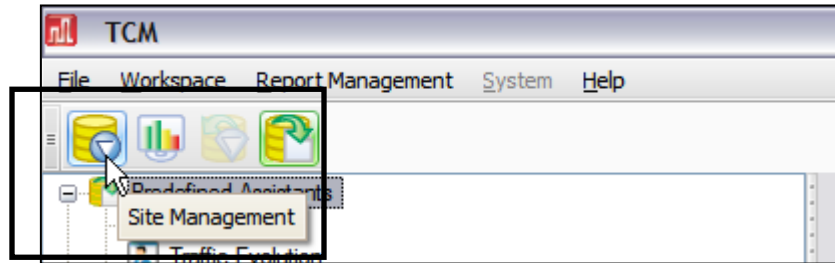


Traffic Count Management (TCM) Program Count Report Guide

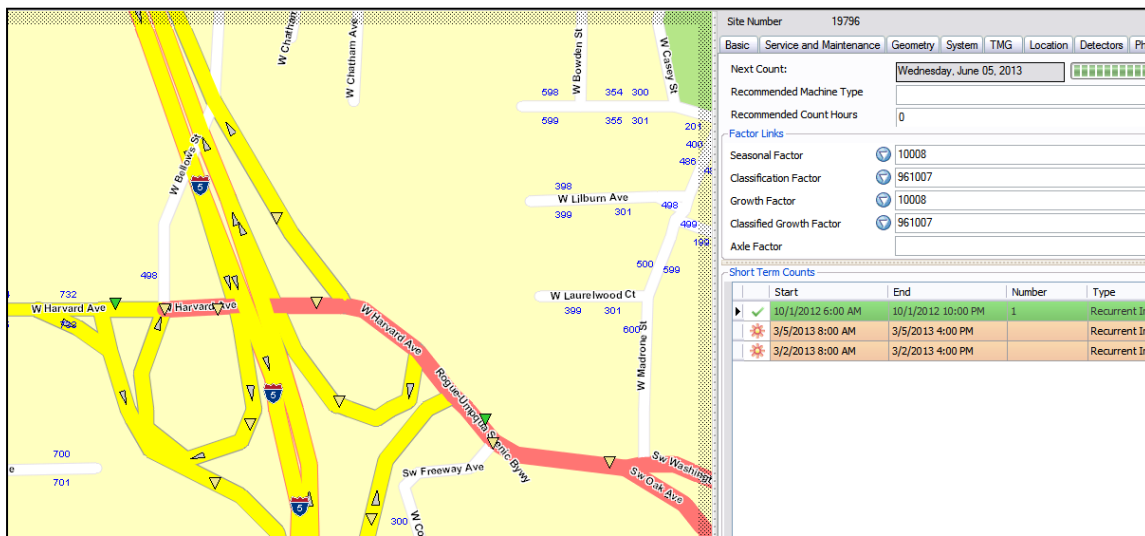
The ODOT TCM program contains many different count types and reports. This guide provides step-by-step instructions on how to obtain traffic count information from the TCM program in the correct format for a few of the most common types of counts used by the analyst - intersection counts, ATR/AVC sites, Truck Sum, and tube (machine) counts.

Locating Counts

Each report type requires the user to find a count before generating the report. The most efficient way to do this is through the 'Site Management' viewing option. This is a map based viewing screen that makes it easier to locate counts in your study area. Click the 'Site Management' button to view count locations in a map based screen.

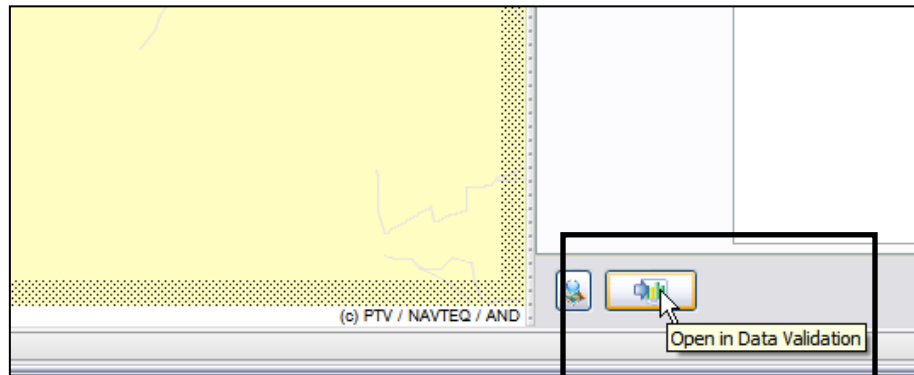


By using the right mouse button and the scroll wheel, the user can pan and zoom to the study area to identify count sites. Once an appropriate count site is located, double clicking on the triangle brings up the details of the count to the right of the map.



If count selected is a volume-only tube count, note the suggested Count ID listed under “Axle Factor” as a separate report needs to be run on this count to obtain the necessary axle factor.

After checking to make sure that it is the desired type, check to make sure there is data attached to the count site. Click on the data validation button to verify there is available data.



Note: The data validation defaults to looking for counts in the current year. Before entering the data validation screen, note the date of the count in the map view to be sure the data validation is looking at the correct year for the count information.

Using the Statewide TCM Count Shapefile to Identify Pre-Existing Count Locations

The format of count data varies greatly depending on what type of count is taken and how the count is pulled from TCM. A statewide shapefile with pre-existing count location information is available upon request. This shapefile contains location information and basic information about each count taken since 2008. This count file can be used to locate counts within your project area.

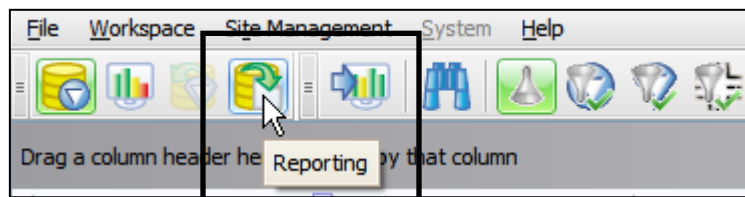
The statewide count shapefile containing count locations has limits to its use. This shapefile does not contain count data; it simply contains basic count information. The shapefile is created in order to help the analyst visually narrow down count locations. It also gives the analyst information about the count location to help narrow down the counts to pull. It allows the analyst to have a list of needed counts to pull from TCM. If the analyst is a non-ODOT employee or does not have TCM, they would need to contact the Transportation System Monitoring (TSM) Unit with the list of count sites. The shapefile can be used as a first step for analysts working in ArcGIS or Visum.

The steps below are a brief overview of how to create a project shapefile with count information and count data. These instructions only go through how to place the raw counts onto the network; these counts will need to be adjusted according to the Analysis Procedures Manual (APM) in order to be used for analysis. If the user chooses you can add a column to the spreadsheet with the appropriately adjusted counts to be included on the network as well.

1. Clip down the statewide TCM count shapefile (contact TPAU to obtain) to only the counts that are within your project area and are appropriate for your project needs.
 - a. This is done first by clipping the count shapefile to the boundary of your study area.
 - b. Use the last count date, type of count and location to hand delete counts that are too old, not the right type of count or in the wrong locations.
 - i. It is the analyst's responsibility to make sure that the counts being pulled will be appropriate for the study type.
 - ii. If the TSM is pulling the counts, the number of counts must be reasonable for the study area and study purpose.
2. Use the .dbf file from the shapefile and open it in Excel.
 - a. Save it as an Excel file
 - i. Use this Excel file to either send to TSM Unit for counts to be pulled, or use TCM to pull the counts yourself.
3. Once you have the counts from the TSM Unit or you have pulled them all from TCM, use the spreadsheets described in Appendix 17A to process the counts.
 - a. If you get the counts from the TSM Unit go to Appendix 17A to the Excel Processor Guidelines
 - b. If you plan on pulling the counts yourself see Pulling Counts from ODOT Traffic Count Management (TCM) Program.

Count Reports

Once a count has been found, note the count number and click on the 'Reporting' button.

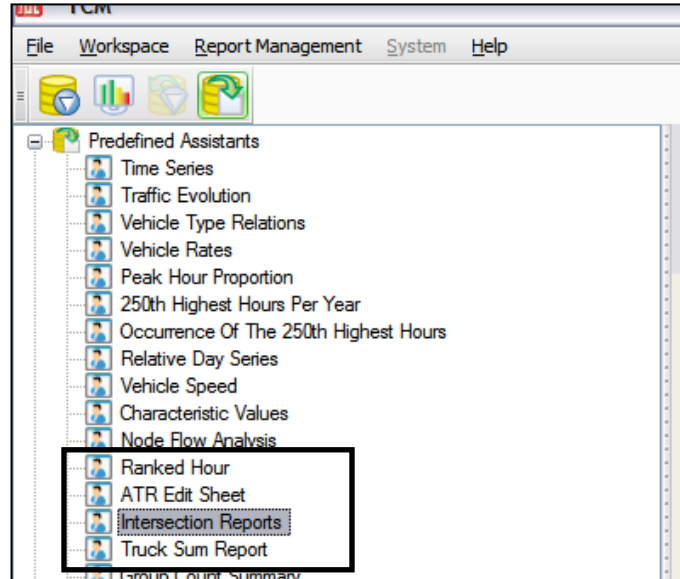


There are different report types for different count types. Choose from the report options and follow the steps to retrieve the count data. Examples of a few of the most common reports can be found in Addendum G.

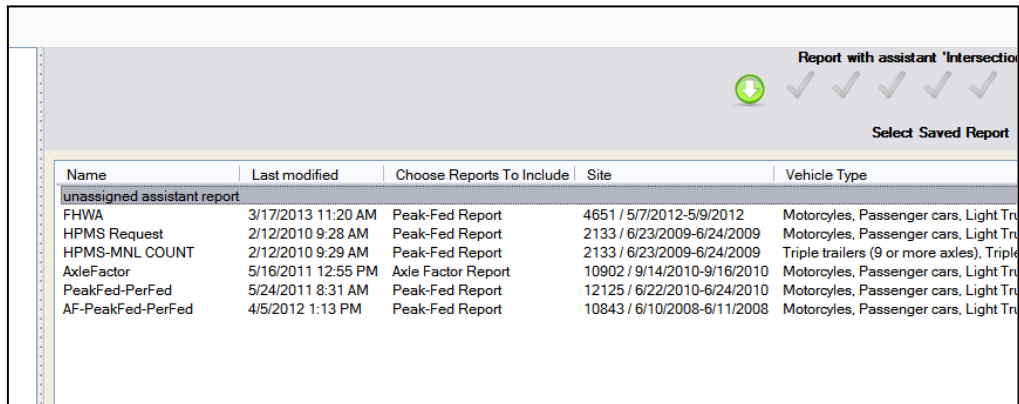
Intersection Count (Video Counts)

Note: This format is also used for TimeMark vehicle classification tube counts.

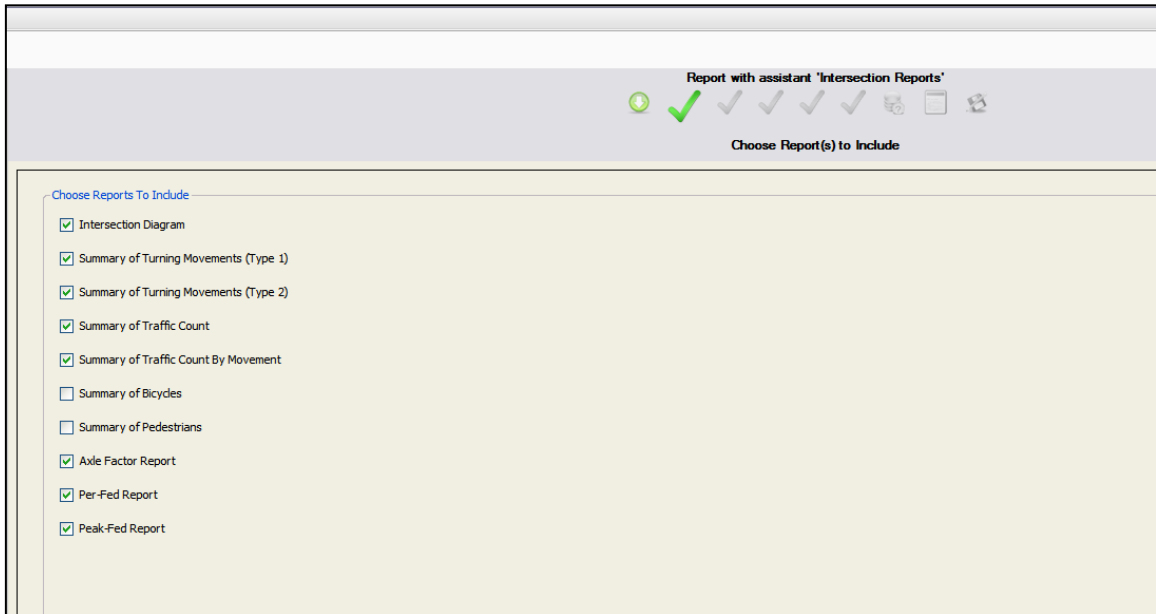
1. Under the 'Predefined Assistants' category, double click on 'Intersection Reports.'
(Double clicking starts the 'Wizard')



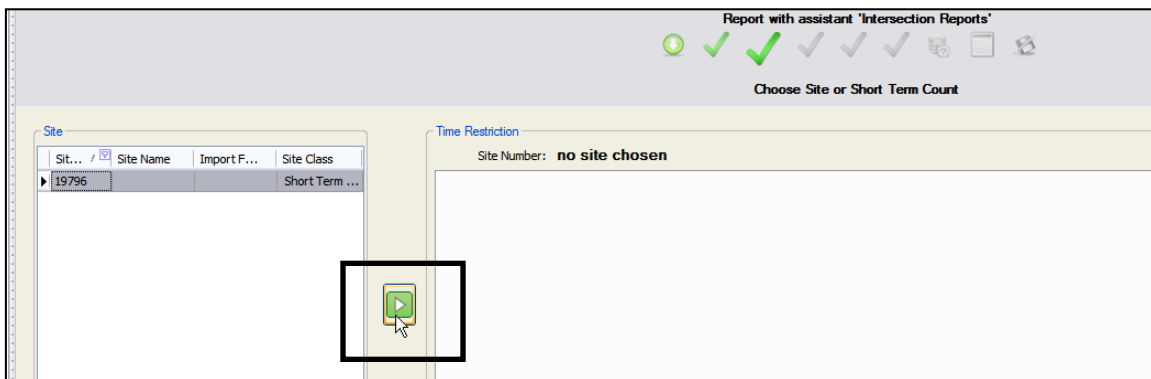
2. On the Report with assistant 'Intersection Reports', 'Select Saved Report' screen, leave the default 'unassigned assistant report.' Then click 'Next' in the bottom right corner.



- On the “Choose Report(s) to Include” screen, unless it is known that bicycles and pedestrians were counted, leave the check boxes as they are set. (Intersection Diagram, Summary of Turning Movements (Type 1), Summary of Turning Movements (Type 2), Summary of Traffic Count, Summary of Traffic Count By Movement, Axle Factor Report, Per-Fed Report, and Peak-Fed Report should all be checked). Check the Summary of Bicycles and Summary of Pedestrians boxes if the count included pedestrians and bikes. Then click ‘Next.’

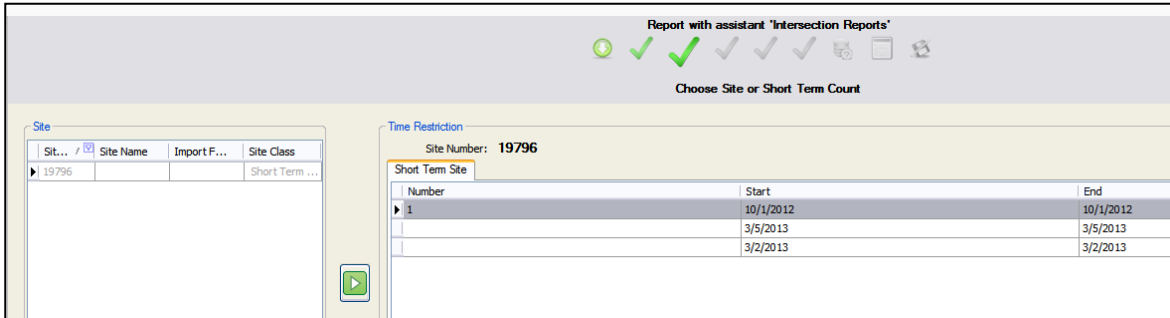


- In the ‘Choose Site or Short Term Count’ page, type in the count number noted from above. Double click the number, or select it and click the green arrow. This will ‘open’ the count site.



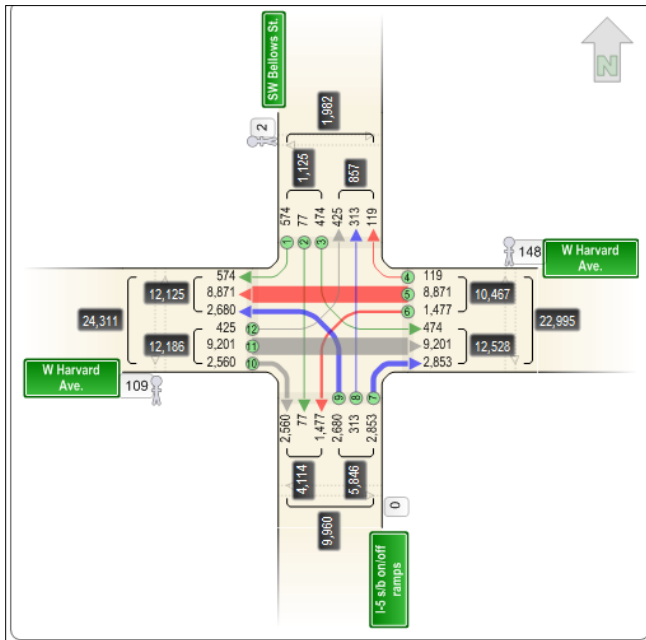
After double-clicking on the count site, verify that the correct site has moved over to the right box. Too many times, fingers are faster than the system and Site ID 1 is chosen instead.

On the right-hand side will be the different counts (if there is more than one). Select the year that applies and click next.



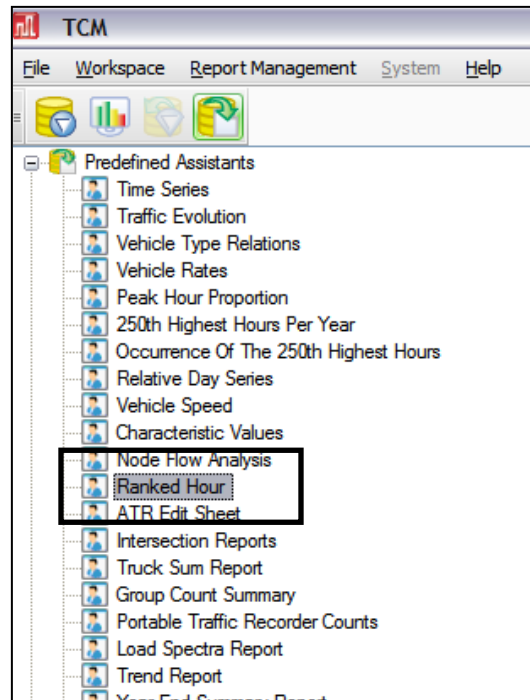
5. On the 'Choose Vehicle Type(s)' sheet, use the "FHWA 13" report (or "FHWA 13 + Bike" if want bikes included) for all manual/video intersection and TimeMark vehicle classification tube counts.
6. On the 'Choose Pedestrian Type(s)' click "Next"
7. On the 'Set Axle Factors' sheet, leave them set to the defaults.
8. For the 'Choose Quality/Data Basis' sheet, choose the appropriate data basis (time count bin) in the center column. The 'Quality' choice in the right column can be left to the defaulted selections (unverified imported, unverified aggregated, implausible, possible plausible, corrected, added, plausible, plausible (manually), plausible (historical)).
9. In the next screen leave the template set to 'without a template.'
10. In the next section, people have saved different templates for count outputs. Please DO NOT save a template in here unless there is an enormous amount of counts that are all exactly the same. Unfortunately, there is not a way for each user to save their own templates; rather they all get saved in the same place. If everyone were to save all their templates it will quickly get disorganized and confusing.

After clicking finish, an Excel file will open containing the selected count data. Save the spreadsheet to the appropriate project directory/folder. The first tab of the spreadsheet will have a diagram of the intersection selected.

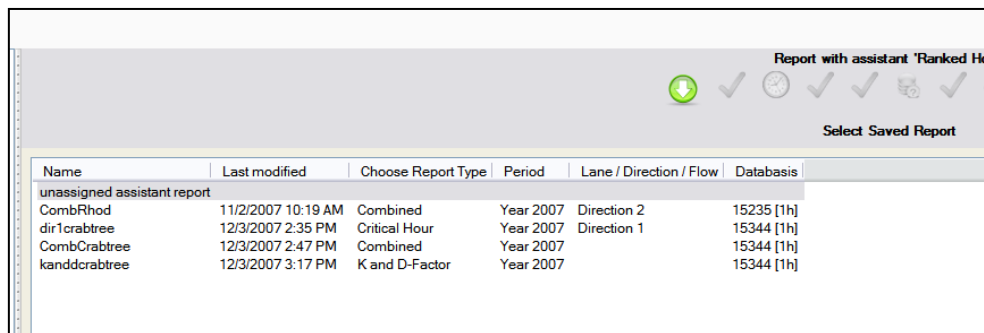


ATR/AVC Counts/30th Highest Hour, K and D Factors

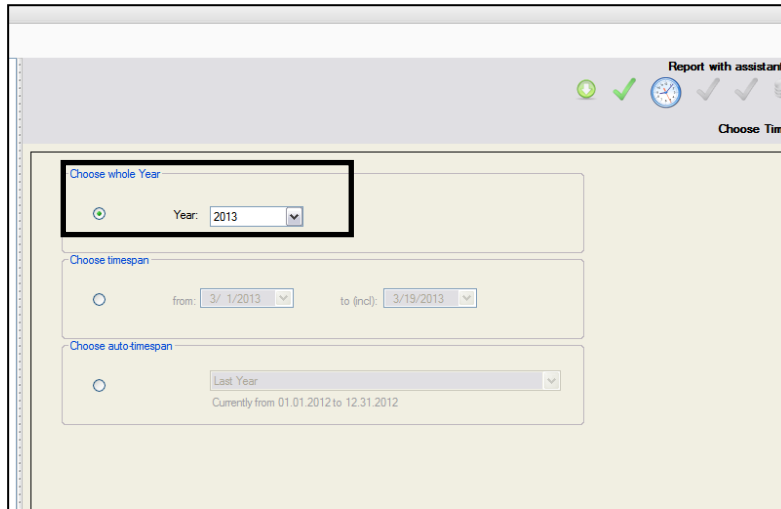
1. Under the 'Predefined Assistants' category, double click on 'Ranked Hour.' (Double clicking starts the 'Wizard')



2. On the 'Report with assistant Ranked Hour' screen, leave the default, 'unassigned assistant report' selected. Then click 'Next' in the bottom right corner.



3. On the Report Selection screen, choose the desired report. The Combined report gives the K and D factor as well as the ranked (critical) hours.
4. On the 'Choose Timespan' sheet, there is the option of choosing a partial or full year. A full year is required to identify the 30th Highest Hour and its associated K and D factors.



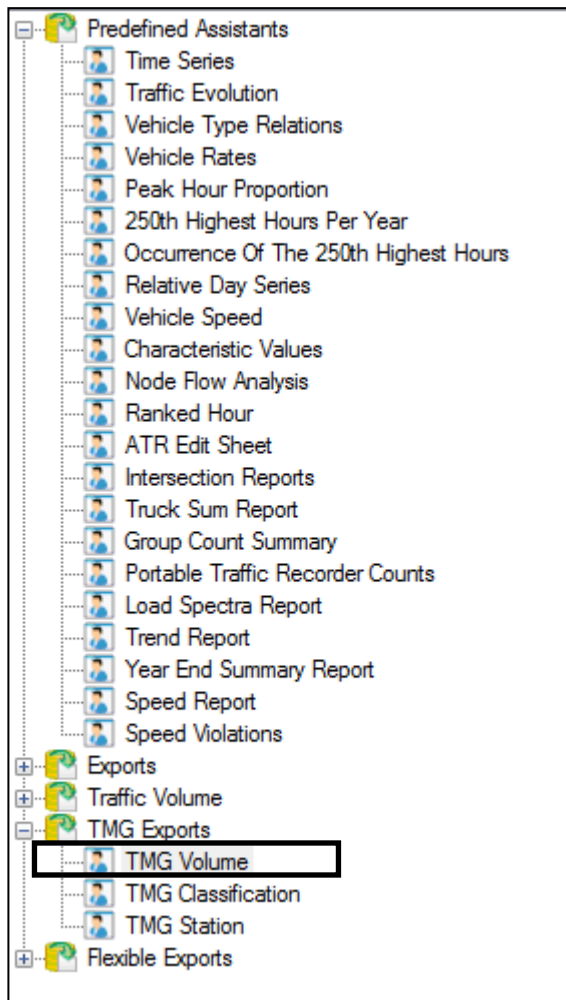
5. In the 'Choose Site' page, type in the count number noted from above (the ATR number). Double click the number, or select it and click the green arrow. This will 'open' the site. After choosing the site, click 'Next.'
6. For the 'Choose Quality/Data Basis' sheet, choose the appropriate data basis (time count bin) in the center column. The 'Quality' choice in the right column can be left to the defaulted selections (unverified imported, unverified aggregated, implausible, possible plausible, corrected, added, plausible, plausible (manually), plausible (historical)).
7. In the 'Limit the Number of Results Returned' screen, the user can choose to limit the number of results. For example, if the user desires the typical top 200 hours, then 200 is entered, which will limit the exported Excel file to the top 200 hours of the time period chosen.
8. In the 'Filename Prefix for Batch Files' is a screen that allows adding a prefix to the file names.
9. On the 'Define the attributes of the file' screen the user is able to choose where the file(s) will be saved. By clicking the "..." button the user is able to choose the save location.



10. In the next section, people have saved different templates for count outputs. Please DO NOT save a template in here unless there is an enormous amount of counts that are all exactly the same. Unfortunately there is not a way for each user to save their own templates; rather they all get saved in the same place. If everyone were to save all their templates it will quickly get disorganized and confusing.
11. After clicking 'Finish' the spreadsheet will be saved to the location identified by the user in step 9.

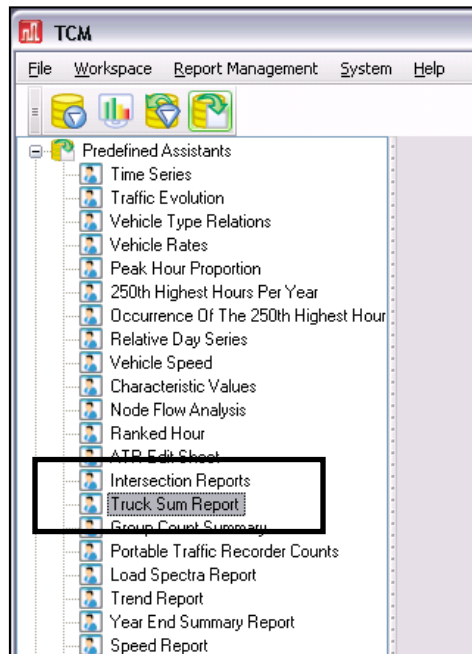


If lane-by-lane volumes are desired, the [Traffic Monitoring Guide \(TMG\)](#) export report is used as shown below. Note that there is a coding error in the TCM TMG Report for lane by lane volumes. The first direction (either EB or NB) will be backwards from the TMG Table 7-4 where Lane 1 is always the outside (shoulder) lane. By the TMG, lanes from the shoulder, across the median, and back to the other shoulder would be coded as 1-2-3-3-2-1. However, TCM codes it as 1-2-3-1-2-3 so the lane codes are not consistent by direction. This is important if simulation calibration is needed by lane or other analyses that need lane-by-lane distributions.

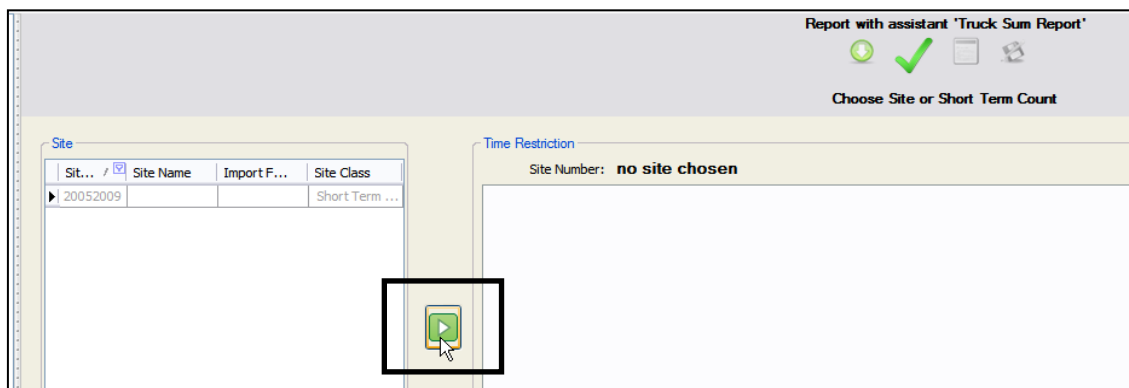


Truck Sum Counts

1. Under the 'Predefined Assistants' category, double click on 'Truck Sum Report.'
(Double clicking starts the 'Wizard')



2. On the Report with assistant 'Truck Sum Report', leave the default, 'unassigned assistant report' selected. Then click 'Next' in the bottom right corner.
3. In the 'Choose Site' page, type in the count number noted from above. Double click the number, or select it and click the green arrow. This will 'open' the site.



4. On the right-hand side will be the different counts (if there is more than one). Select the year that applies and click 'Next.'
5. On the 'Define the attributes of the file' sheet choose without a template.

On the 'Save export as a template' sheet is where people have saved different templates for count outputs. Please DO NOT save a template in here unless there is an enormous

amount of counts that are all exactly the same. Unfortunately there is not a way for each user to save their own templates; rather they all get saved in the same place. If everyone were to save all their templates it will quickly get disorganized and confusing.

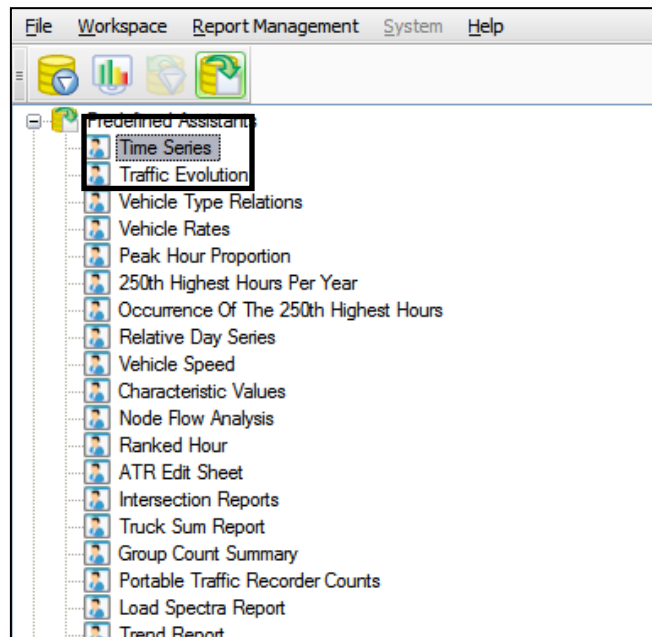
6. Click 'Finish.' This will open an excel file with your Truck Sum report. Save in the appropriate project directory/folder.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Truck Sum Report															
2																
3																
4	Site Number:	20052009		Site Name:		Region:	2									
5	Street Description:	FLORENCE-EUGENE HIGHWAY NO. 62		Mile Point:	0.24	Start Date:	8/25/2009									
29		7:00:00	Medium Truck		0	0	1	0	0	7	0	0	0	2	8	0
30			Heavy Truck		0	0	0	1	0	14	0	0	0	1	17	0
31			All Vehicles		26	1	60	14	0	189	0	0	0	17	136	1
32		8:00:00	Medium Truck		1	0	1	0	0	16	0	0	0	2	7	0
33			Heavy Truck		1	0	0	2	0	17	0	0	0	0	17	0
34			All Vehicles		31	0	82	22	1	224	0	0	0	42	203	2
35		9:00:00	Medium Truck		0	0	4	1	0	13	0	0	0	3	8	0
36			Heavy Truck		0	0	0	0	0	15	0	0	0	0	21	0
37			All Vehicles		22	0	123	19	0	248	1	0	2	74	237	0
38		10:00:00	Medium Truck		1	0	1	1	0	17	0	0	0	1	10	0
39			Heavy Truck		0	0	0	0	0	21	0	0	0	0	17	0
40			All Vehicles		23	0	127	24	0	293	0	1	1	86	280	5
41		11:00:00	Medium Truck		1	0	2	2	0	17	0	0	0	7	7	0
42			Heavy Truck		0	0	0	2	0	10	0	0	0	0	29	0
43			All Vehicles		38	1	128	28	1	340	1	0	1	118	336	1
44		12:00:00	Medium Truck		0	0	2	0	0	12	0	0	0	2	16	0
45			Heavy Truck		2	0	0	2	0	19	0	0	0	0	19	0
46			All Vehicles		35	0	151	34	0	367	0	1	1	121	346	2
47		13:00:00	Medium Truck		0	0	5	1	0	13	0	0	0	1	11	1
48			Heavy Truck		1	0	0	1	0	17	0	0	0	0	27	0
49			All Vehicles		34	0	144	34	0	317	1	0	0	117	359	4
50		14:00:00	Medium Truck		1	0	2	0	0	9	0	0	0	2	13	0
51			Heavy Truck		2	0	0	0	0	10	0	0	0	0	10	0
52			All Vehicles		33	0	125	28	0	355	0	1	1	106	346	1
53		15:00:00	Medium Truck		0	0	2	2	0	14	0	0	0	5	13	0
54			Heavy Truck		0	0	0	0	0	19	0	0	0	0	8	0
55			All Vehicles		25	1	114	41	0	351	0	1	1	123	340	0
56		16:00:00	Medium Truck		2	0	2	0	0	11	0	0	0	2	7	0
57			Heavy Truck		0	0	0	0	0	17	0	0	0	0	7	0
58			All Vehicles		44	0	109	37	0	320	0	0	0	121	347	2
59		17:00:00	Medium Truck		0	0	1	1	0	4	0	0	0	2	10	0
60			Heavy Truck		0	0	0	0	0	9	0	0	0	0	9	0
61			All Vehicles		40	0	88	31	1	280	0	1	3	118	369	2
62		18:00:00	Medium Truck		0	0	1	0	0	7	0	0	0	0	2	0
63			Heavy Truck		0	0	0	0	0	7	0	1	0	0	5	0
64			All Vehicles		24	0	64	28	0	242	0	1	0	66	269	2

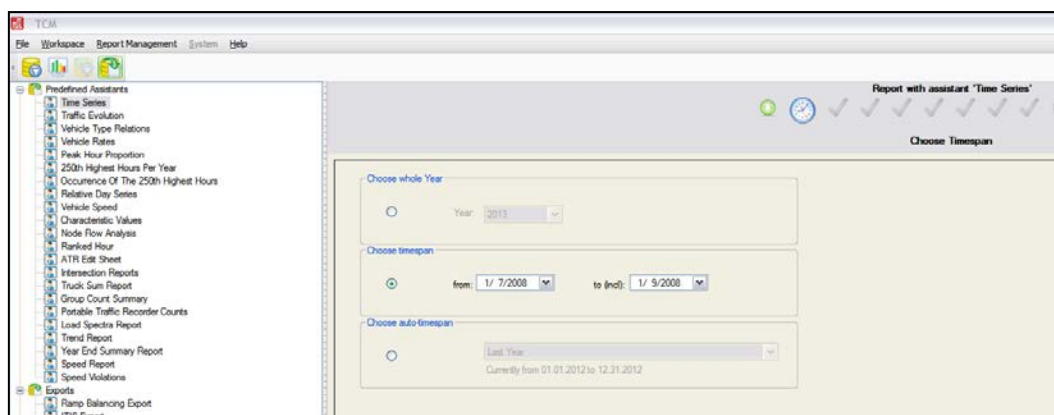
Volume-Only Road Tube Counts (using TimeMark Axle or Diamond TT-8 counters)

Note: Use the Intersection Count Report above for vehicle classification tube counts.

1. Under the 'Predefined Assistants' category, double click on 'Time Series.' (Double clicking starts the 'Wizard')




2. On the 'Select Saved Report' screen, leave the default 'unassigned assistant report' selected.
3. On the 'Choose Timespan' sheet choose the timespan previously noted that the count took place on. This can be found in the data management screen.

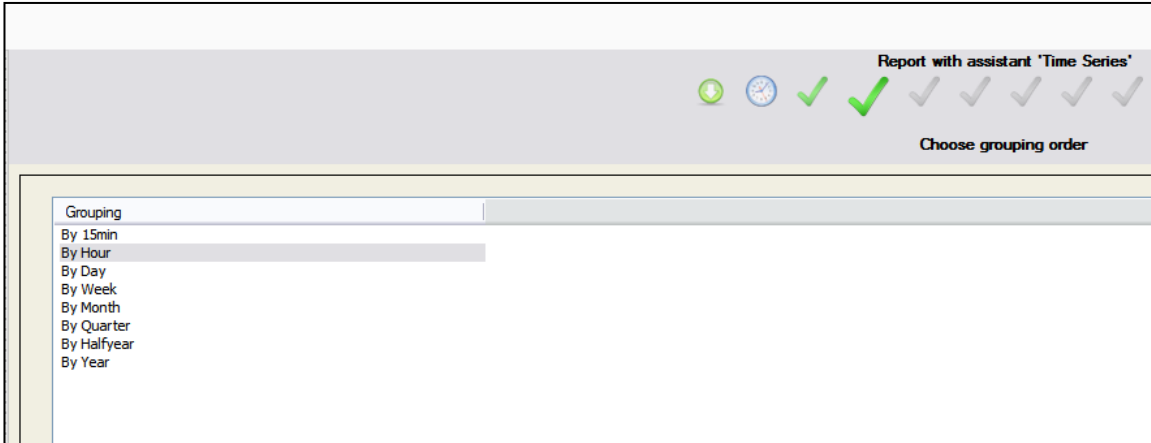


4. On the 'Choose Site(s)' sheet type in the Site ID of the desired count and double click it to select it. Then click 'Next.'

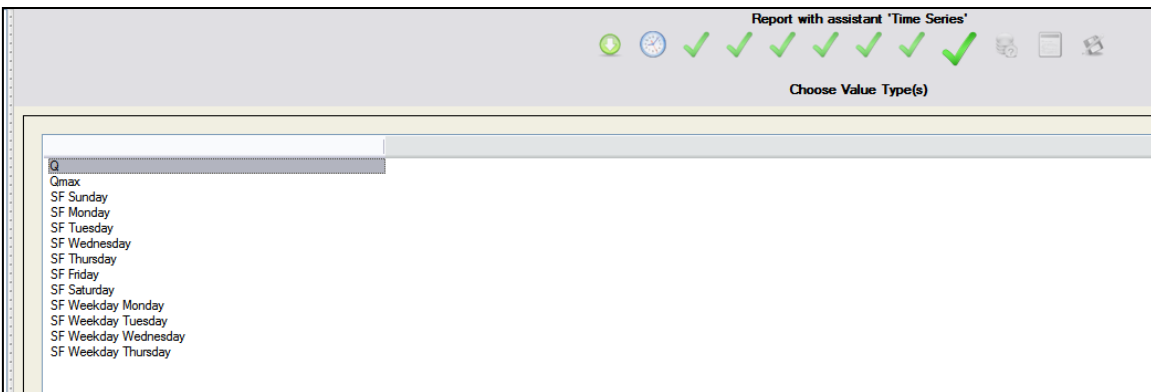
- On the 'Choose grouping order' sheet, choose the appropriate time bins to be displayed in the count. Then click 'Next.'



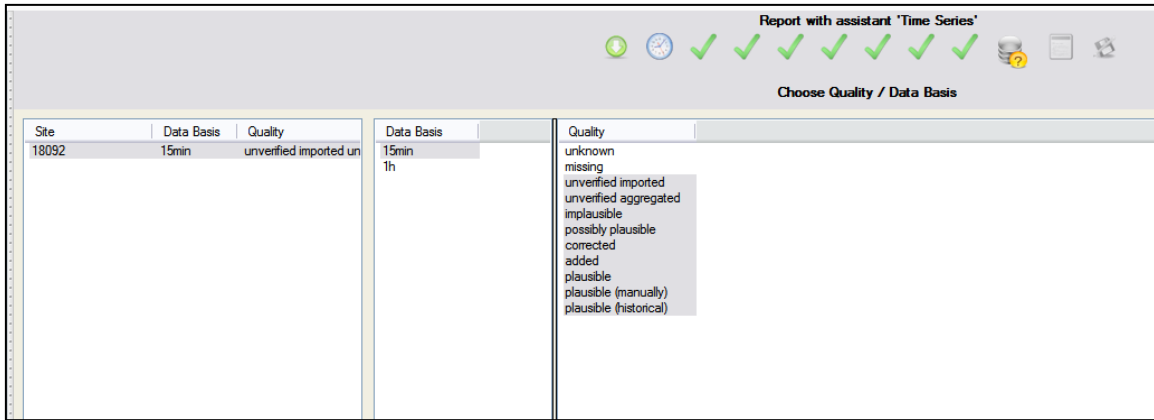
The smaller the time bins are, the longer the file will take to export as the number of 'data points' increases.



- On the 'Choose Lane/Direction' sheet, the default selection is appropriate. Click 'Next.' This report will only allow you to run one direction at a time.
- On the 'Choose Vehicle Type(s)' sheet, the default selection is appropriate. Click 'Next.'
- On the 'Choose Axle Group' sheet, the default selection is appropriate. Click 'Next.'
- On the 'Choose Weight Bin' sheet, the default selection is appropriate. Click 'Next.'
- On the 'Choose Value Type(s)' sheet, Choose "Q."



- On the 'Choose Quality/Data Basis' sheet the defaults are appropriate for the first and last columns. The middle column is another bin length choice. The default is appropriate unless a different bin size is desired.



- On the 'Define the attributes of the file' sheet the default (without template) is appropriate. Click 'Next.'

On the 'Save export as a template' sheet is where people have saved different templates for count outputs. Please DO NOT save a template in here unless there is an enormous amount of counts that are all exactly the same. Unfortunately there is not a way for each user to save their own templates; rather they all get saved in the same place. If everyone were to save all their templates it will quickly get disorganized and confusing.

- Click 'Finish'. This will open an Excel file with two tabs. The 'Chart1' tab contains a graphical version of the data while TCM. Export contains the actual data. Save the file to the appropriate project directory/folder.

	A	B
1	Time Series	
2		
3	Restriction: Period: 1/7/2008-1/9/2008 Groupi	
4		
5		
6	Lines/Data	
7	Date	Sum of all vehicles in timespan
8	1/7/2008 2:00 PM	304
9	1/7/2008 3:00 PM	516
10	1/7/2008 4:00 PM	634
11	1/7/2008 5:00 PM	624
12	1/7/2008 6:00 PM	309
13	1/7/2008 7:00 PM	164
14	1/7/2008 8:00 PM	138
15	1/7/2008 9:00 PM	103
16	1/7/2008 10:00 PM	45
17	1/7/2008 11:00 PM	50
18	1/8/2008 12:00 AM	31
19	1/8/2008 1:00 AM	42
20	1/8/2008 2:00 AM	11
21	1/8/2008 3:00 AM	18

- Volume-only tube counts are not axle-factored and are just the raw volume divided by two. To obtain the proper volumes, an axle factor must be applied outside of TCM (see Chapter 5). The axle factor is obtained from running an Intersection Count Report on the suggested Count ID listed under Axle Factor in the Short Term Counts tab in Site Management.

Network Count Inventory

For use in Visum or ArcGIS networks, counts must be pulled from TCM and added to the network. Tube counts should be pulled as ATR edit sheets and Turning Movement Counts should be pulled as intersection reports. Below you will find basic instructions (ODOT users only).

Pulling Counts from ODOT Traffic Count Management (TCM) Program

ATR Edit Sheet (Tube Counts, pulling multiple counts)

1. Find the site(s) that you want to pull in the site management screen. After verifying that you have the correct site use the data validation screen if you do not know the date of the most recent count.

2. Open the reporting screen, and choose ATR Edit Sheet.

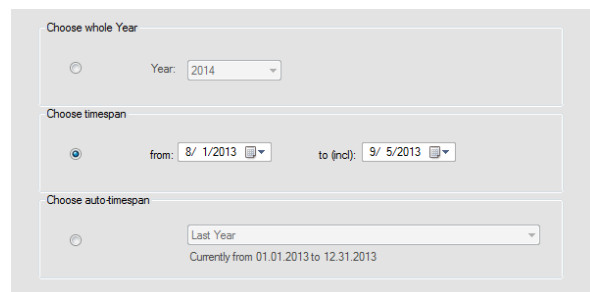


3. Click next (leaving unassigned assistant chosen).


4. Choose a date span that covers the dates for all of your counts for your project, and click next.

- a. For example, in Newport there were counts taken during August of 2013. Although they counts were not all taken during the same time frame, you can pull the entire month of August (and some of September) and the spreadsheets used for count inventory will “clean” the days that do not contain any empty count information.

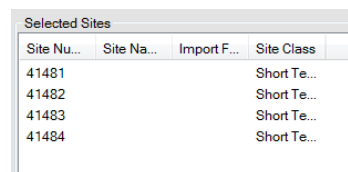
- b. By pulling the entire month you can pull all counts taken turning that month for the sites you choose.



The screenshot shows a web interface for selecting a time span. It has three sections: 'Choose whole Year' with a radio button and a dropdown menu set to '2014'; 'Choose timespan' with a radio button, a 'from' date dropdown set to '8/ 1/2013', and a 'to (incl):' date dropdown set to '9/ 5/2013'; and 'Choose auto-timespan' with a radio button and a dropdown menu set to 'Last Year', with a note below it saying 'Currently from 01.01.2013 to 12.31.2013'.

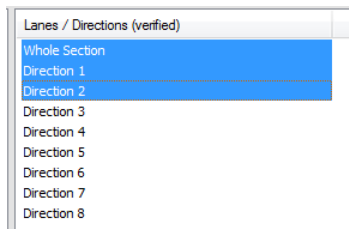
5. To choose multiple count sites you can use the different filters to filter down to just those counts in your project (if there is some defining feature such as a remark) or you can hand search for each site. You can use control click to select multiple sites, and the select the green arrow . Or you can double click each site you want to get counts for.

6. After your desired sites are in the selected sites list, click the next button.



Site Nu...	Site Na...	Import F...	Site Class
41481			Short Te...
41482			Short Te...
41483			Short Te...
41484			Short Te...

7. If your counts are bi-directional (they usually are), select Whole Selection, Direction 1 and Direction 2 from the verified list. Click Next




8. For this type of count, it is usually a volume only count. The spreadsheet that has been designed to clean these counts for this type of inventory has been coded to only utilize a vehicle count. It is not optimized to deal with classification counts. Therefore leave the vehicle choice set to Vehicles, and click Next.

9. Leave the setting for quality set to the default for this count process, click Next.

10. If you choose you can enter a prefix to your set of counts, click Next. For example, in Newport there were counts taken in August and October. Therefore two sets of counts were pulled and labeled with the appropriate month pre-fix.

11. Choose a location for your counts to be saved. It is best to save the ATR Edit Sheets in a separate folder from other counts and other information. This will allow you to easily use the Count Processor Spreadsheet.

12. Click next and then Finish. If you are doing a large number of counts at one time, this will take quite some time. If you are pulling more than 25 counts, it is suggested that you start the counts so they can run over night or during a long meeting.



The more counts pulled at one time, the more likely TCM is to throw an error in the middle of kicking out counts. Use caution when pulling large numbers of counts.

Intersection Turn Movement Counts (Video or TimeMark Counts)

1. Intersection counts in TCM can only be pulled one at a time. For this reason, I suggest check to make sure that these reports haven't been previously pulled.

- a. Go to \\s6000e\atrshar\DATA_MNL (available for ODOT staff only – others contact TSM).
- b. Intersection counts are placed here, and the file names are SiteID_YearofCount.
- c. If they are available on the ATR drive it is suggested that they are pulled (copied) from here as this will save time.

2. For sites that are not available on the count drive they must be pulled individually from TCM. (This will take some time).

3. Find the site(s) that you want to pull in the site management screen (unless you already know the IDs of the counts you want to pull.

4. Open the reporting screen, and choose Intersection Reports.



5. Click next (leaving unassigned assistant chosen).

6. In choosing which reports to include you can leave them all checked, but the spreadsheet processor only requires 'Summary of Turning Movements (Type 1)', and the 'Summary of Traffic Count.'

Choose Reports To Include	
<input checked="" type="checkbox"/>	Intersection Diagram
<input checked="" type="checkbox"/>	Summary of Turning Movements (Type 1)
<input checked="" type="checkbox"/>	Summary of Turning Movements (Type 2)
<input checked="" type="checkbox"/>	Summary of Traffic Count
<input checked="" type="checkbox"/>	Summary of Traffic Count By Movement
<input type="checkbox"/>	Summary of Bicycles
<input type="checkbox"/>	Summary of Pedestrians
<input checked="" type="checkbox"/>	Axle Factor Report
<input checked="" type="checkbox"/>	Per-Fed Report
<input checked="" type="checkbox"/>	Peak-Fed Report

7. Search for the count site, and choose which count you would like to pull. If there have been multiple intersection counts for that site they will all show, choose the most recent (or the appropriate count) for your project.

Time Restriction		
Site Number: 41290		
Short Term Site		
Number	Start	End
1	8/16/2013	8/17/2013
2	10/11/2013	10/12/2013

8. For the purpose of this process it is usually a volume only count. The spreadsheet that has been designed to clean these counts for this type of inventory has been coded to only utilize a vehicle count. It is not optimized to deal with classification counts. Therefore leave the vehicle choice set to Vehicles, and click Next.

9. For the pedestrian type(s), again the spreadsheet used to summarize the counts for VISUM is not used. Therefore leave the settings at the default and click Next.

10. Leave the Axle factor at the default, and click Next.

11. The count processor is currently set to handle 15 minute bins; in the future the user will be able to choose. For now leave it set to 15 minute bins and click next.

12. Do not save a template in the database (this is used by downstairs not us) and click finish.

13. You do not choose where to save these files because rather than save them to a folder it will open it in Excel. From there you will have to choose where to save the file and what file name to use.