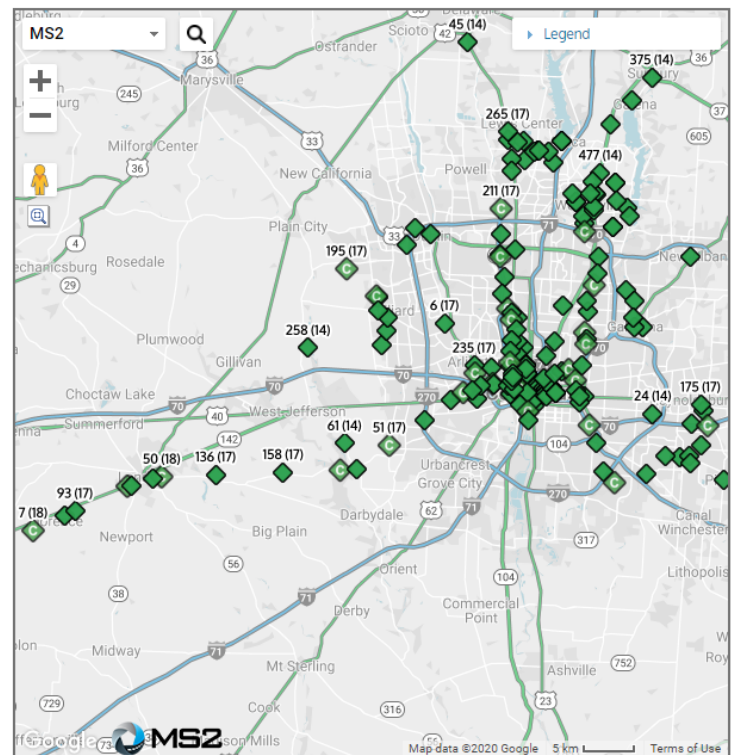
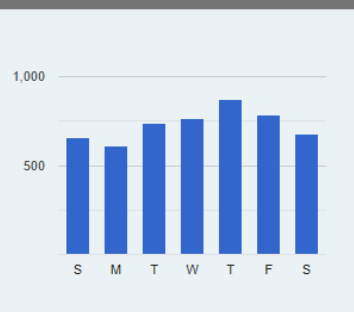
Highest ADT Locations

Rank	ADT	Location
1	10417	(2017)
2	5889	(2017)
3	4211	N High St (2016)
4	2890	N High St (2018)
5	2774	(2015)
6	2162	(2016)
7	1758	(2015)
8	1507	(2014)
9	1439	(2016)
10	1307	Roachton Rd (2017)

Monthly Volume



Daily Volume



Non-Motorized Database System (NMDS) Documentation

Updated: February 2021

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NMDS Overview

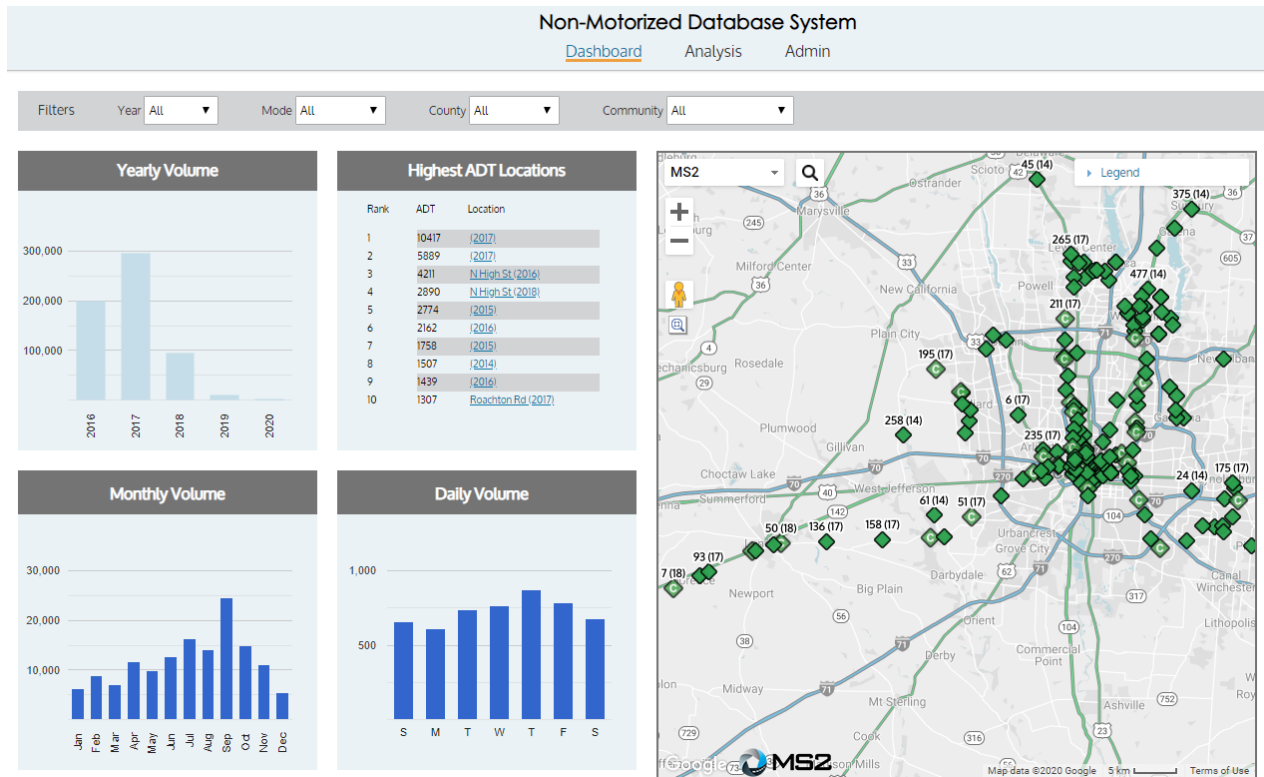
The Non-Motorized Database System (NMDS) is a powerful tool for the traffic engineer or planner to organize the agency's non-motorized count data. It provides a dashboard level summary of the system as well as tools to maintain, review, and report data at the path level. From bike lanes to sidewalks to bike paths to trails, the NMDS module helps manage the data.

This guide is for users new to the NMDS system and will provide an overview of the available features and functions used for many common tasks. Any features not discussed in this guide are considered advanced features. If there are additional questions, feel free to explore the online help guide or contact the staff at MS2 for assistance.

Dashboard

The **Dashboard** page (**Figure 1**) provides a high level, system overview of the data and locations. There are three main features on this page: filters, charts and map.

Figure 1: Dashboard page



The filters will allow the user to refine the level of detail on the dashboard using any or all of the following attributes: **Year**, **Mode**, **County**, and **Community**. To see the results by community for the previous year, select: Year, County and Community. Based on the user selection, the charts and map on the **Dashboard** page will be updated to reflect the results of the filter.

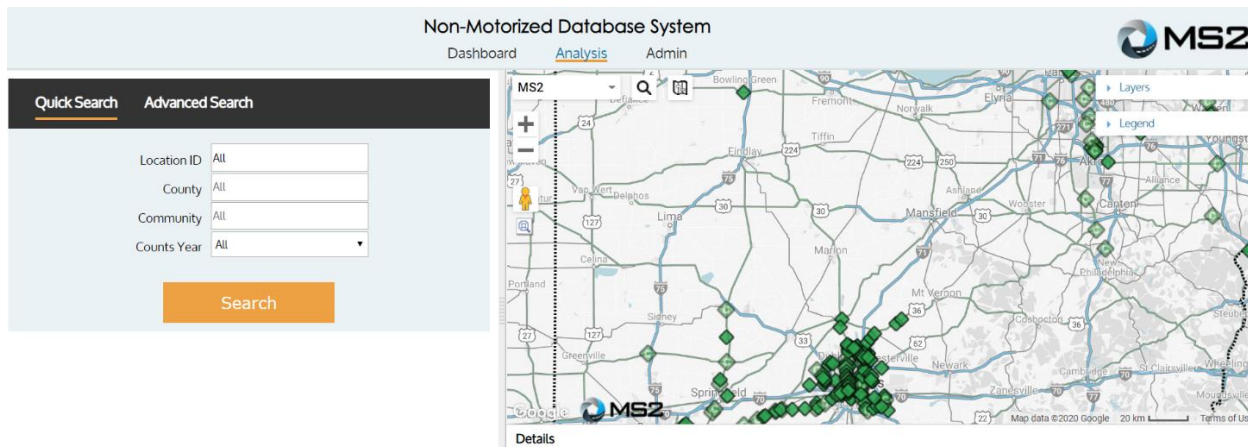
The charts show general trends for usage of the system based on the year, month, and day of week. The user can mouse over the charts to see the values. Using the Location links within the **Highest ADT Locations** chart, the user can view additional details of the Location (including counts).

The map displays the locations where data stored within NMDS. The differentiation between permanent count and short count stations is presented within the **Legend** to the right of the map. The information displayed in the pop up above the selected location include: Location ID, Community, Latest Count Date and Latest Count Total. A **View Detail** link takes the user to the **Analysis** page for more details on the station.

Analysis

The **Analysis** page (**Figure 2**) allows the user to view and report data at a detailed level. There are three areas which will display information about a location: **Results**, **Map**, and **Details**. For each of these tabs, the information is queried by two tools, **Quick Search** and **Advanced Search**. The database is a location based system and the search tools use the station attributes to generate a query result.

Figure 2: Analysis page



Quick Search and Advanced Search

The user can perform a simple search for a single station or set of stations using the Quick Search tool. The Advanced Search tool can be used to generate refined search results based on specific station attributes. The **Location ID** field produces results for that location. To search based on geographic locations, use the **County** and /or **Community** fields.

The **Counts Available** field will generate a query for locations with associated counts. The **Year** field can be utilized to further refine the **Counts Available** field based on available counts for the year selected by the user.

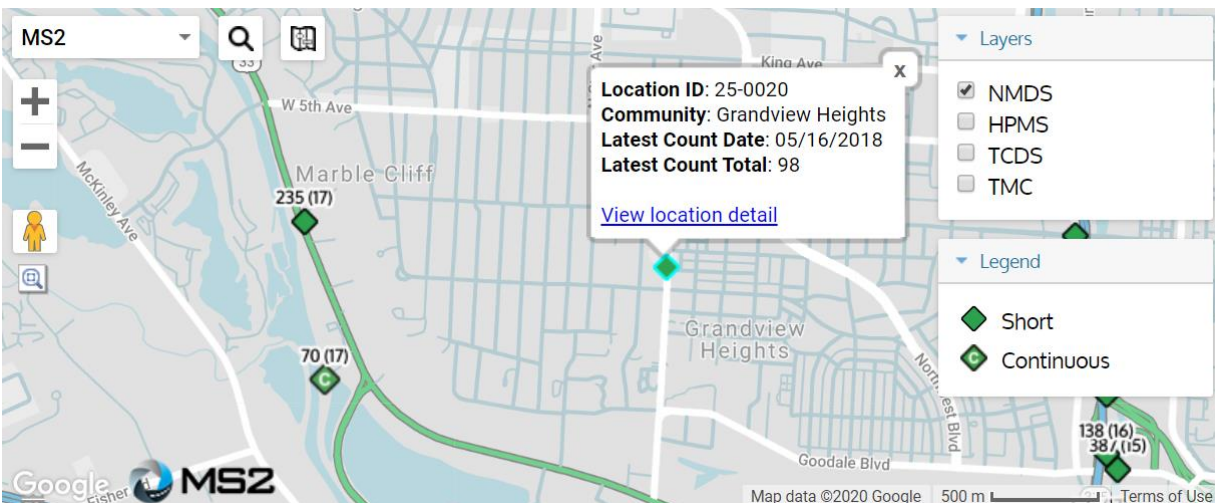
When the search criteria are selected, click the **Search** button to generate the results for review. The **Advanced Search** tool allows the user to perform a refined search based on many more attributes than the Quick Search.

Analysis: Map

The **Analysis Map** page (**Figure 3**) operates in the same manner as the **Dashboard** map. The information displayed in the pop up above the selected location include: **Location ID**, **Community**, **Latest Count Date** and **Latest Count Total**. The **View location detail** link allows the user to view additional details about the location.

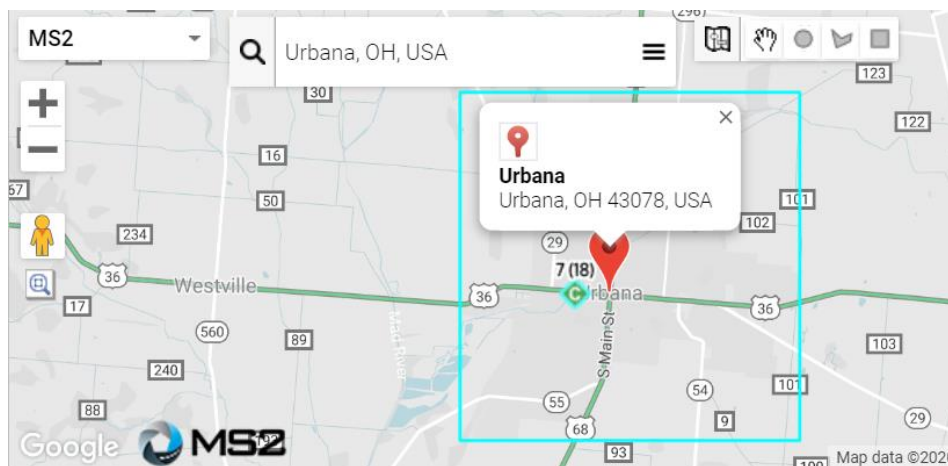
The map navigation tools along the left of the screen provide zooming options for the area. Sitting above the zoom tools is a **Map overlays** drop down that allows the user to change the aerial view of the selected area. The **Pegman** tool allows the user to view the location at the street level (when available).

Figure 3: Analysis Map



To the right side of the Map overlays are two icons that supports data searches. The first icon allows the user to perform an address search (**Figure 4**), either mailing address or coordinates.

Figure 4: Address search



The second icon opens expanded search options to help with area searches. Within the expanded search options, the first tool is a circle which confines the results to a diameter from the starting

point. The second tool is a polygon search which confines the results to an irregular shaped vicinity. The third tool is a rectangular search and confines the results to locations within a rectangular shaped vicinity. The hand shape tool, to the left of the Circle Search cancels the search action.

Displayed below in **Table 1** are the shapes created for the respective searches performed.

Table 1: Expanded Search options

Circle	Polygon	Rectangle

Note: Searching on the map side is independent of searching on the Database (left side panel). However, when a **Map** query is performed, the **Search** button on the database side has to be selected for the results to be displayed within the **Results** section.

Analysis: Results

The results of a search will be displayed in a list view on the lower left portion of the screen (see **Figure 5**). There are features that allow the user to sort the results in different ways. The column headings can be selected to sort the information in ascending or descending order.

The **Filter** field on the top right is an additional feature to allow the user to filter for an item within the query result. **Note:** This feature does not change the query results. It simply changes the view of the data on this page.

The first column displays checkboxes which confirm the respective location(s) used in reports. These can be de-selected or re-selected to adjust the list for reporting.

In the **Location Id** column, each location entry is linked to take the user to the location details within the **Analysis: Detail** section.

Figure 5: Analysis - Results

The screenshot displays the MS2 Non-Motorized Database System interface. At the top, there are navigation tabs for Dashboard, Analysis, and Admin. The main interface is divided into three sections:

- Search Section:** Includes 'Quick Search' and 'Advanced Search' options. The 'Advanced Search' form has fields for Location ID (All), County (Franklin), Community (All), and Counts Year (All), with a 'Search' button.
- Map Section:** A map of Columbus, Franklin, showing various locations marked with green diamond icons. The map includes a search bar, zoom controls, and a legend.
- Results Section:** A table displaying search results with columns for checkboxes, Location Id, Located On, and Latest Count Date. A 'Filter' input field is located above the table.
- Details Section:** A detailed view for location #25-0003 - W Broad St, Columbus, Franklin. It includes a 'Location' and 'Count' section with a path visualization, and a 'Location Info' section with detailed metadata.

<input checked="" type="checkbox"/>	Location Id	Located On	Latest Count Date
<input checked="" type="checkbox"/>	25-0003	W Broad St	05-16-2018
<input checked="" type="checkbox"/>	25-0005	Mt Vernon Ave	05-16-2018
<input checked="" type="checkbox"/>	25-0016	W Broad St	05-16-2018
<input checked="" type="checkbox"/>	25-0020	Grandview Ave	05-16-2018
<input checked="" type="checkbox"/>	25-0053	N High St	02-04-2018
<input checked="" type="checkbox"/>	25-0054	W 4th Ave	02-05-2018
<input checked="" type="checkbox"/>	25-0065		05-16-2018
<input checked="" type="checkbox"/>	25-0070		05-16-2018

Showing 1 to 8 of 12 entries

Location Info for #25-0003 - W Broad St, Columbus, Franklin:

- Location Id: 25-0003
- Description: W Broad St
- County: Franklin
- Community: Columbus
- Jurisdiction: District/Region: 6
- Latitude: 39.96192000
- Longitude: -83.00272000
- Count Cycle: Owner: ODOT User
- Perm Station: No
- Active Station: Yes

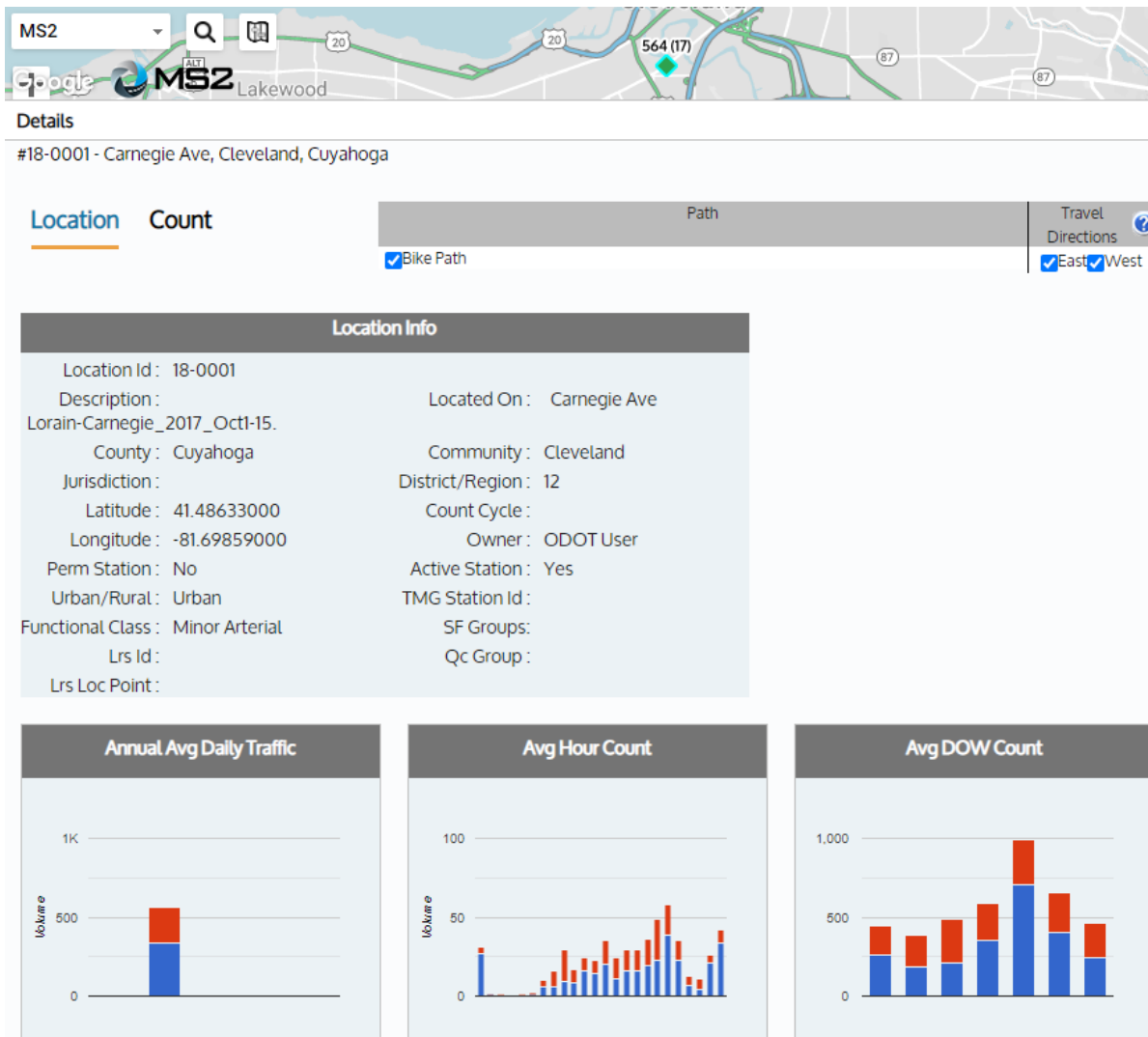
Analysis: Details

This section is the most comprehensive when reviewing data at the location level and includes two tabs: **Location** and **Count**.

Analysis: Details- Location


The **Location** tab (**Figure 6**) shows the attributes for the location, along with summary charts. Among the attributes are: charts for **ADT**, **Average Hour Count**, and **Average Day of Week Count**.

Figure 6: Analysis - Details, Location



The top right section of the tab allows the user to view the data in different ways by selecting the check boxes. Data collected at each path for a station can be viewed using direction of the traffic as well as the paths: sidewalk, bike path, or roadway.

Figure 7: Path selections

Path		Travel 
South Side	North Side	Directions
<input checked="" type="checkbox"/> Bike Lane <input checked="" type="checkbox"/> Bike Path <input checked="" type="checkbox"/> Sidewalk	<input checked="" type="checkbox"/> Bike Lane <input checked="" type="checkbox"/> Bike Path <input checked="" type="checkbox"/> Sidewalk	<input checked="" type="checkbox"/> East <input checked="" type="checkbox"/> West


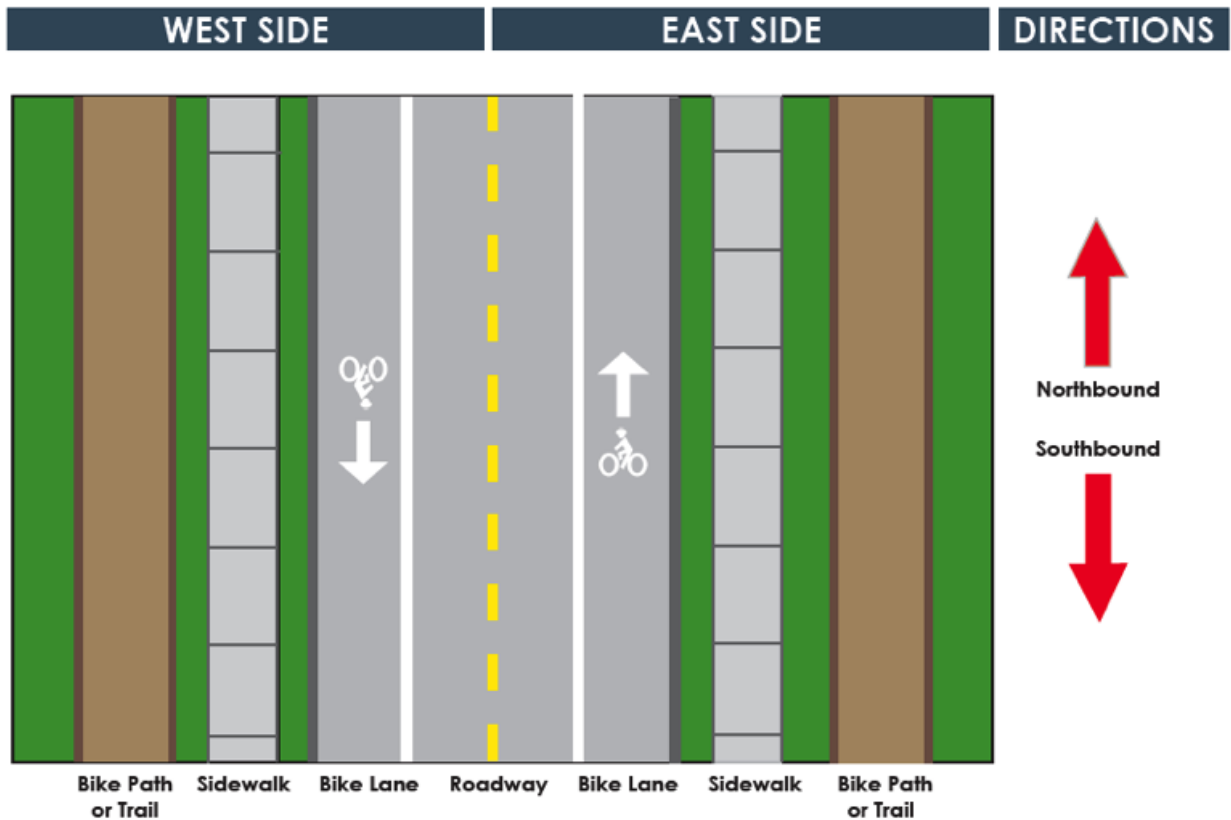
The  icon located on the right side of the 'Travel Directions' header (Figure 7) will open a pop out to display a representation of the pathways. The database supports multiple levels of data for the station including: bike paths or trails, sidewalks, bike lanes, roadway and crosswalk (not pictured). The paths are defined by the offset direction to the centerline of the roadway (referred to as West Side and East Side) on the example. There are five designated modes available: pedestrians, bicycles, wheelchair, equestrian and motorized bike. Figure 8 shows the direction of travel as North and South.

Figure 8: Pathway diagram



Analysis: Detail- Count

The **Count** tab within the **Analysis: Details** page shows additional information for a specific count which includes: the attributes of the count, a graph of the Hourly Count and a grid view of the data.

The **Calendar View (Figure 9)** or the **List View (Figure 10)** on the upper left portion of the **Details** tab allows the user to navigate to additional counts at this location.

Figure 9: Calendar View

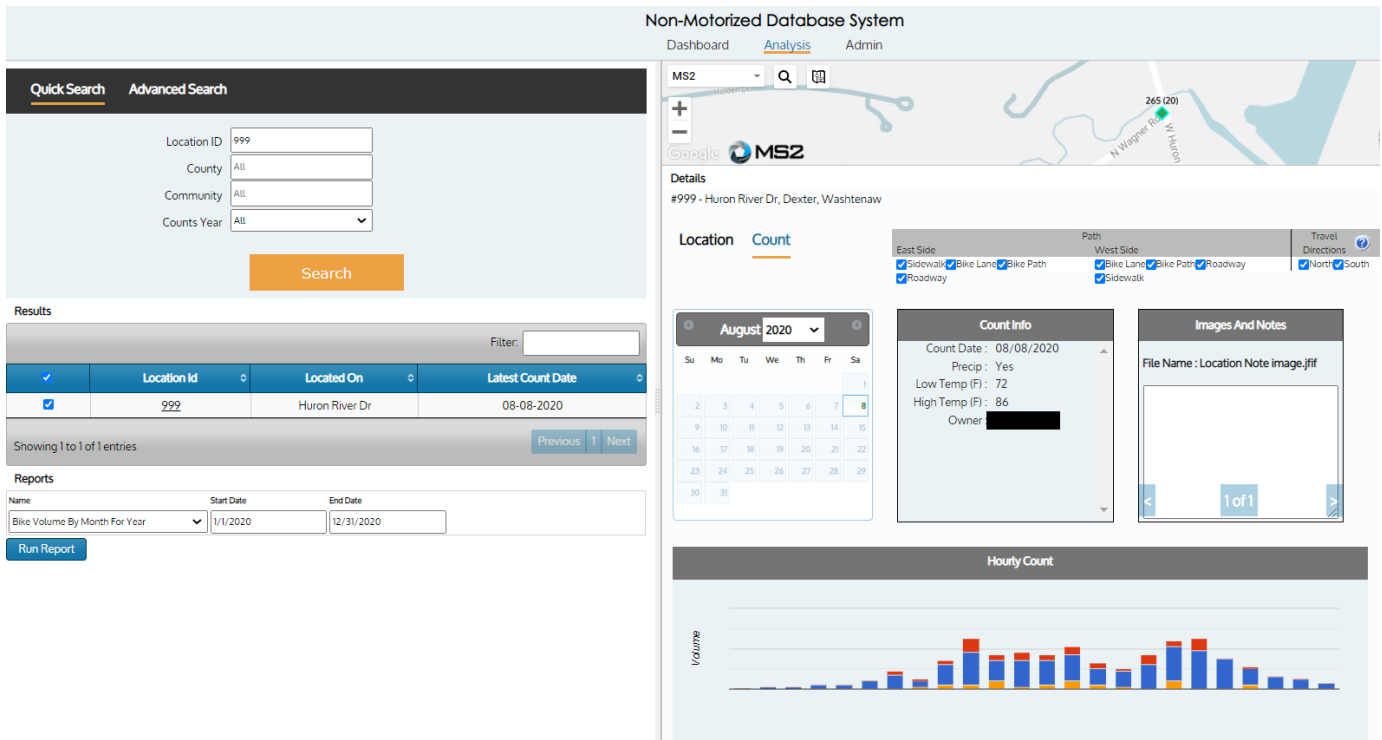
Figure 10: List View

Display	Date	Precip	Low Temp (F)	High Temp (F)	Owner
<input checked="" type="radio"/>	Monday, November 30, 2020				
<input type="radio"/>	Sunday, November 29, 2020				
<input type="radio"/>	Saturday, November 28, 2020				
<input type="radio"/>	Friday, November 27, 2020				
<input type="radio"/>	Thursday, November 26, 2020				
<input type="radio"/>	Wednesday, November 25, 2020				
<input type="radio"/>	Tuesday, November 24, 2020				
<input type="radio"/>	Monday, November 23, 2020				

The user can use the checkboxes above the **Details: Count** tab (Figure 11) to view a similar breakdown of **Path** level information as presented within the **Details: Location** tab.

If the data was collected for each path of a station, the user can view by direction of the traffic and by the respective paths: sidewalk, bike path, or roadway.

Figure 11: Analysis - Details, Count



Additional information about the count may also be captured and presented within the **Count** tab (shown to the right). Data includes precipitation and temperature on the day of the count.

An **Hourly Count** graph (Figure 12) and a data grid for the counts are presented in this tab and the user can mouse over the graph to view the actual values. The grid shows the mode of travel on the left side and the time interval across the top.

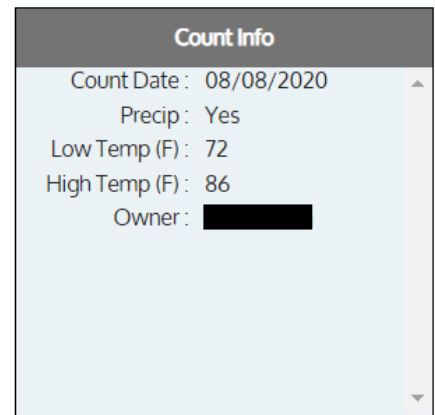
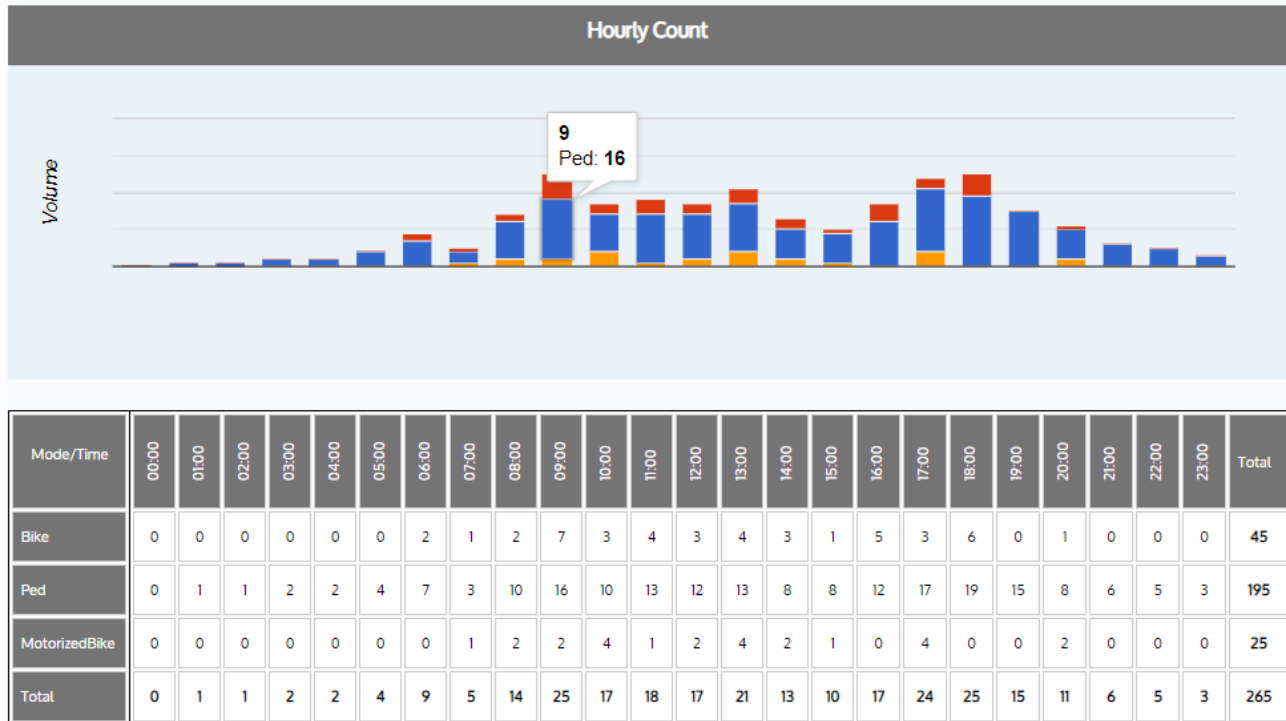


Figure 12: Hourly Count chart



The **Images and Notes** dialog box (**Figure 13**) stores additional information about the location including: text, photos and other electronic files. The stored information can either be designated as visible or invisible to an external user.

Figure 13: Image and Notes box with Sample



Note: Each file is limited to 10MB.

Analysis: Report

For users familiar with creating reports through MS2's Traffic Count Database System (TCDS), the NMDS module offers a similar **Report Center** to generate reports. The following process used to view a report:

1. Perform a search using the **Quick Search/ Advanced Search** section
2. Review the results (**Figure 14**) to confirm the query provided enough data for a report

Figure 14: List of search results

Quick Search
Advanced Search

Location ID

County

Community

Counts Year

Results

Filter:

	Location Id	Located On	Latest Count Date
<input checked="" type="checkbox"/>	25-0003	W Broad St	05-16-2018
<input checked="" type="checkbox"/>	25-0004	E State St	09-13-2017
<input checked="" type="checkbox"/>	25-0005	Mt Vernon Ave	05-16-2018
<input checked="" type="checkbox"/>	25-0015	S High St	09-13-2017
<input checked="" type="checkbox"/>	25-0016	W Broad St	05-16-2018
<input checked="" type="checkbox"/>	25-0017	W Broad St	05-17-2017
<input checked="" type="checkbox"/>	25-0020	Grandview Ave	05-16-2018
<input checked="" type="checkbox"/>	25-0024	Innovation Dr	09-13-2017

Showing 1 to 8 of 76 entries

1
2
3
4
5
...
10

3. Review the checkboxes for any locations that may need to be excluded from the report
4. Select the desired report from the **Name** drop down within the **Reports** section (**Figure 15**)
4. Select the date range needed for the report
5. Select the **Run Report** button

Note: Reports are only run on the locations with checkboxes that are selected

Figure 15: Reports section

Reports

Name	Start Date	End Date
All Modes Volume By Month For Year ▼	1/1/2017	12/31/2017

Run Report

A preview of the report is available within the report preview section and the report can be saved using available formats shown in the drop down of the disc icon. **Figure 16** provides a sample of an existing report.

Figure 16: Sample report

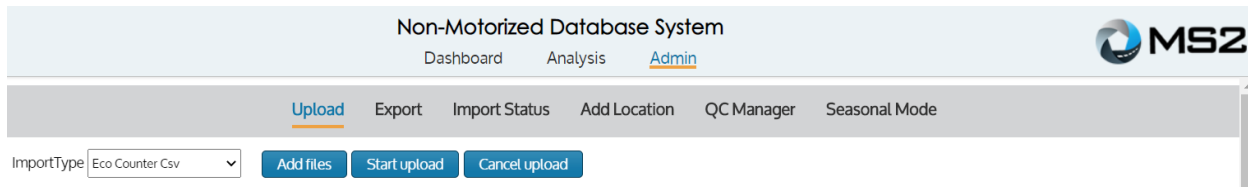
Total Volume By Month

Location	Year	Mode	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
47-0002N	2017	Bike	0	0	0	15,038	33,517	30,433	29,224	26,115	30,287	33,697	29,819	19,651	247,781
	2017	Ped	44,344	45,552	99,277	41,310	20,868	16,746	15,170	13,473	19,245	26,022	25,213	17,234	384,454
	Total		44,344	45,552	99,277	56,348	54,385	47,179	44,394	39,588	49,532	59,719	55,032	36,885	632,235

Admin Page

The items discussed on the **Dashboard** and **Analysis** sections are features available to the public viewer. The functionality and additional features described in the Admin page (**Figure 17**) and upcoming sections are only accessible by users at the admin level and above.

Figure 17: Admin page

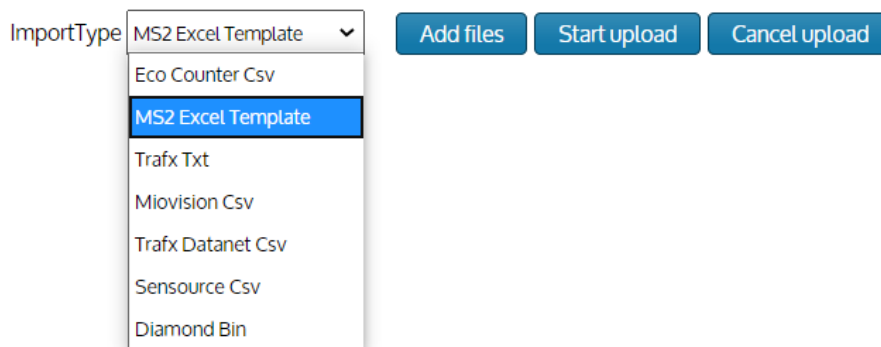


Admin: Upload

The **Admin: Upload** page (**Figure 18**) manages the import count files into the NMDS module. There are multiple buttons/ selections on this page (depending on file type) to successfully manage the file import process. **Note:** **Offset** and **Pathway** includes direction and path type.

The **ImportType** drop down lists the file types currently supported by MS2. The user must select the appropriate file type when uploading files.

Figure 18: Admin - Upload page



After selecting the file type, the next step is to add files using the **Add files** button. The **Start Upload** and **Cancel Upload** buttons are used for starting the upload or for canceling the upload (when needed). The MS2 template can be downloaded by selecting the hyperlink in the upper right corner of the screen.

Note: The **Offset** and **Pathway** selections determine the direction and path type used at the location for the data import. Example, when data for EB and WB traffic is collected, an Offset of North or South should be selected. The pathway (bike lane, bike path, sidewalk, etc.) in both the file and location should match.

Admin: Export

The **Admin: Export** page (**Figure 19**) allows the user to create a file for data submission to the FHWA. Confirm the Export Type (Station or Count) and Month before selecting the **Submit** button.

Figure 19: Admin - Export page

A notification will be displayed (see **Figure 20**) after the request is submitted alerting the user of a pending email link to access the file.

Figure 20: FHWA Export submission notification

The email, as displayed below, will provide some preliminary information about the request. It will include: a Station or Count total, Critical columns of data for review, a link to a file that passed validation checks and a link to a file that contains all Stations or Counts.

Hello ,

Your FHWA NmdsCount2016 export for the month of 2020-12 is ready to be downloaded.

Number of Counts: 12 (only includes those without TMAS Validation Issues)

Some of the export records had TMAS Validation Issues:

Critical column 'FacilityType' cannot be empty
Locations: test_dir_2, test_dir_1

Download URLs:
TMG file containing only the count records that pass TMAS Validation:
https://s3.amazonaws.com/MS2-ReportOutput/3618378_NmdsCount2016/FHWA_NMDS_TM_VALID_COUNTS_2020-12.zip?AWSAccessKeyId=AKIAIM57LTEYVUS345GA&Expires=1611595678&Signature=cPfp6fjkKBHWU5EMEnrEer3g8%3D

TMG file containing ALL count records:
https://s3.amazonaws.com/MS2-ReportOutput/3618378_NmdsCount2016/FHWA_NMDS_ALL_COUNTS_2020-12.zip?AWSAccessKeyId=AKIAIM57LTEYVUS345GA&Expires=1611595678&Signature=3yhykF2VOr4xmyv9KS2%2BerBFbXy%3D

The files will be available to download for 7 days.

Admin: Import Status

During the file upload process, the **Admin: Import Status** page (**Figure 21**) shows the condition of the count files during the import process. The column headings on the grid can be selected to sort the information in ascending or descending order. Additional information about the file is provided in the 'QC Status' column when a user hovers over the results of the upload. The **Search** box on the top right (above the **Import Status** fields) is an additional feature that allows the user to refine the results presented. After the files are uploaded, the **Location Id** will display as a hyperlink to navigate to the **Analysis: Detail/Count** tab.

Figure 21: Admin - Import Status page

Non-Motorized Database System											
Dashboard		Analysis		Admin							
Upload		Export		Import Status		Add Location		QC Manager		Seasonal Factors	
Search: <input type="text"/>											
Job Id	Time Uploaded	File Name	Location Id	Relative Offset	Direction	Pathway Type	Direction Of Travel	Count Date	Import Status	QC Status	
2904068	07/08/2020 12:47:49	999.xls	999	N		Sidewalk	EB	6/12/2020	Successful	Accepted	
2904068	07/08/2020 12:47:49	999.xls	999	N		Sidewalk	WB	6/12/2020	Successful	Accepted	
2855043	06/19/2020 08:43:47	999.xls	999	N		Sidewalk	EB	6/12/2020	Successful	Not Available	
2855043	06/19/2020 08:43:47	999.xls	999	N		Sidewalk	WB	6/12/2020	Successful	Not Available	
2855038	06/19/2020 08:39:26	999.xls							Failed	QC not run	
2842888	06/16/2020 09:48:19	999.xls							Failed	QC not run	

During the file import process, the application will run through the following steps:

1. The name of the file and file type are checked after selection from storage.
2. When the file is imported into the system additional items are checked in the file, including:
 - a. Does the location exist?
 - b. Is the direction provided, and does it match the location?
 - c. Is the date valid?

The import status shows the condition during the first two steps listed above

3. The data is processed through the QC engine. The data is checked against QC rules and the QC status is shown during this step.

Admin: Add Location

Locations need to be in the system before counts can be imported to them. Locations are added using the **Admin: Add Location** section (**Figure 22**). Enter the required fields marked with * as well as additional fields that would benefit the agency's ability to track details of the location.

The QC Group selection should be done (if known), so that the QC rules can be applied when files are imported for the location. Within this memo, there is guidance on pathway selection when adding a new location in NMDS. The following is a screen shot of the **Admin: Add Location** page showing the **Road Associated** radial selected.

Figure 22: Admin - Add Location page

The screenshot shows the 'Admin: Add Location' page with the following elements:

- Navigation Bar:** Upload, Export, Import Status, Add Location, QC Manager, Seasonal Factors
- Form Fields:**
 - Location Id *: 10000
 - Description: [Empty]
 - County *: All
 - Community *: All
 - Jurisdiction: [Empty]
 - Located On: [Empty]
 - District/Region: [Empty]
 - Latitude: [Empty]
 - Longitude: [Empty]
 - TMG Station Id: [Empty]
 - Lrs Id: [Empty]
 - Lrs Loc Point: [Empty]
 - Functional Class: [None]
 - Owner *: [Select]
 - Permanent:
 - Seasonal Factors: [None]
 - QC Group: Default Group
 - Urban/Rural: [select]
- Buttons:** Map, Select SF Groups, Add Location
- Travel Direction *:** NS
- Selected Pathways *:**
 - Road Associated
 - Intersection
 - No Road Associated
 - West:**
 - Bike Lane
 - Bike Path
 - Roadway
 - Sidewalk
 - Trail
 - Unspecified
 - East:**
 - Bike Lane
 - Bike Path
 - Roadway
 - Sidewalk
 - Trail
 - Unspecified
 - Crosswalk

When the **No Road Associated** radial is selected (**Figure 23 & Figure 24**), the Selected Pathway options are modified. Functional Class options will also be limited to Trail or Shared Use Path or General Activity Count.

Figure 23: No Road Associated selection

The screenshot shows the 'Add Location' form with the following fields and options:

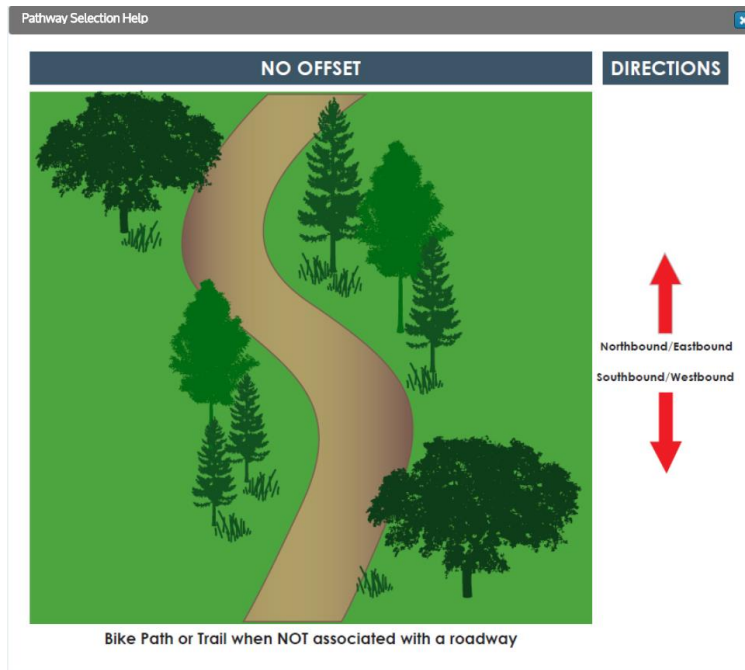
- Location Id ***: 10000
- Description**: [Empty text box]
- County ***: All
- Community ***: All
- Jurisdiction**: [Empty text box]
- Located On**: [Empty text box]
- District/Region**: [Empty text box]
- Latitude**: [Empty text box]
- Longitude**: [Empty text box]
- TMG Station Id**: [Empty text box]
- Lrs Id**: [Empty text box]
- Lrs Loc Point**: [Empty text box]
- Functional Class**: Trail or Shared Use Path
- Owner ***: [Select]
- Permanent**:
- Seasonal Factors**: [None]
- QC Group**: Default Group
- Urban/Rural**: [Select]

On the right side of the form:

- Travel Direction ***: NS
- Selected Pathways ***:
 - Road Associated
 - Intersection
 - No Road Associated
- West**:
 - Bike Path
 - Trail
 - Unspecified

Buttons: Upload, Export, Import Status, Add Location, QC Manager, Seasonal Factors, Map, Select SF Groups, Add Location.

Figure 24: Pathway diagram with No Road Associated




For pathways associated with a roadway

1. Complete the information on the left side.

(Note the minimum required fields are marked with a red asterisk.)

2. Select the non-motorized mode of traffic flow in the **Travel Direction** drop down.

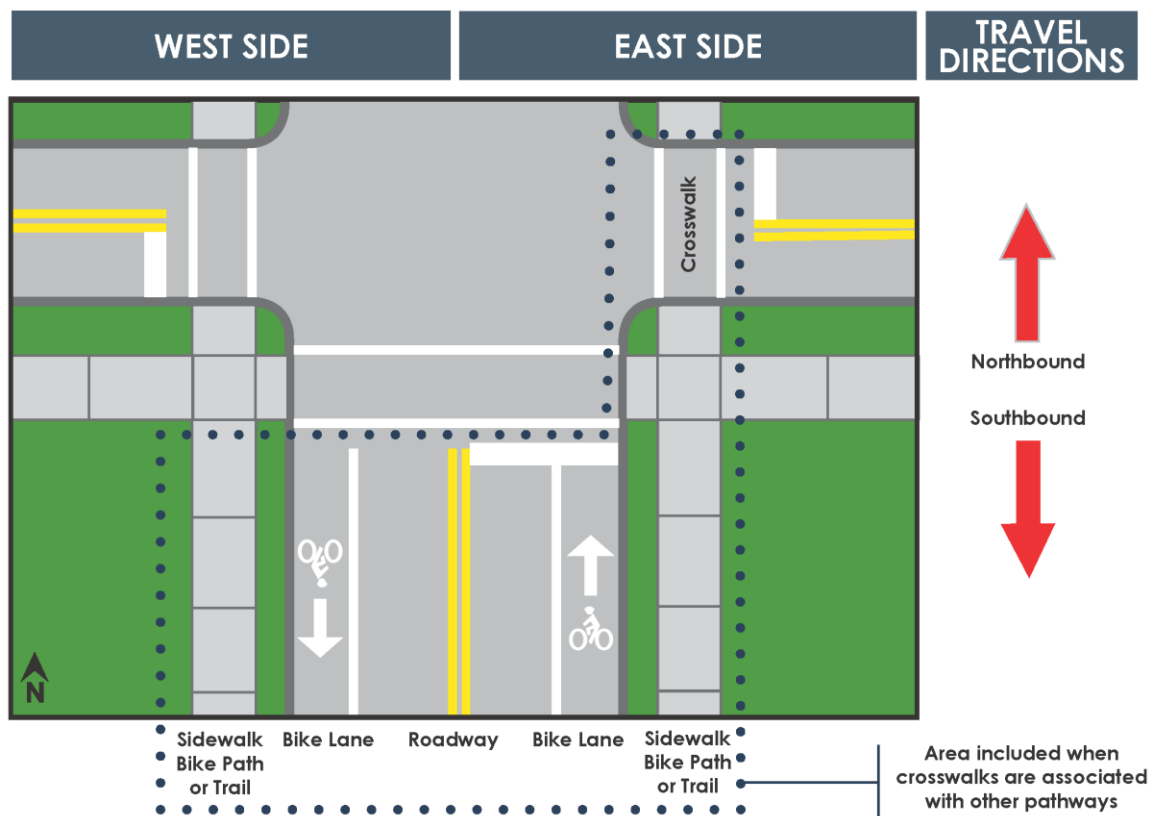
(Note the  icon, **Figure 25**. When selected, a pop-up will show the relationship of offsets and direction. The offset is in relation to the roadway. For example, a NS travel direction and road associated, with have an east offset (side) and west offset (side) for the pathways as shown below. The pop-up will be different if the **No Road Associated** radial is selected)

3. Select the **Road Associated** radial.

(This is for a location with pathways associated with a road as shown in the pop-up)

4. Select each of the pathways associated with the location.

Figure 25: Pathway diagram



For crosswalks at intersections with other pathways

1. Complete the information on the left side.

(Note the minimum required fields are marked with a red asterisk.)

2. Select the **Intersection** check box.

(This indicates that the pathway is associated with an intersection and the other selected pathways)

3. Select the non-motorized mode's traffic flow in the **Travel Direction** drop down.


4. Select the **Road Associated** radial. This is for a location with pathways associated with a road as shown in the pop-up.

(Note the  icon. When selected, a pop-up will show the relationship offsets and direction.

The offset is in relation to the roadway. For example, a NS traffic direction and road associated, with have an east offset and west offset for the pathways. The pop-up will be different if **No Road Associated** radial is selected)

5. Using the check boxes, select each of the pathways associated with the location. A selection is available for each pathway based on the side of the road (or offset).

6. Select the **Crosswalk** check box for a crosswalk pathway.

Note: the  icon next to the Crosswalk check box. The diagram shows which crosswalk will be associated with the other pathways at the intersection.

For this crosswalk, the physical location related to the intersection is the right side crosswalk at the approach. For example, at the northbound approach to the intersection, the data is collected for the crosswalk on the westbound approach. This will allow for consistency in viewing the data within the interface on the **Analysis: Detail** page.

For crosswalks at midblock (or pedestrian bridges, pedestrian underpasses)

1. Complete the information on the left side.

(Note the minimum required fields are marked with a red asterisk. The **Intersection** check box should not be selected if you are only going to show the crosswalk at the location)

2. Select the non-motorized mode of traffic flow in the **Travel Direction** drop down. This is not the vehicle flow on the road, but the non-motorized traffic flow within the crosswalk.
3. Select the **Road Associated** radial button.
4. Select ONLY the **Crosswalk** check box for these type of pathways and do not select **Intersection**.

For crosswalks at intersections with no other pathways associated

(Same as above, **For crosswalks at midblock**)

For crosswalks at intersections with other pathways

1. Complete the information on the left side.

(Note the minimum required fields are marked with a red asterisk.)

2. Select the **Intersection** check box.


(This indicates that the pathway is associated with an intersection and the other selected pathways)

3. Select the non-motorized mode's traffic flow in the **Travel Direction** drop down.
4. Select the **Road Associated** radial. This is for a location with pathways associated with a road as shown in the pop-up.

(Note the  icon. When selected, a pop-up will show the relationship offsets and direction.

The offset is in relation to the roadway. For example, a NS traffic direction and road associated, with have an east offset and west offset for the pathways. The pop-up will be different if **No Road Associated** radial is selected)

5. Using the check boxes, select each of the pathways associated with the location. A selection is available for each pathway based on the side of the road (or offset).
6. Select the **Crosswalk** check box for a crosswalk pathway.

(Note the  icon next to the Crosswalk check box. The diagram shows which crosswalk will be associated with the other pathways at the intersection.)

QC Manager

Admin: Assigning a Location to a QC Group

A QC Group can be assigned to a location using three options: within the **Admin** tab during an **Add Location** operation, within the **Analysis** tab during an edit operation or within the **QC Group Manager**. To complete a location assignment using the **Admin** tab, follow the directions within the **Admin: Add Location** section.

To complete the QC Group association for a location within the **Detail: Location** tab, use the following steps:

1. Perform a location search
2. Select the **Edit Info** button at the bottom of the **Analysis: Details/ Location** tab
3. When the new window opens (**Figure 26**), scroll to find the QC Group field
4. Select the desired QC Group for the location. 'Default Group' is tagged to all new locations or locations that have not been assigned to a QC Group.
5. Select the **Save Location** button.

Note: A location cannot be assigned to more than one QC group within the same year.

Figure 26: View when Edit Info is selected

The screenshot shows the 'Edit Info' window with the following fields and options:

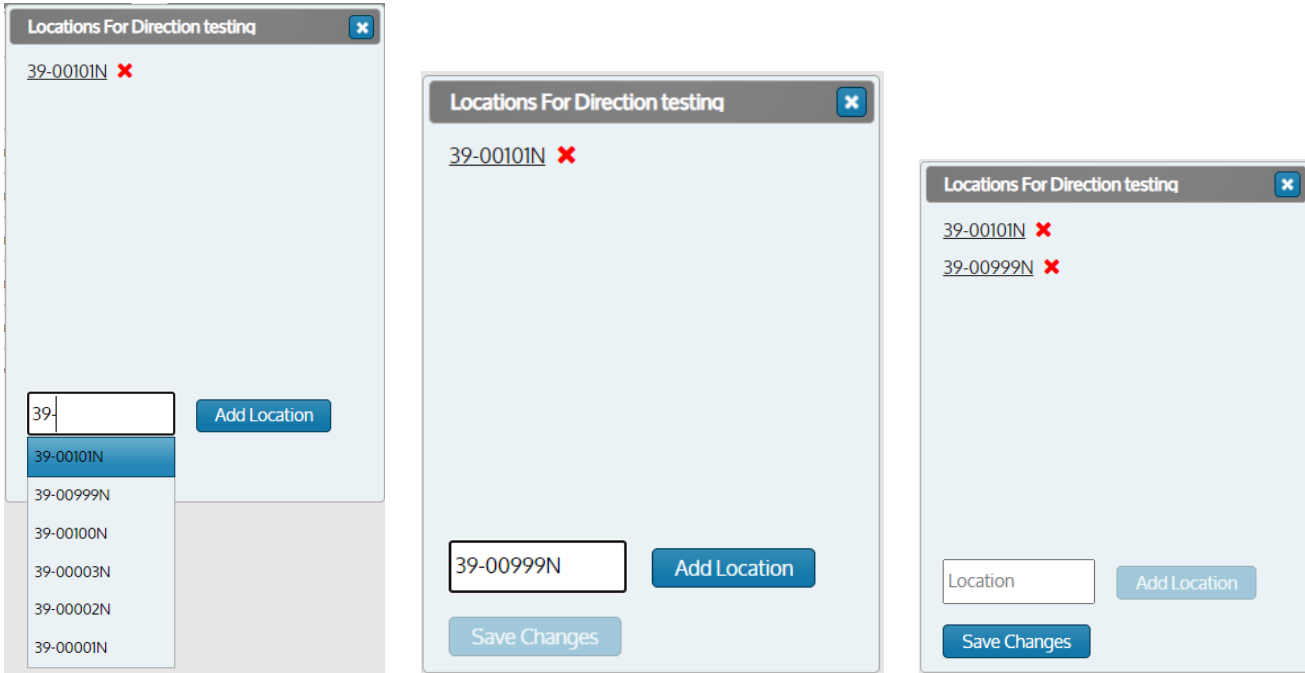
- Location Id ***: 31-00108N
- Description**: MDOT Station Number 31-8207
- County ***: Houghton
- Community ***: All
- Jurisdiction**: MDOT
- Located On**: Portage Canal Lift Bridge
- District/Region**: Superior
- Latitude**: 47.12115
- Longitude**: -88.57190
- Map**: Button to view location on a map
- TMG Station Id**: (Empty)
- Lrs Id**: 1177403
- Lrs Loc Point**: 0.2093515
- Functional Class**: [None]
- Owner ***: (Dropdown menu)
- Permanent**:
- Active**:
- Seasonal Factors**: 2020 test
- QC Group**: Default Group
- Urban/Rural**: Urban
- Travel Direction ***: NS
- Selected Pathways ***:
 - West**:
 - Bike Lane
 - Bike Path
 - Roadway
 - Sidewalk
 - Trail
 - Unspecified
 - East**:
 - Bike Lane
 - Bike Path
 - Roadway
 - Sidewalk
 - Trail
 - Unspecified
- Crosswalk**:

- Select SF Groups**: Button
- Save Location**: Button

To add a location via the **QC Group Manager (Figure 27)**, perform the following functions:

1. Select the **View** button of the QC Group to be added
2. Start typing the location ID which will open a list of potential locations
3. Select the Location and click the **Add Location** button
4. The Location will then be added to the list

Figure 27: QC Group Manager, Add Location



Admin: Adding a QC Group

QC checks are created to validate imported data and are implemented through the **Admin** page. The first step in setting up a **QC Group** is to select the **Add New Group** button (**Figure 28**) in the upper left of the **QC Manager** tab. Enter the Group Name and Group Description (for tracking purposes), then click **Save**.

Figure 28: Add QC Group window

When a new **QC Group** is added, locations can be assigned through the **QC Manager** tab (**Figure 29**), **Admin: Add Location** page or the **Analysis: Details** page (as described earlier).

Figure 29: Add Location entry

Non-Motorized Database System

Dashboard Analysis Admin

Upload Export Import Status Add Location QC Manager Seasonal Mode

QC Group Manager

Group Name	Description	View	Update	Delete
Default Group	Runs for every location without any assigned group			
Direction testing	Rule is to test enhanced QC Rules	View	Update	Delete
DOWCheck	DOW_QAT_UAT_Testing	View	Update	Delete
Mode testing	Rule is to test enhanced QC rules	View	Update	Delete
Offset testing	Rule is to test enhanced QC Rules	View	Update	Delete
Pathway Testing	Rule is to test enhanced QC rules	View	Update	Delete
QcCheckTest	This group is for testing	View	Update	Delete
UserViewQcError_Test	Haritha requested	View	Update	Delete

Selected Group Editor

QC Rule	Parameters	Filter	Edit	Delete
		Offset: NorthWest, Mode: Ped	Edit	Delete
		Mode: Bike	Edit	Delete

Locations For Direction testing ✕

39-00101N ✕

Location Add Location

Save Changes

Admin: Updating a QC Group

To update a **QC Group Name** or **Group Description (Figure 30)**, review the **QC Group Manager** and click the **Update** button of the group that needs to be changed. Make the necessary adjustment(s) and select the **Save** button to complete the update.

Figure 30: View when editing QC Group

The screenshot shows the 'QC Group Manager' interface. On the left, a table lists various QC groups. The 'Update QC Group' dialog box is open, showing the 'Group Name' field with 'Demo Group' and the 'Group Description' field with 'Demo Group 2019'. A 'Save' button is visible at the bottom of the dialog. On the right, the 'Selected Group Editor' panel shows the 'Group Name' field with 'Demo Group' and an 'Add Rule' button.

QC Group Manager				
Add New Group				
Default Group	Runs for every location without any assigned group	View	Update	Delete
Delaware County	testing	View	Update	Delete
Franklin Test	Test Group 2017	View	Update	Delete
mukkapati	Test - Seasonal Factors	View	Update	Delete
New Test Group	Test Group 2018	View	Update	Delete
Sample Test Group	Sample QC group	View	Update	Delete

Update QC Group [X]

Group Name

Group Description

Save

Selected Group Editor				
Group Name	Demo Group			
QC Rule	Parameters	Edit	Delete	
Add Rule				

Admin: Adding a QC Rule

To add a **QC Rule**, first select a group name from the **QC Group Manager** to activate the **Add Rule** button (Figure 31). The **Group Name** will be displayed within the **Selected Group Editor** field. Select the **Add Rule** button and choose an option from the drop down menu.

Figure 31: Add Rule button

The screenshot shows the 'QC Group Manager' interface. The 'Add Rule' button is highlighted in green. The 'Selected Group Editor' panel shows the 'Group Name' field with 'Mode testing' and a table of QC rules. The 'Add Rule' button is located below the table.

QC Group Manager				
Add New Group				
Default Group	Runs for every location without any assigned group			
Direction testing	Rule is to test enhanced QC Rules	View	Update	Delete
DOWCheck	DOW_QAT_UAT_Testing	View	Update	Delete
Mode testing	Rule is to test enhanced QC rules	View	Update	Delete
Offset testing	Rule is to test enhanced QC Rules	View	Update	Delete
Pathway Testing	Rule is to test enhanced QC rules	View	Update	Delete

Selected Group Editor				
Group Name	Mode testing			
QC Rule	Parameters	Filter	Edit	Delete
Maximum Daily Volume	Maximum Daily Volume=1700	Offset: NorthWest, Mode: Ped	Edit	Delete
Maximum Daily Volume	Maximum Daily Volume=500	Mode: Bike	Edit	Delete
Add Rule				

Select one of the QC rules (**Figure 32**) to apply to the group.

Figure 32: QC Rule selection

The screenshot shows the 'Add QC Rule' dialog box. It has a title bar with a close button. Below the title bar, there are four sections: 'Available Rules' with a dropdown menu showing '[Select]'; 'QC Description:' with a dropdown menu showing '[Select]'; 'Parameters' with a dropdown menu showing 'Number of Zeros Allowed'; and 'Filters:' with a dropdown menu showing 'Compared to Previous ADT', 'Maximum Hourly Volume', 'Maximum Daily Volume', and 'DOW Check'. At the bottom right, there is a 'Save' button.

After selecting the rule to add, a default parameter may be displayed (**Figure 33**).

Figure 33: Parameters and Filter options

The screenshot shows the 'Add QC Rule' dialog box with the 'Number of Zeros Allowed' rule selected. The 'Available Rules' dropdown now shows 'Number of Zeros Allowed'. The 'QC Description:' text reads 'Warning for imports with zero counts greater than specified.'. The 'Parameters' section shows 'MaxZeros' with a text input field containing the value '23'. The 'Filters:' section has four options: 'Offset:' (None), 'Pathway:' (checked, Unspecified), 'Direction:' (None), and 'Mode:' (Unspecified). The 'Mode:' dropdown menu is open, showing options: Roadway, Sidewalk, BikePath, Combined, BikeLane, Crosswalk, and Trail. A 'Save' button is at the bottom right.

Confirm the parameter(s) for the desired rule and apply any filters before clicking the **Save** button.

Available QC Rules

- **Number of Zeros Allowed** – This rule checks for the maximum number of zeros allowed within a daily count. It is based on 24 intervals in a day and will flag when value is greater than the set parameter.
Parameter: MaxZeros (1 to 23)
- **Compared to Previous Volume** – This rule compares the imported volume with the most recent value for the % change. The parameter is the % change and will flag if the value is greater than the set parameter.
Parameter: Percentage Change (0 to 100%)
- **Minimum Daily Volume** – This rule compares the imported volume for the daily total against the set parameter. The parameter is the minimum allowable volume and will flag if value is less than the set parameter.
Parameter: Minimum Daily Volume (Greater than 0)

- **Maximum Daily Volume** – The rule compares the imported volume for the daily total against the parameter. The parameter is the maximum allowable volume and will flag if the value is greater than the set parameter. *Parameter: Maximum Daily Volume*
- **Maximum Hourly Volume** – The rule compares the hourly volumes imported against the parameter. The parameter is the maximum hourly volume allowed and will flag is above the set parameter. *Parameter: Maximum Hourly Volume*
- **DOW Check** – This rule checks the daily total of the imported count with the most recent DOW average at that location. The parameter is a Maximum and Minimum percentage difference allowed from the DOW daily total and flags outside of the range. If no recent DOW is found, it will not be flagged. *Parameter: Percentage Change (0 to 100%)*
- **Consecutive Zero's** – This rule checks the number of consecutive time intervals with the value of zero. The parameter is the maximum allowed and will flag if above set parameter. *Parameter: Consecutive Zeros (1 to 23)*
- **Identical Consecutive Hours** – This rule checks the number of identical, consecutive hourly intervals that have the same value. The parameter is the maximum allowed and will flag if above the set parameter. This check does not would apply to values equal to zero. *Parameter: Consecutive Hours*
- **3 AM vs 3PM** – This rule checks if a count has volume that is higher in the 3AM hour than the 3PM hour. The parameter is if the 3 AM volume is greater than the 3 PM volume, the count would be flagged.
- **Adjacent Hour with a Zero Count** – This rule compares the imported volume value with the interval that is adjacent to an interval with a volume=0. The parameter is the maximum value allowed for the volume adjacent to the interval with the zero volume. It will flag if the volume is greater than the set parameter. *Parameter: Volume*
- **90 Day Moving Average** – This rule compares the imported daily volume with the previous 90 days. This check would only be applied to locations marked as permanent sites (PERM=Yes). The parameter is ratio between the imported count and the previous 90 days. *Parameter: Ratio*

The diagram below (**Figure 34**) illustrates one of the rules that was set up to check the **Maximum Daily Volume**. The parameter of 1700 indicates the maximum value of daily traffic that would be valid for this Pathway type: Trail. Any counts above that value will be flagged for further review.

Additional parameters can be added to a rule and multiple rules can be applied to a **QC Group**.

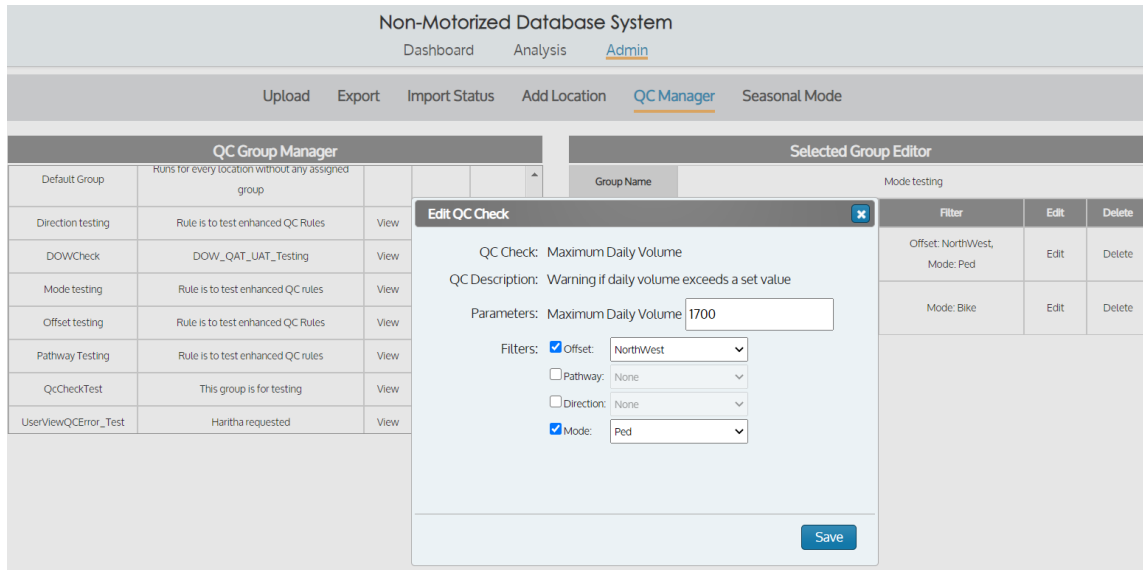
Figure 34: Sample QC Rule with parameters

Selected Group Editor				
Group Name	Pathway Testing			
QC Rule	Parameters	Filter	Edit	Delete
Maximum Daily Volume	Maximum Daily Volume=1700	PathwayType: Trail	Edit	Delete

Admin: Editing a QC Rule

To edit (or delete) a QC Rule, first select a group name from the **QC Group Manager** to activate the group to be edited or deleted. The **Group Name** will be displayed within the **Selected Group Editor** field.

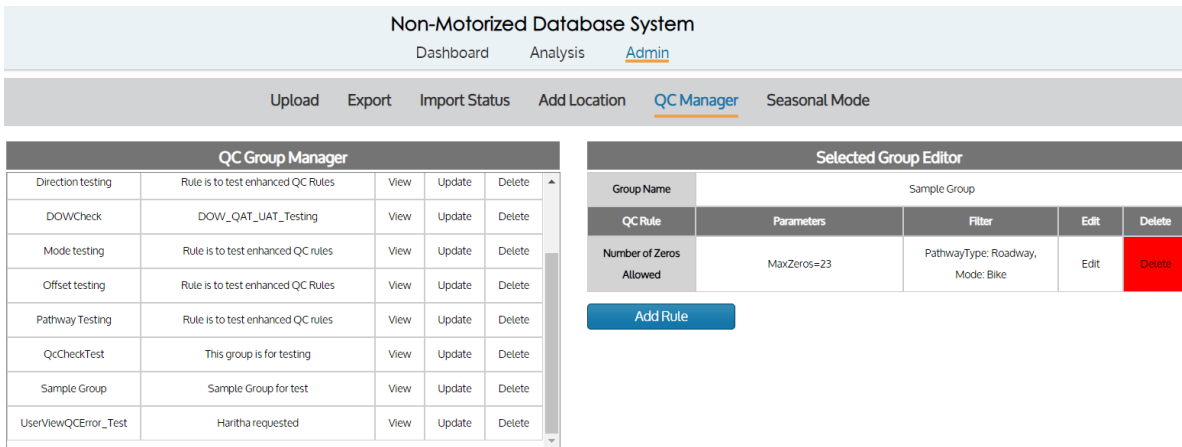
Figure 35: QC Rule edit view



A new window (**Figure 35**) will open to review and complete the edited fields as needed, then select the **Save** button. The parameters or filters will be updated based on changes made within the editor.

When deleting a **QC Group**, select the **Delete** button (**Figure 36**) of the rule to be removed.

Figure 36: Rule delete option



A delete notification (**Figure 37**) will be presented for confirmation, after which the rule will be removed.

Figure 37: QC Rule delete notification

mdot.ms2uat.com says

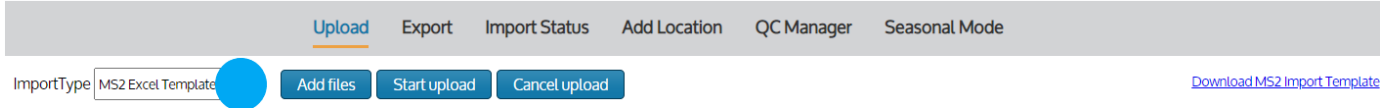
Delete check?



Uploading a Count File

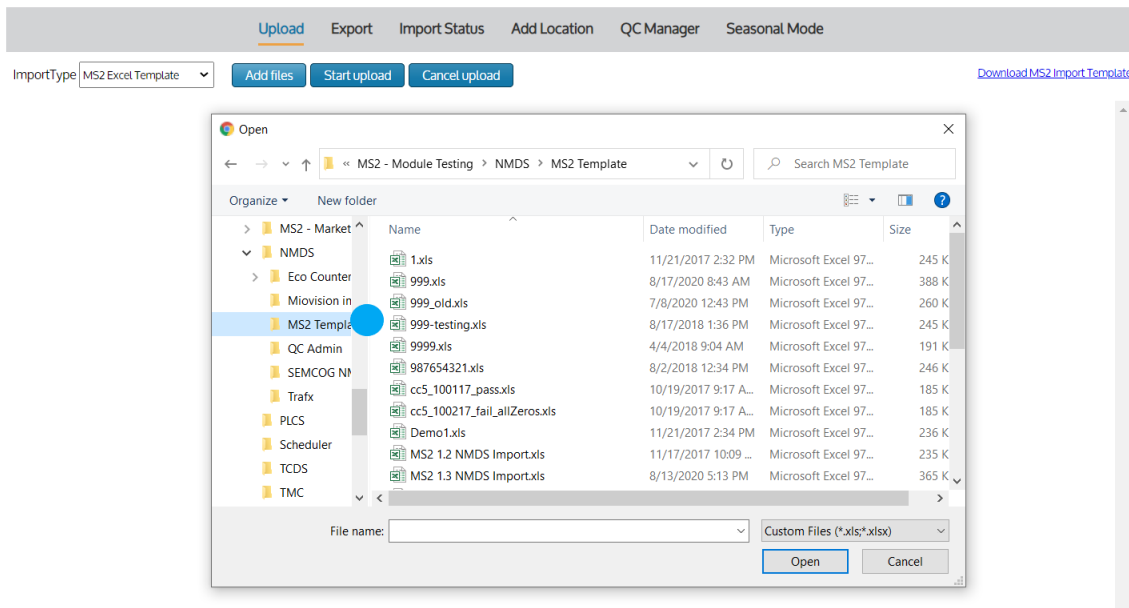
1. Go to **Admin: Upload** page on the NMDS site.
2. Select **MS2 Template** from the Import Type drop down (**Figure 38**).

Figure 38: Admin - Import Type selection



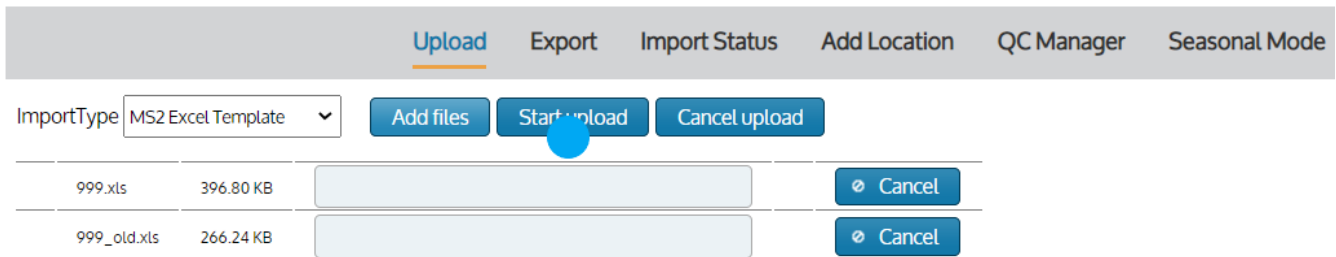
3. Select button **Add Files** and navigate to the files on your computer (**Figure 39**) that need to be imported.

Figure 39: File Explorer window



4. Select button **Start upload** (**Figure 40**). Within moments, the user will be directed to the **Analysis: Import Status** page. An email notification will be sent to confirm the results of the upload. If files fail the upload process, review the name of the file or format (.xls, .xlsx, or .csv). Any file that fails should be removed from the **Upload** page, modified as necessary, and reloaded. Note: the upload process is simply putting the file in a holding area to be imported.

Figure 40: Start Upload button



- On the **Admin: Import Status** page (**Figure 41**), review the status of the files as they are imported and processed. The page will refresh automatically every few moments. The file will show a status of **Pending** during processing. Once the file is processed, the status will change to **Successful** or **Failed** for each file.

Figure 41: File Import Status

Upload Export <u>Import Status</u> Add Location QC Manager Seasonal Factors										
Job Id	Time Uploaded	File Name	Location Id	Relative Offset Direction	Pathway Type	Direction Of Travel	Count Date	Import Status	QC Status	
2855043	06/19/2020 08:43:47	999.xls						Running	Pending Import	
2855038	06/19/2020 08:39:26	999.xls						Failed	QC not run	
2842888	06/16/2020 09:48:19	999.xls						Failed	QC not run	

For the file import process to be success, the following must be true:

- The station must exist in the system and must match the import file
- The direction of traffic must match the defined location in the system
- The data of the count must be valid

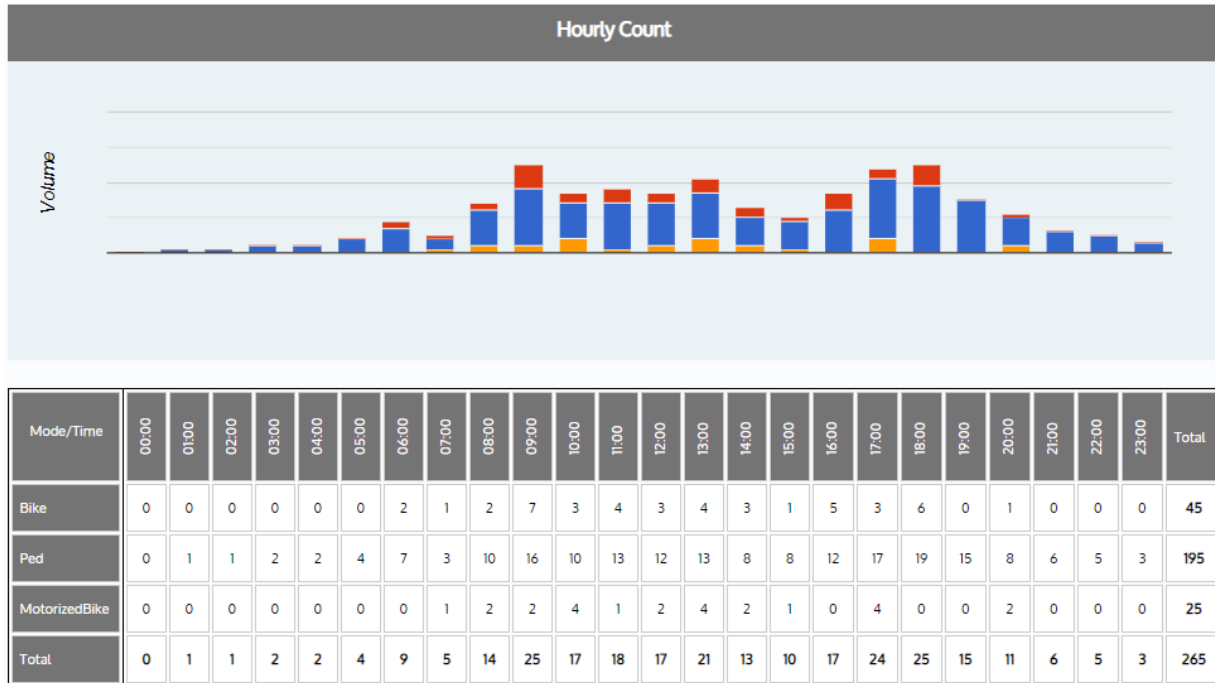
The file is also reviewed to confirm the template format has not been changed by the user.

- On the same page (**Admin: Import Status**), review the status of the files that have completed the QC process (**Figure 42**). This is the last step in the import process. An email is sent to indicate the success or failure of the import.

Figure 42: Import Status queue

Upload Export <u>Import Status</u> Add Location QC Manager Seasonal Mode										
Job Id	Time Uploaded	File Name	Location Id	Relative Offset Direction	Pathway Type	Direction Of Travel	Count Date	Import Status	QC Status	
3067498	08/17/2020 08:45:15	999.xls	999	E	Bike Lane	2-WAY	8/8/2020	Successful	Accepted	
3067498	08/17/2020 08:45:15	999.xls	999	E	Bike Path	NB	8/8/2020	Successful	Accepted	
3067498	08/17/2020 08:45:15	999.xls	999	E	Bike Path	SB	8/8/2020	Successful	Accepted	
3067498	08/17/2020 08:45:15	999.xls	999	E	Roadway	2-WAY	8/8/2020	Successful	Accepted	
3067498	08/17/2020 08:45:15	999.xls	999	E	Sidewalk	2-WAY	8/8/2020	Successful	Accepted	
3029809	08/14/2020 16:56:03	999.xls	999	E	Bike Path	NB	8/8/2020	Successful	Not Available	
3029809	08/14/2020 16:56:03	999.xls	999	E	Bike Path	SB	8/8/2020	Successful	Not Available	
3029809	08/14/2020 16:56:03	999.xls	999	E	Roadway	2-WAY	8/8/2020	Successful	Not Available	
3029809	08/14/2020 16:56:03	999.xls	999	E	Sidewalk	2-WAY	8/8/2020	Successful	Not Available	

- To review, accept, or reject the count after the quality control process, navigate to the **Detail: Count** tab by selecting the station's hyperlink in the **Admin: Import Status** page.
- On the **Analysis: Detail Count** tab, the count can be further processed depending on the QC status.
 - For counts that pass QC, the user can review the data, then delete or accept the count
 - For counts that fail QC, the user can review the data, then delete or reject the count (if necessary)

Figure 43: Hourly Count chart


The buttons for this workflow are found within below the **Hourly Count** chart (**Figure 43**) within the **Analysis: Detail Count** tab.

Figure 44: QC Log

QC Date	Pathway	Direction	Offset Direction	Mode	Error Level	Error Description
07/16/2020	Trail	North-East	Self	Ped	1	Daily volume cannot exceed 25
07/16/2020	Trail	South-West	Self	Ped	1	Daily volume cannot exceed 25

The **QC Log** (**Figure 44**) will display any error details of the count after it is imported into the system. For users needing to identify why the count was not accepted into the system, this portal will provide information about it in a table format.

Seasonal Factors by Mode

A seasonal factor tool is available with NMDS to create an annualized average daily traffic volume (AADT) similar to the process within the TCDS module. A seasonal factor and AADT can be generated by each mode available within the system for a location.

Figure 45: Seasonal Factor Manager

The **Seasonal Mode** page is split into two screens: **Seasonal Factor Group Manager** (left) and **Seasonal Factor Manager** (right—**Figure 45**).

On the left side, the **SF Group Manager** displays the Groups that have been created for the agency. On the right side, the **SF Manager** displays the seasonal factors applied to the selected location.

The steps listed below are used to process Seasonal Factors:

1. Assign locations to SF Groups
2. Locate SF Groups to process
3. Review Perm stations to verify good data
4. Process SF values for the group(s)

Admin: Assign locations to a Seasonal Factor Group

A SF Group can be assigned to a location using three options: within the **Admin** tab during an **Add Location** operation, within the **Analysis** tab during an edit operation or within the **SF Group Manager**. To complete a location assignment using the **Admin** tab, follow the directions within the **Admin: Add Location** section.

To complete the SF Group association for a location within the **Detail: Location** tab, first perform a search to identify a location. Select the **Edit Info** button to open a new window (**Figure 46**).

Figure 46: View inside Edit Info button

Scroll to the bottom left to view the associated **Seasonal Factors** field. If the group assigned is [None] --Default, use the **Select SF Groups** button to the right and this will open another screen (**Figure 47**). This will allow for selection of the year and SF group. Click the **Save** button to return to the main menu, then select the **Save Location** button to complete the update process.

Figure 47: Seasonal Factor Group selection

Admin: Adding a Seasonal Factor Group

A new **SF Group** is added using the following directions:

1. Select the **Add New Group** button under the **Admin: Seasonal Mode** page (**Figure 48**)
2. A new window (**Figure 49**) will open to record the **Group Name**, **Group Description** and **Group Year**
3. Click the **Save** button

Figure 48: Seasonal Mode page

The screenshot shows the 'Non-Motorized Database System' Admin page in 'Seasonal Mode'. The navigation bar includes 'Upload', 'Export', 'Import Status', 'Add Location', 'QC Manager', and 'Seasonal Mode'. The main content area is divided into two panels. The left panel, 'Seasonal Factor Group Manager', contains a table with the following data:

Group Name	Year	Description	View	Update	Delete
Kyle TEST	2014	TEST	View	Update	Delete
QAT/UAT Test Group	2019	TEST	View	Update	Delete
Test	2020	MS2 Test	View	Update	Delete

The right panel, also titled 'Seasonal Factor Manager', features a filter menu with options: Unclassified, Bike, Ped, Wheelchair, Horse, MotorizedBike, and Other. Below the filters is a calendar grid for selecting dates, with columns for days of the week (Sun-Sat) and rows for months (Jan-Dec). At the bottom of the calendar are 'Factor Clustering' and 'Edit' buttons.

Figure 49: Seasonal Manager Group editor

The screenshot shows the 'Add New SF Group' dialog box and the 'Add New Group' table. The dialog box has the following fields:

- Group Name:
- Group Description:
- Group Year:
- Save button

The 'Add New Group' table contains the following data:

Group Name	Year	Description	View	Update	Delete
Delaware County	2015	Locations in Delaware County	View	Update	Delete
Franklin County	2015	All Franklin County locations - 2015	View	Update	Delete
Franklin County	2017	All locations in Franklin County 2017	View	Update	Delete
Franklin County	2016	All locations in Franklin County 2016	View	Update	Delete
Franklin County test RWJ	2014	2014 Test Group	View	Update	Delete

Admin: Updating a Seasonal Factor Group

Updating a **SF Group** is managed through the **Seasonal Factor Group Manager** tab of the **Admin** page. Use the following steps to complete the update:

1. Identify the group to be updated and select the **Update** button
2. A new window (**Figure 50**) will open to make adjustments to **Group Name**, **Group Description** or **Group Year**
3. Click the **Save** button to confirm the update

Figure 50: View inside SF Group edit window

The screenshot displays the 'Non-Motorized Database System' Admin page. The 'Seasonal Factor Group Manager' tab is active, showing a table of groups and a modal window for updating a group.

Seasonal Factor Group Manager Table:

Group Name	Group Year	Group Description	View	Update	Delete
Kyle TEST	2014	TEST	View	Update	Delete
QAT/UAT Test Group	2019	TEST	View	Update	Delete
Test	2020	MS2 Test	View	Update	Delete

Update SF Group Modal Window:

Group Name: UAT Sample Group
 Group Description: TEST
 Group Year: 2019
 Save

Seasonal Factor Manager Grid:

Group Name: []
 Group Year: []

Group Name	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-

Buttons: Factor Clustering, Edit

Admin: Generating Seasonal Factors

There are two ways to create seasonal factors (SF) by mode for a SF group. A user can simply enter values into the grid shown below or generate values using **MS2's Factor Clustering** tool (**Figure 51**) accessed with button just below the grid.

Figure 51: Factor Clustering results

Non-Motorized Database System
[Dashboard](#) [Analysis](#) [Admin](#)

Seasonal Factor Group Manager

Add New Group	Year	Group Name	View	Update	Delete
Kyle TEST	2014	TEST	View	Update	Delete
QAT/UAT Test Group	2019	TEST	View	Update	Delete
Test	2020	MS2 Test	View	Update	Delete

Seasonal Factor Manager

Unclassified
 Bike
 Ped
 Wheelchair
 Horse
 MotorizedBike
 Other

Group Name	Test							Group Year	2020
	Sun	Mon	Tue	Wed	Thu	Fri	Sat		
Jan	1	1	1	1	1	1	1		
Feb	1	1	1	1	1	1	1		
Mar	1	1	1	1	1	1	1		
Apr	1	1	1	1	1	1	1		
May	1.7 0.87	2.75 1.04	2.16 0.72	12 0.56	3.37 0.72	3.5 0.84	1.35 0.81		
Jun	0.9 0.64	1.011 1.04	0.83 0.42	0.69 0.51	1.23 0.47	0.97 1.312	0.79 0.71		
Jul	0.72 0.67	1.102 0.77	0.45 0.38	0.45 0.57	1 0.91	0.85 0.89	0.56 0.64		
Aug	0.67 0.85	1.761 1.195	0.45 0.88	0.43 0.61	0.8 1.04	1.29 1.185	0.58 0.99		
Sep	1.417 1.32	0.72 1.111	0.65 0.72	0.57 0.89	0.7 1.58	1.60 1.43	0.96 1.123		
Oct	2.04 1.531	1.1 1.44	1.95 1.50	1.35 1.55	1.417 1.52	1.23 1.151	0.92 1.391		
Nov	3 3.37	1 2.73	3 2.16	2.25 1.47	12.8 2.60	6 3.51	6.3 3.08		
Dec	1 1	1 1	1 5	1 0.73	1 4.59	1 4	1 1		

Factor Clustering
 Update

Seasonal Mode values can be entered manually by selecting the **Edit** button (Figure 52) at the bottom of the **Seasonal Factor Manager** grid.

Figure 52: Factor Clustering Edit button

Non-Motorized Database System

Dashboard Analysis Admin

Upload Export Import Status Add Location QC Manager Seasonal Mode

Seasonal Factor Group Manager

[Add New Group](#)

Kyle TEST	2014	TEST	View	Update	Delete
OAT/UAT Test Group	2019	TEST	View	Update	Delete
Test	2020	MS2 Test	View	Update	Delete

Seasonal Factor Manager

Unclassified
 Bike
 Ped
 Wheelchair
 Horse
 MotorizedBike
 Other

Group Name	Group Year						
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-

[Factor Clustering](#)
[Edit](#)

Use the navigation arrows within each cell or hand enter the values (Figure 53).

Figure 53: Factor Clustering tool display

Seasonal Factor Manager

Unclassified
 Bike
 Ped
 Wheelchair
 Horse
 MotorizedBike
 Other

Group Name	Test							Group Year
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	2020
Jan	0.85	1	1	1	1	1	1	
Feb	1	1	1	1	1	1	1	
Mar	1	1	1	1	1	1	1	
Apr	1	1	1	1	1	1	1	

After adjusting the values, click the **Update** button to save the configuration. The AADT will be generated over night for the short count locations within the SF Group.

The second option for creating SF values is the **Seasonal Mode Factor Clustering** tool (**Figure 54**). Selecting the **Factor Clustering** button of the **Seasonal Factor Manager** tool will open a new screen (see below). The user will select from the following: Year, Factor Group, and mode for which these factors need to be generated.

Figure 54: Seasonal Mode processing screen

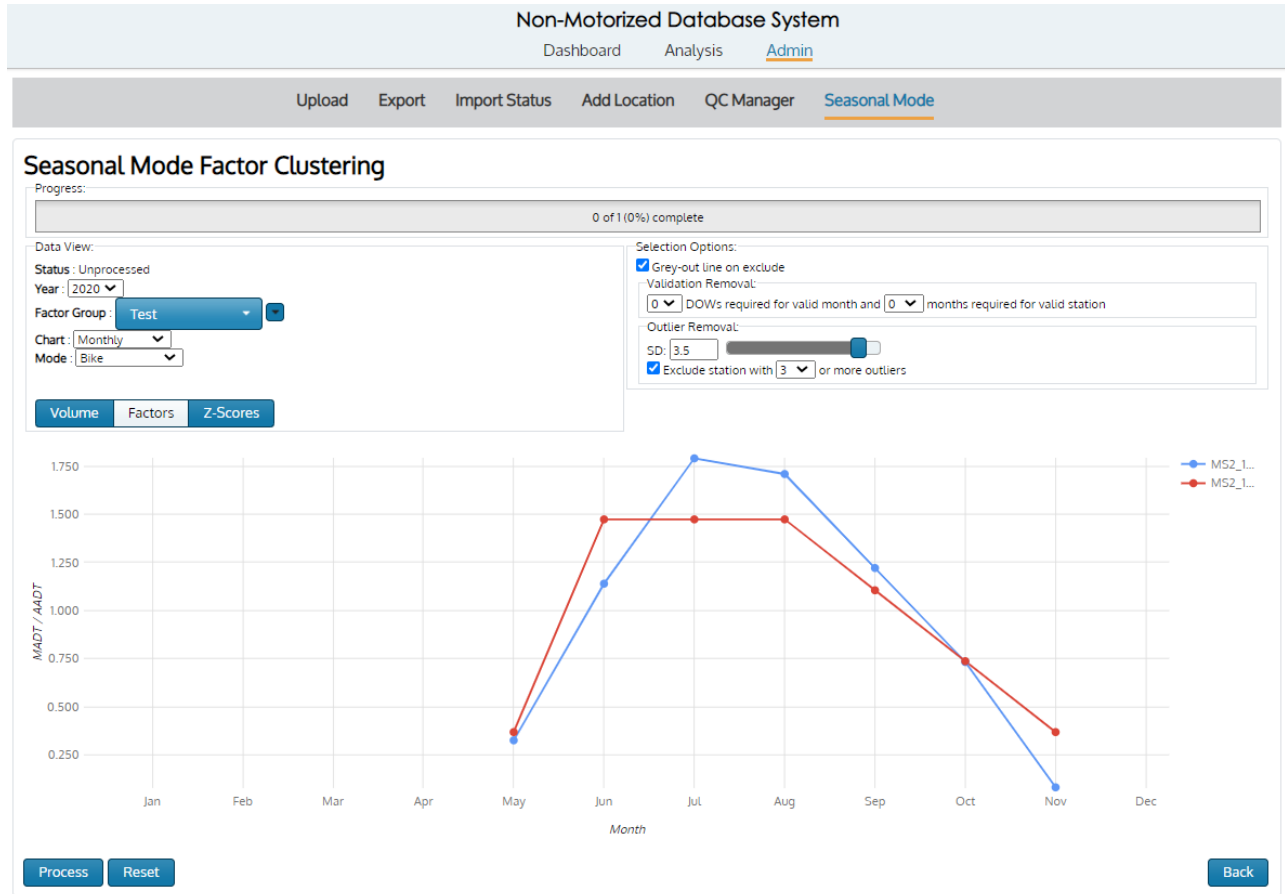
The screenshot displays the 'Seasonal Mode Factor Clustering' interface. At the top, it is part of the 'Non-Motorized Database System' with navigation options for 'Dashboard', 'Analysis', and 'Admin'. A secondary menu includes 'Upload', 'Export', 'Import Status', 'Add Location', 'QC Manager', and 'Seasonal Mode'. The main section is titled 'Seasonal Mode Factor Clustering' and features a progress indicator showing '0 of 1 (0%) complete'. On the left, the 'Data View' section includes 'Status: N/A', 'Year: 2020', 'Factor Group: Please Select', 'Chart: Monthly', and 'Mode: Unclassified'. On the right, 'Selection Options' include 'Grey-out line on exclude', 'Validation Removal' (DOWs required for valid month and months required for valid station), and 'Outlier Removal' (SD: 3.5, Exclude station with 3 or more outliers). At the bottom, there are 'Process', 'Reset', and 'Back' buttons.

Once selected, the Progress bar will show the transition as the data is prepared. The screen will be populated with data points for review.

These factors are generated using data from permanent/continuous count stations. Outliers can skew the data, so it is best to review the graphs during the preparation phase before completing the process.

During the review (**Figure 55**), outliers should be removed or the acceptance criteria should be adjusted using the control selectors. The **Outlier Removal** control is defaulted based on the recommended Standard Deviation. Based on the number of locations and volume of reported data, there may be additional outliers displayed. Removing the outliers will help to normalize the short count locations. The **Validation Removal** controls are additional features available to set the minimum requirements for accepting data. Current settings include Days of Week required for a valid month and number of months required for a valid station. Current defaults of the system accepts all data.

Figure 55: Factor Clustering tool in progress



The AADT will be generated overnight for the short count locations within the **SF Group**. A short count station is defined by the attribute -- Perm Station: No.

The results of the process are displayed in **Figure 56** below.

Figure 56: Factor Clustering results

Submit Group
✖

Bike
Ped
Wheelchair

Sunday

Month breakdown for Sundays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	1,124	1,679	1,116	4,984	3,853	3,918	2,831	NULL
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

Monday

Month breakdown for Mondays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	2,862	9,364	8,848	2,964	1,824	9,631	2,886	NULL
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

Tuesday

Month breakdown for Tuesdays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	1,924	8,951	2,421	8,883	8,642	1,046	1,593	5,008
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

Wednesday

Month breakdown for Wednesdays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	3,262	4,674	1,246	2,578	9,264	1,104	1,818	8,738
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

Thursday

Month breakdown for Thursdays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	4,816	2,858	1,691	1,933	1,595	1,458	4,624	4,599
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

Friday

Month breakdown for Fridays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	9,233	5,288	2,763	9,459	9,623	1,866	2,389	4,008
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

Saturday

Month breakdown for Saturdays for Ped

Current Selection	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<input type="radio"/> 2020*	NULL	NULL	NULL	NULL	8,813	3,367	1,668	3,558	5,882	1,175	2,388	NULL
<input type="radio"/> 2019†	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<input type="radio"/> Manual	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

* Numbers are rounded averages of all currently selected stations on the chart.
† The factor group named 'Test' does not exist for year 2019.

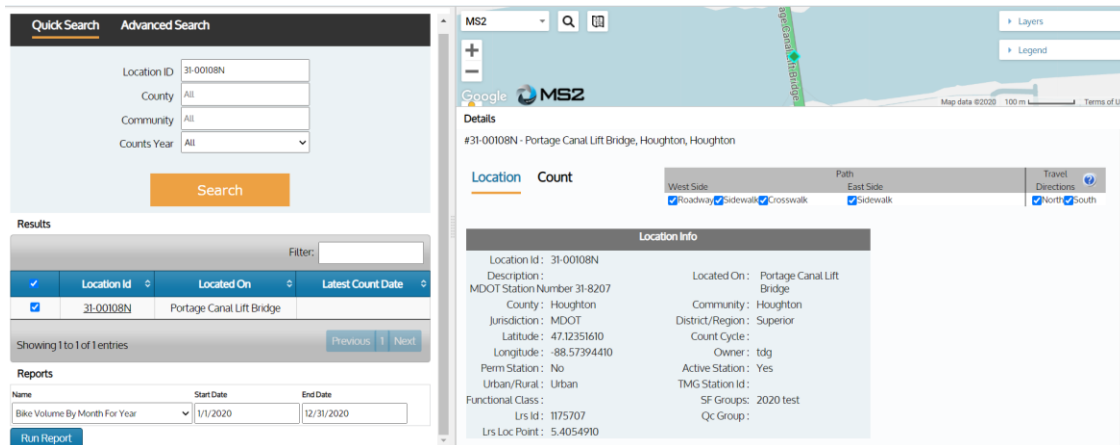
Submit
Cancel

If a previous year is available, the values are available for comparison and a line for manual over writing any values. The user then selects the Submit button and the values will be populated in the **Seasonal Factor Manager** grid. The AADT will be generated over night for the short count locations within the **SF Group**. A short count station is defined by the attribute, **Perm Station**: No.

ESRI's Roads and Highways® Extension

An additional feature within the module is the integration of the ESRI's Roads and Highways® (R&H) extension. This would only be available to agencies using the integrated applications. When creating new locations or editing existing locations, attributes can be pulled from the agency's Roads & Highways® software to use in MS2's NMDS module. The following steps will demonstrate the use of the R&H integration:

Figure 57: Analysis page

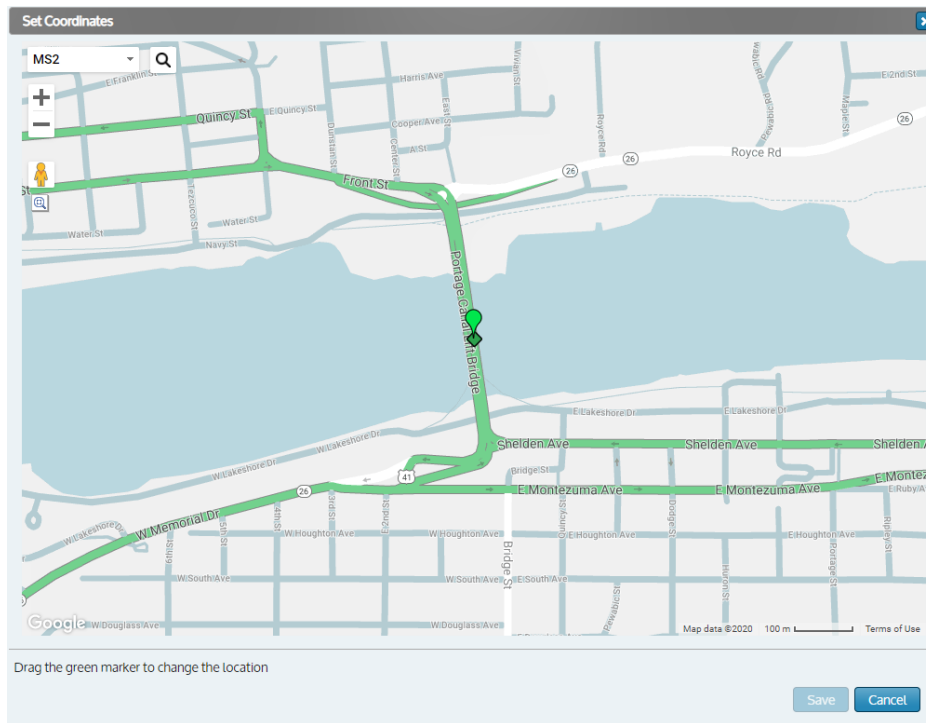


1. Perform a search using either the **Quick Search**, **Advanced Search** or **Map** tab within the **Analysis** page (**Figure 57**)
2. Select the **Edit Location** button within the **Location** tab of the **Analysis: Details** section.

Figure 58: Analysis – Details interface

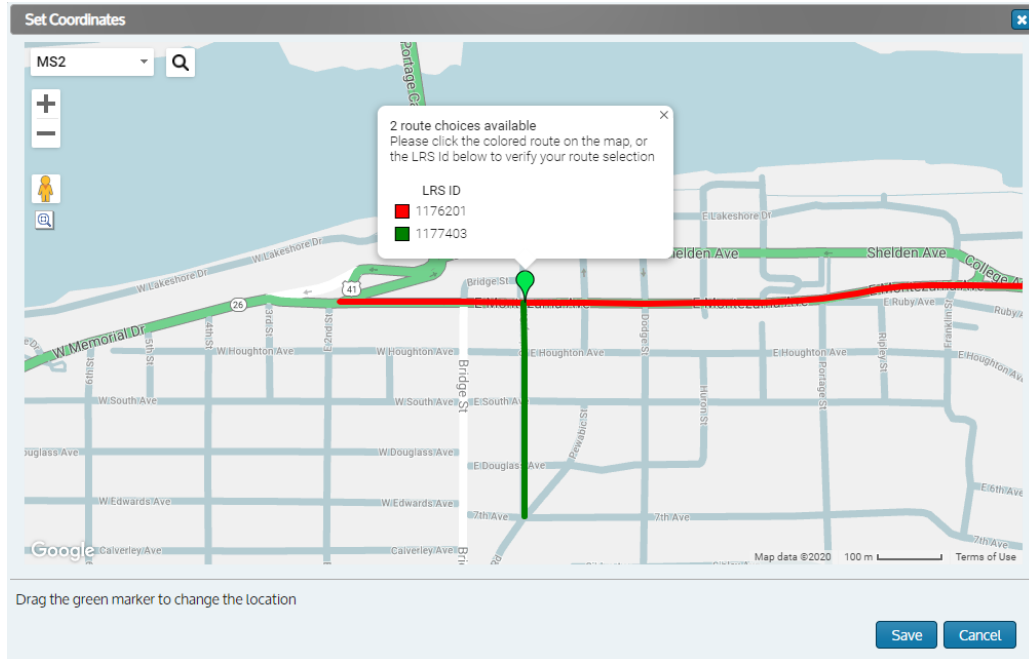
3. A new window (**Figure 58**) will open to review the location details

Figure 59: NMDS Location on map



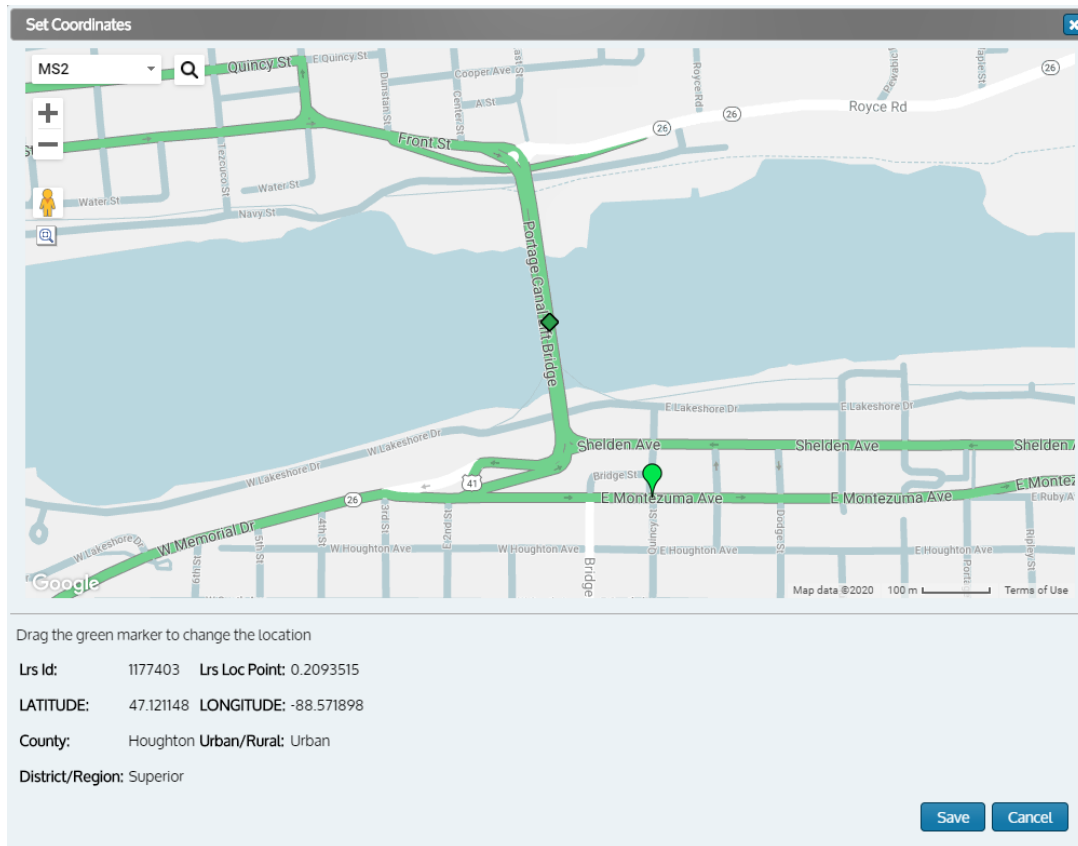
4. Select the **Map** button to open the location view (**Figure 59**)

Figure 60: Current location marker



5. Click and drag the existing (green) icon (in **Figure 60**) to the new desired location.

Figure 61: New Location marker



6. The new coordinates (**Figure 61**) will be displayed below the map for verification. This shows the attributes that are being pulled from the agency's Roads and Highways.

Figure 62: View of updated Location information

The screenshot shows the 'Edit Info' form for a location. The form is organized into several sections:

- Location Details:** Location Id (31-00108N), Description (MDOT Station Number 31-8207), County (Houghton), Community (All), Jurisdiction (MDOT), Located On (Portage Canal Lift Bridge), District/Region (Superior), Latitude (47.12115), Longitude (-88.57190), TMG Station Id, Lrs Id (1177403), Lrs Loc Point (0.2093515), Functional Class ([None]), and Owner.
- Travel Direction:** A dropdown menu set to 'NS'. Radio buttons for 'Road Associated' (selected), 'Intersection', and 'No Road Associated' are present.
- Selected Pathways:** A table with columns for 'West' and 'East'. Under 'West', 'Roadway' and 'Sidewalk' are checked. Under 'East', 'Sidewalk' is checked. A 'Crosswalk' checkbox is checked at the bottom of this section.
- Other Fields:** 'Permanent' (unchecked), 'Active' (checked), 'Seasonal Factors' (2020 test), 'QC Group' (Default Group), and 'Urban/Rural' (Urban).
- Buttons:** 'Map', 'Select SF Groups', and 'Save Location' (highlighted in blue).

7. Save the changes to update the location details (**Figure 62**)
8. Review the updated attributes, then click the **Save Location** button to complete the update.

Appendix

MS2 Template

The following provides guidance for using the MS2 Import Template.

Download the MS2 Template

1. Go to **Admin: Upload** page.
2. Select the **MS2 Excel Template** from the Import Type drop down menu (**Figure 63**).
3. A link for the template will display: click **Download MS2 Import Template** to open it.

Edit the MS2 Template

1. Save the file as "stationid_xxx" where xxx contains user choice of text. It is recommended to use text that would be informative to the user.
2. Open the file and select Enable Editing to begin entering the information.
3. Complete the following information in the header: Count Date, Station ID (**Figure 64**).
4. Set the direction of the road as displayed in **Figure 65** (the import process will check this against the station information).
5. Select the paths that apply to the station and offset sides of the road (**Figure 66**).
 - If this is a stand-alone bike path: the only thing that should be selected would be the bike path and E-side or W-side.
6. Select the hours for which the data was collected.
 - If 6-hr count: select six hours that the data was collected using check boxes.

Figure 63: Import Type drop down

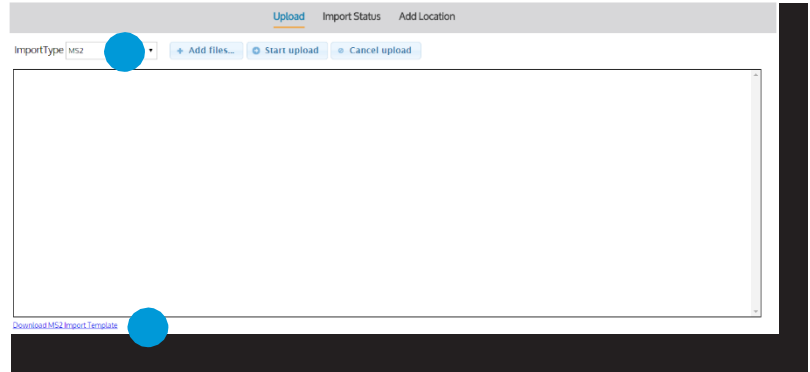


Figure 64: Location details section

MS2 NMDs Import Template

City (Area)	Longitude
Location Description	Latitude
Project #	Count Date 12/12/12

Count Information:

Precipitation	No
High Temperature	
Low Temperature	
Temperature Scale	F

Station Id	
Count Method	Manual
Count Purpose	R = Research purposes

Figure 65: Road Direction menu

Road Dir	NB SB	STREET	BIKE PATH	SIDEWALK
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Figure 66: Pathway selection headers

Count Hours	ALL				E-SIDE				W-SIDE				BIKE PATH				SIDEWALK			
	NB	SB	SR	TOTAL	NB	SB	SR	TOTAL	NB	SB	SR	TOTAL	NB	SB	SR	TOTAL	NB	SB	SR	TOTAL
0100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0700	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0800	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0900	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1700	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1800	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1900	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.00%				0.00%				0.00%				0.00%				0.00%			

- If 24-hr count: select all 24 hours.

Note: for a 6-hr count, the user should not select all hours and leave zeros in those hours. This would imply that a count was taken and the value is zero.

- Using the drop-down menu, select the mode at the top each column.
- Scroll down the sheet to find the relevant pathway selection (roadway, sidewalk, or bike path) to enter the counts. The data from these sections will update the cumulative pathway sections at the top of the page.

Figure 67: Data entry for counts by Pathway selection

SIDEWALK															
SIDEWALK	TOTAL					Select Mode					Select Mode				
	E-SIDE		W-SIDE		TOTAL	E-SIDE		W-SIDE		TOTAL	E-SIDE		W-SIDE		TOTAL
	NB	SB	NB	SB		NB	SB	NB	SB		NB	SB	NB	SB	
0000	0	0	0	0	0					0					0
0100	0	0	0	0	0					0					0
0200	0	0	0	0	0					0					0
0300	0	0	0	0	0					0					0
0400	0	0	0	0	0					0					0
0500	0	0	0	0	0					0					0
0600	0	0	0	0	0					0					0
0700	0	0	0	0	0					0					0
0800	0	0	0	0	0					0					0
0900	0	0	0	0	0					0					0
1000	0	0	0	0	0					0					0
1100	0	0	0	0	0					0					0
1200	0	0	0	0	0					0					0
1300	0	0	0	0	0					0					0
1400	0	0	0	0	0					0					0
1500	0	0	0	0	0					0					0
1600	0	0	0	0	0					0					0
1700	0	0	0	0	0					0					0
1800	0	0	0	0	0					0					0
1900	0	0	0	0	0					0					0
2000	0	0	0	0	0					0					0
2100	0	0	0	0	0					0					0
2200	0	0	0	0	0					0					0
2300	0	0	0	0	0					0					0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

- Enter the data into the appropriate blue cells (Figure 67). If copying from another file, be sure to use the paste option: **Values Only**.
- Save the file as "stationid_XXX" where **XXX** is decided by the user (if not completed).

Using the Two Way Total option

Figure 68: 2-Way Totals toggle

Road Dir	NB SB	ROADWAY	SIDEWALK	BIKEPATH	BIKELANE	CROSSWALK	TRAIL	UNSPECIFIED
		<input checked="" type="checkbox"/> E-SIDE	<input checked="" type="checkbox"/> E-SIDE	<input checked="" type="checkbox"/> E-SIDE	<input checked="" type="checkbox"/> E-SIDE	<input checked="" type="checkbox"/> E-SIDE	<input checked="" type="checkbox"/> E-SIDE	<input checked="" type="checkbox"/> E-SIDE
		<input checked="" type="checkbox"/> W-SIDE	<input checked="" type="checkbox"/> W-SIDE	<input checked="" type="checkbox"/> W-SIDE	<input checked="" type="checkbox"/> W-SIDE	<input checked="" type="checkbox"/> W-SIDE	<input checked="" type="checkbox"/> W-SIDE	<input checked="" type="checkbox"/> W-SIDE
		<input checked="" type="checkbox"/> 2-WAY TOTAL ONLY	<input type="checkbox"/> 2-WAY TOTAL ONLY	<input type="checkbox"/> 2-WAY TOTAL ONLY	<input type="checkbox"/> 2-WAY TOTAL ONLY	<input type="checkbox"/> 2-WAY TOTAL ONLY	<input type="checkbox"/> 2-WAY TOTAL ONLY	<input type="checkbox"/> 2-WAY TOTAL ONLY

NOTE:
 1. Set The Value of All Cells With A Blue Background Before Entering Counts
 2. For 2-WAY TOTAL ONLY add the volume data only in the blue column for each pathway

A **2-Way Total Only** functionality (Figure 68) was added to facilitate the storage and display of data which is representative of travel along both offset directions. When this option is selected, the number of columns displayed for data entry will adjust as shown in Figure 69 and Figure 70.

Figure 69: Pathway view without 2-Way selection

ROADWAY																				
ROADWAY	TOTAL					Ped					Bike					MotorizedBike				
	N-SIDE		S-SIDE		TOTAL	N-SIDE		S-SIDE		TOTAL	N-SIDE		S-SIDE		TOTAL	N-SIDE		S-SIDE		TOTAL
	EB	WB	EB	WB		EB	WB	EB	WB		EB	WB	EB	WB		EB	WB	EB	WB	
0000	0	0	0	0	0					0					0					0
0100	0	0	0	0	0					0					0					0
0200	0	0	0	0	0					0					0					0
0300	0	0	0	0	0					0					0					0
0400	0	0	0	0	0					0					0					0
0500	0	0	0	0	0					0					0					0
0600	0	0	0	0	0					0					0					0
0700	0	0	0	0	0					0					0					0
0800	0	0	0	0	0					0					0					0
0900	0	0	0	0	0					0					0					0
1000	0	0	0	0	0					0					0					0
1100	0	0	0	0	0					0					0					0
1200	0	0	0	0	0					0					0					0
1300	0	0	0	0	0					0					0					0
1400	0	0	0	0	0					0					0					0
1500	0	0	0	0	0					0					0					0
1600	0	0	0	0	0					0					0					0
1700	0	0	0	0	0					0					0					0
1800	0	0	0	0	0					0					0					0
1900	0	0	0	0	0					0					0					0
2000	0	0	0	0	0					0					0					0
2100	0	0	0	0	0					0					0					0
2200	0	0	0	0	0					0					0					0
2300	0	0	0	0	0					0					0					0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

When the **2-Way Total Only** option is selected, at least one Blue column will be displayed based on the offset direction(s) selected within the template.

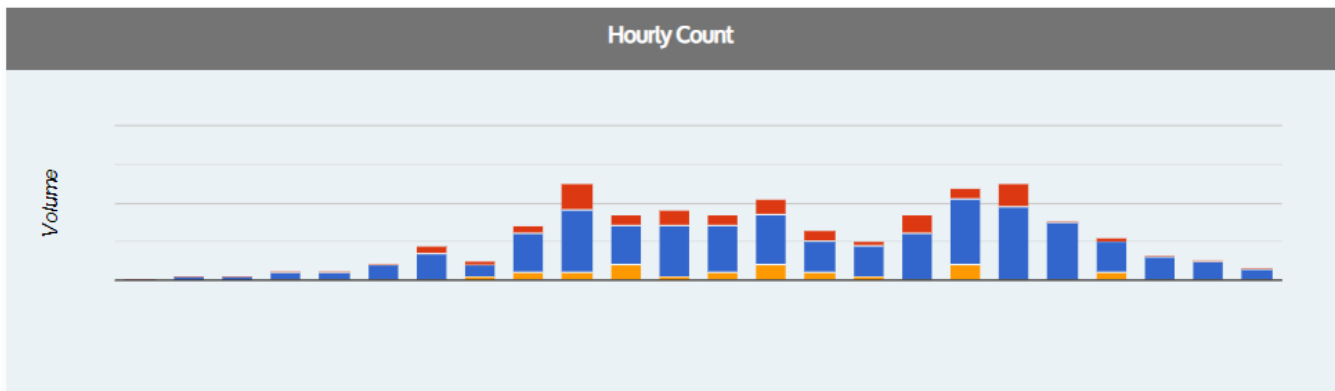
The additional column(s) will be grayed out indicating there is no longer a requirement to report data for the subsequent offset(s) columns.

Figure 70: Pathway view with 2-Way selection

ROADWAY																					
ROADWAY	TOTAL					Ped					Bike					MotorizedBike					
	N-SIDE		S-SIDE		TOTAL	N-SIDE		S-SIDE		TOTAL	N-SIDE		S-SIDE		TOTAL	N-SIDE		S-SIDE		TOTAL	
	EB	WB	EB	WB		EB	WB	EB	WB		EB	WB	EB	WB		EB	WB	EB	WB		
0000	0	0	0	0	0	0				0					0						0
0100	0	0	0	0	0	0				0					0						0
0200	0	0	0	0	0	0				0					0						0
0300	0	0	0	0	0	0				0					0						0
0400	0	0	0	0	0	0				0					0						0
0500	0	0	0	0	0	0				0					0						0
0600	0	0	0	0	0	0				0					0						0
0700	0	0	0	0	0	0				0					0						0
0800	1	0	0	0	1	1				1					0						0
0900	1	0	0	0	1	1				1					0						0
1000	1	0	0	0	1	0				0	1				1						0
1100	3	0	0	0	3	3				3					0						0
1200	0	0	0	0	0	0				0					0						0
1300	1	0	0	0	1	1				1					0						0
1400	0	0	0	0	0	0				0					0						0
1500	2	0	0	0	2	2				2					0						0
1600	2	0	0	0	2	0				0	2				2						0
1700	1	0	0	0	1	1				1					0						0
1800	0	0	0	0	0	0				0					0						0
1900	0	0	0	0	0	0				0					0						0
2000	0	0	0	0	0	0				0					0						0
2100	0	0	0	0	0	0				0					0						0
2200	0	0	0	0	0	0				0					0						0
2300	0	0	0	0	0	0				0					0						0
TOTAL	12	0	0	0	12	9	0	0	0	9	3	0	0	0	3	0	0	0	0	0	0

The **Hourly Count** chart (Figure 71) will also show how the data is displayed using the **2-Way Total** option which looks at all counts within the file.

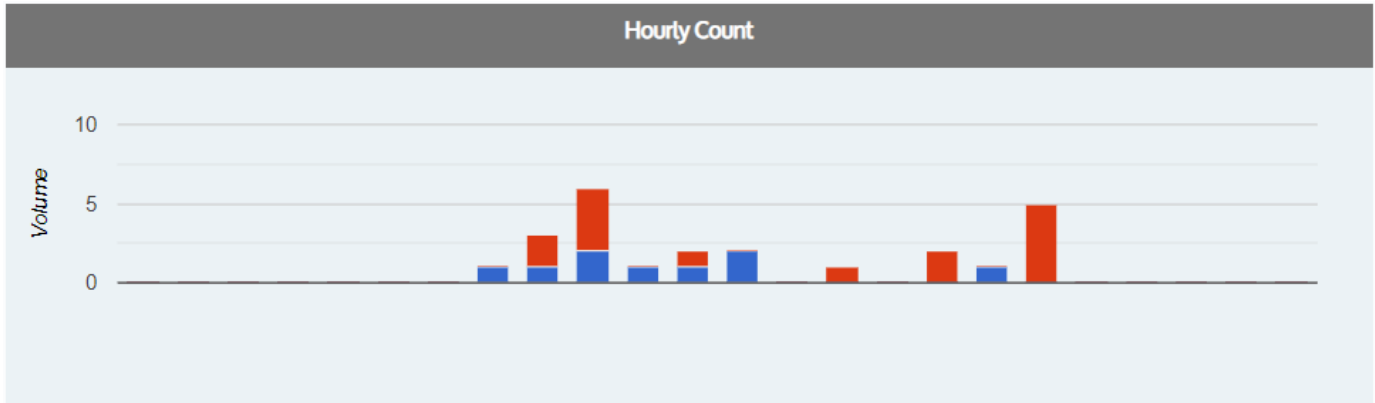
Figure 71: Hourly Count interface



Mode/Time	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Bike	0	0	0	0	0	0	2	1	2	7	3	4	3	4	3	1	5	3	6	0	1	0	0	0	45
Ped	0	1	1	2	2	4	7	3	10	16	10	13	12	13	8	8	12	17	19	15	8	6	5	3	195
MotorizedBike	0	0	0	0	0	0	0	1	2	2	4	1	2	4	2	1	0	4	0	0	2	0	0	0	25
Total	0	1	1	2	2	4	9	5	14	25	17	18	17	21	13	10	17	24	25	15	11	6	5	3	265

Based on the change in **Travel Direction** selection, the **2-Way Total** counts will be removed from display. The reason is because **2-Way Total** is based on data representing both directions as shown in **Figure 72** below.

Figure 72: Hourly Count without 2-Way Total

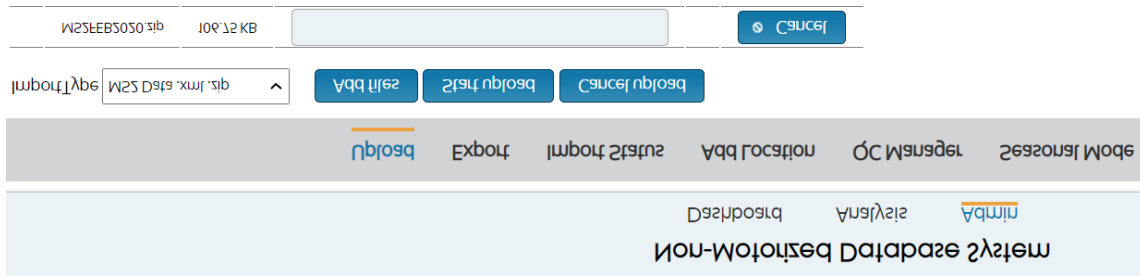


Mode/Time	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	
Bike	0	0	0	0	0	0	0	0	2	4	0	1	0	0	1	0	2	0	5	0	0	0	0	0	0	15
Ped	0	0	0	0	0	0	0	1	1	2	1	1	2	0	0	0	0	1	0	0	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	1	3	6	1	2	2	0	1	0	2	1	5	0	0	0	0	0	0	24

Import File Types

MS2 Data Template

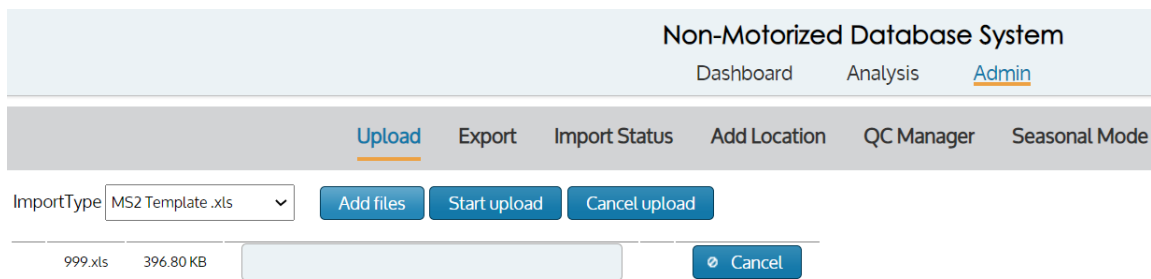
Figure 73: File Import view - MS2 Data Template



The MS2 Data Template (**Figure 73**) files are stores as XML (.xml) or ZIP (.zip files and is available as a download within the **Admin: Upload** tab. It will be visible when the MS2 Template is selected from the **ImportType** drop down. When this template is used, no additional fields are needed before selecting the **Start Upload** button.

MS2 Template

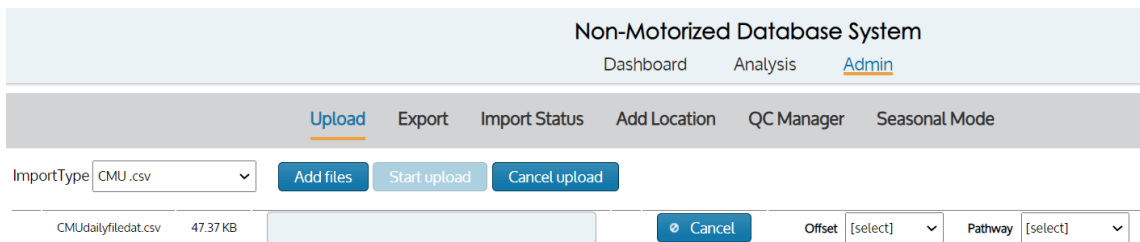
Figure 74: File Import view - MS2 Template



The MS2 Template (**Figure 74**) files are stores as Excel (.xls) files and is available as a download within the **Admin: Upload** tab. It will be visible when the MS2 Template is selected from the **ImportType** drop down. When using this template, all Blue fields within the file must be completed. When this template is used, no additional fields will need to be entered before selecting the **Start Upload** button.

CMU

Figure 75: File Import view – CMU Template



The CMU Template (**Figure 75**) files are stored as comma-separated values (.csv). Uploading CMU files will require completion of additional fields including: Offset and Pathway. The upload process, **Start upload**, will not be accessible until the additional fields are complete and must be done for each file import. Station id is defined within the file and must match a location within the NMDS module.

Diamond Omega

Figure 76: File Import view - Diamond Template

Diamond Omega (**Figure 76**) files are stored as binary (.bin). Uploading Diamond files will require completion of additional fields including: Offset and Pathway. The upload process, **Start upload**, will not be accessible until the additional fields are complete and must be done for each file import. Station id is defined within the file and must match a location within the NMDS module.

EcoCounter

Figure 77: File Import view - EcoCounter Version 4 Template

EcoCounter released a newer version for capturing Non-Motorized data. MS2 has configured the newer version and will maintain the existing version for use within the import queue. Version 4 (**Figure 77**) files are stored as comma-separated values (.csv). EcoCounter does not require a station ID within the file. The Station ID will be required during file upload.

Figure 78: File Import view - EcoCounter Version 5 Template

Version 5 (**Figure 78**) files provides similar functionality for data collection and export, but stored as Excel (.xlsx).

Acceptable formats for date and time will depend on the version as well as separation of the data used for storing and processing (see below).

Two columns: "MM/DD/YYYY,HH:MM", "YYYY/MM/DD,HH:MM" - Version 4

One column (Date): "DD/MM/YYYY" - Version 4

One column (Date): "YYMMDD" - Version 5

Uploading EcoCounter files will require completion of additional fields including: Location, In Direction, Offset and Pathway. The upload process, **Start upload**, will not be accessible until the additional fields are complete and must be done for each file import.

Location, Offset, and Pathway are explained previously. For In Direction, the NMDS module reads within the EcoCounter files at the column with IN to establish the traffic flow of the mode. For example, the column header says Ped In. After the Location is entered, the user selects the direction that "In" represents for the traffic flow. For example, if a counter is setup with IN counting the northbound direction, the user would select north for the **In Direction** drop down.

MetroCount

Figure 79: Import File view - MetroCount

MetroCount (**Figure 79**) files are stored as data (.dat), but can also be supported using text (.txt). Uploading MetroCount files will require completion of additional fields including: Offset and Pathway. The upload process, **Start upload**, will not be accessible until the additional fields are complete and must be done for each file import. Station id is defined within the file and must match a location within the NMDS module.

Miovision

Figure 80: File Import view - Miovision Template

Miovision (**Figure 80**) files are stored as comma-separated values (.csv). Uploading Miovision files will require the completion of additional fields including: Offset and Pathway. The upload process, **Start upload**, will not be accessible until the additional fields are complete and must be done for each file import. Station id is defined within the file and must match a location within the NMDS module.

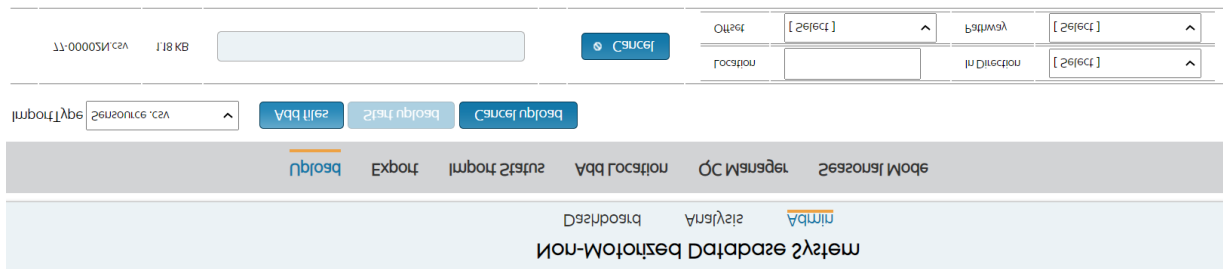
Importing from Miovision

1. Download the "Intersection Count CSV Full" from the Miovision software
2. Visit the NMDS module before going to the Admin page
3. Click on the 'ImportType' drop down menu and select Miovision CSV
4. Click the 'Add files' button, browse to the .csv files that were saved and import them
5. Click the 'Start upload' button to begin the import process
6. The import status page will display the progress of the files

Note: Miovision multiple day import files are now supported by the software.

Sensource

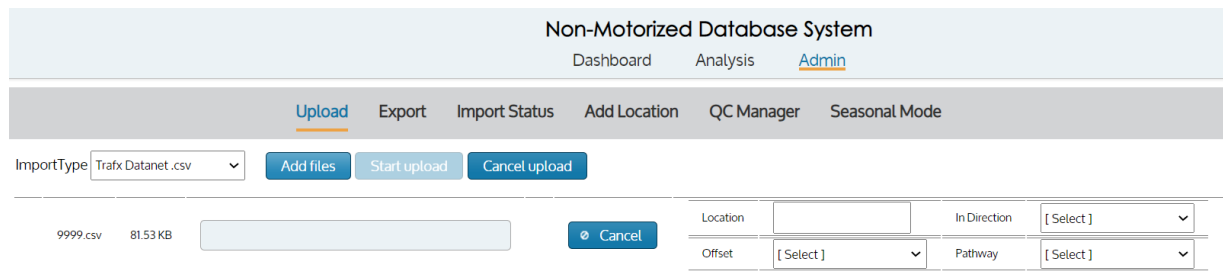
Figure 81: File Import view - Sensource Template



Sensource (**Figure 81**) files are stored as text (.csv). Uploading Sensource files will require completion of additional fields including: Location (station ID, Direction, Offset and Pathway. Sensource does not require a station ID within the file. However, it must be included when preparing the file(s) for import. The **Start upload** button, will not be accessible until the additional fields are complete and must be done for each file import.

Trafx DataneT

Figure 82: File Import view - Trafx DataneT Template



Trafx DataNet (**Figure 82**) files are stored as text (.csv). Uploading **Trafx DataneT** files will require completion of additional fields including: Location ID, Direction, Offset and Pathway. Similar to a couple of the other formats, the Station ID is not contained in the file and must be added during the file upload process to ensure data is posted to the correct station. The Start upload button will not be accessible until the additional fields (mentioned above) are complete and must be done for each import. **Station ID** is identified within the file and must match a location within the NMDS module.

TrafX TXT

Figure 83: File Import view - TrafX Txt Template

Non-Motorized Database System

Dashboard Analysis [Admin](#)

[Upload](#) Export Import Status Add Location QC Manager Seasonal Mode

ImportType:

99900.txt	1.96 KB	<input type="button" value="Cancel"/>	Offset: <input type="text" value="[select]"/>	Pathway: <input type="text" value="[select]"/>
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TrafX (**Figure 83**) files are stored as text (.txt). Uploading TrafX files will require completion of additional fields including: Offset and Pathway. The upload process, **Start upload**, will not be accessible until the additional fields are complete and must be done for each file import. Station id is defined within the file and must match a location within the NMDS module. TrafX files can be per vehicle or binned formats.

TMC Module to NMDS Module Data Transfer

An additional component of the TMC application allows data to be transferred to the Non-Motorized Database System (NMDS) application. The key benefit of this tool is push bike and pedestrian data collected with a turning movement to the NMDS module.

In managing this process, the agency will need both modules. Within each module, there is a setup process to ensure the data will be correctly transferred and stored. **Note:** this is an overnight process which will retrieve available data and fill the gaps within NMDS.

Setting up NMDS

Use the following steps to review and confirm NMDS is prepared for the data transfer:

1. Log into the NMDS module.
2. Perform a search for the location to which data will be transferred.
3. Select the Edit Location button within the Analysis Detail page (**Figure 84**).
4. Confirm there are locations for each of the respective approaches and they are designated with the correct path types with intersection selected.
5. If any of the approaches are missing, it will need to be created.

Figure 84: NMDS module - Edit Location view

The screenshot shows the 'Edit Info' window for the NMDS module. The form is organized into several sections:

- Location Info:** Location Id (33-09999N_NB), Description, County (Ingham), Community (Lansing), Jurisdiction, Located On, District/Region, Latitude (42.7264), Longitude (-84.60299), TMG Station Id, Lrs Id, Lrs Loc Point, Functional Class ([None]), Owner, Permanent (unchecked), Active (checked).
- Travel Direction:** Travel Direction (NS), Road Associated (selected), Intersection (checked), No Road Associated (unchecked).
- Selected Pathways:** West and East sections with checkboxes for Bike Lane, Bike Path, Roadway, Sidewalk, Trail, and Unspecified. A Crosswalk checkbox is also present at the bottom.
- Seasonal Factors:** Seasonal Factors ([None]), QC Group (Default Group), Urban/Rural ([select]).
- Buttons:** Generate ID, Map, Select SF Groups, Save Location.

Example

The following example uses station 1572 from TMC and 33-0999N from NMDS. The four approaches were setup in NMDS as follows:

Edit Info
✕

Location Id * Generate ID

Description

County *

Community *

Jurisdiction

Located On

Travel Direction *

Road Associated
 Intersection
 No Road Associated

Selected Pathways * ?

West	East
<input checked="" type="checkbox"/> Bike Lane	<input checked="" type="checkbox"/> Bike Lane
<input checked="" type="checkbox"/> Bike Path	<input checked="" type="checkbox"/> Bike Path
<input checked="" type="checkbox"/> Roadway	<input checked="" type="checkbox"/> Roadway
<input checked="" type="checkbox"/> Sidewalk	<input checked="" type="checkbox"/> Sidewalk
<input type="checkbox"/> Trail	<input type="checkbox"/> Trail
<input type="checkbox"/> Unspecified	<input type="checkbox"/> Unspecified

Crosswalk ?

NB Approach

Edit Info
✕

Location Id * Generate ID

Description

County *

Community *

Jurisdiction

Located On

Travel Direction *

Road Associated
 Intersection
 No Road Associated

Selected Pathways * ?

North	South
<input type="checkbox"/> Bike Lane	<input type="checkbox"/> Bike Lane
<input checked="" type="checkbox"/> Bike Path	<input checked="" type="checkbox"/> Bike Path
<input type="checkbox"/> Roadway	<input type="checkbox"/> Roadway
<input checked="" type="checkbox"/> Sidewalk	<input checked="" type="checkbox"/> Sidewalk
<input type="checkbox"/> Trail	<input type="checkbox"/> Trail
<input type="checkbox"/> Unspecified	<input type="checkbox"/> Unspecified

Crosswalk ?

EB Approach

Edit Info
✕

Location Id * Generate ID

Description

County *

Community *

Jurisdiction

Located On

Travel Direction *

Road Associated
 Intersection
 No Road Associated

Selected Pathways * ?

West	East
<input type="checkbox"/> Bike Lane	<input type="checkbox"/> Bike Lane
<input checked="" type="checkbox"/> Bike Path	<input checked="" type="checkbox"/> Bike Path
<input checked="" type="checkbox"/> Roadway	<input checked="" type="checkbox"/> Roadway
<input checked="" type="checkbox"/> Sidewalk	<input checked="" type="checkbox"/> Sidewalk
<input type="checkbox"/> Trail	<input type="checkbox"/> Trail
<input type="checkbox"/> Unspecified	<input type="checkbox"/> Unspecified

Crosswalk ?

SB Approach

Edit Info

Location Id * 33-09999N_WB Generate ID

Description

County * Ingham

Community * Lansing

Jurisdiction

Located On

Travel Direction * EW

Road Associated
 Intersection
 No Road Associated

Selected Pathways *

North	South
<input type="checkbox"/> Bike Lane	<input type="checkbox"/> Bike Lane
<input checked="" type="checkbox"/> Bike Path	<input checked="" type="checkbox"/> Bike Path
<input type="checkbox"/> Roadway	<input type="checkbox"/> Roadway
<input type="checkbox"/> Sidewalk	<input type="checkbox"/> Sidewalk
<input checked="" type="checkbox"/> Trail	<input checked="" type="checkbox"/> Trail
<input type="checkbox"/> Unspecified	<input type="checkbox"/> Unspecified

Crosswalk

WB Approach

Notice in the above images the **Selected Pathways** vary by direction but must include at least one valid pathway (Bike Lane, Bike Path, Roadway and Sidewalk). The name of the NDMS location must include the underscore direction, i.e., _NB. The other key categories include the Crosswalk and the Intersection (Road Associated) checkboxes.

Error Messages

Below is a list of errors that may be displayed to a user when importing data:

Invalid Location – The location is not currently in the database

Invalid Import: file is to import for pathways Crosswalk, Trail, Unspecified which don't exist at the given location – The file contains checked boxes for fields which has no data

There is either duplicate data in the file or a count already exists for this date – The file may contain duplicate counts for a day or may already be stored in the system

The offset and pathway selected at the File Upload does not match offset and pathway defined at location – Review the Offset and Pathway as listed in the file and compare with the station information within the **Details: Location** tab