

TN-TIMES

Hints and
examples
included

Tennessee Traffic Information Management And Evaluation System

Section One

The **Tennessee Traffic Information Management and Evaluation System (TN-TIMES)** is an analytical, data processing tool used by TDOT and powered by MS2 to maintain, analyze, and report traffic data. The data in TN-TIMES is managed at a statewide level for all roadways on the Functional Classification System, as guided by the Federal Highway Administration (FHWA).

TNTIMES uses the MS2 **Traffic Count Database System (TCDS)** to organize traffic count data. It allows the following:

- Upload data from a traffic counter; view graphs,
- Lists and reports of historic traffic count data,
- Search for count data using either the database or the Google map,
- Print or export data to your desktop.

TDOT has prepared this basic user guide for its users. This guide is based on the MS2 user guide online or in the MS2/ TNTIMES application. This guide will provide the user with the tools to carry out many common tasks such as:

- Searching for existing counts in the database
- Interacting with the map to obtain count information
- Creating reports of count details

TNTIMES User interface/ Dashboard

Spatial Tools

TCDS – Query input and results

Map Area - Spatial Tools

Station Type	Continuous	Short	WM
Total	14,239	0	0
AADT	14,871	0	0
Class 2	2,391	0	0
Speed 2	505	0	0
Gap	0	0	0
WM	0	0	0

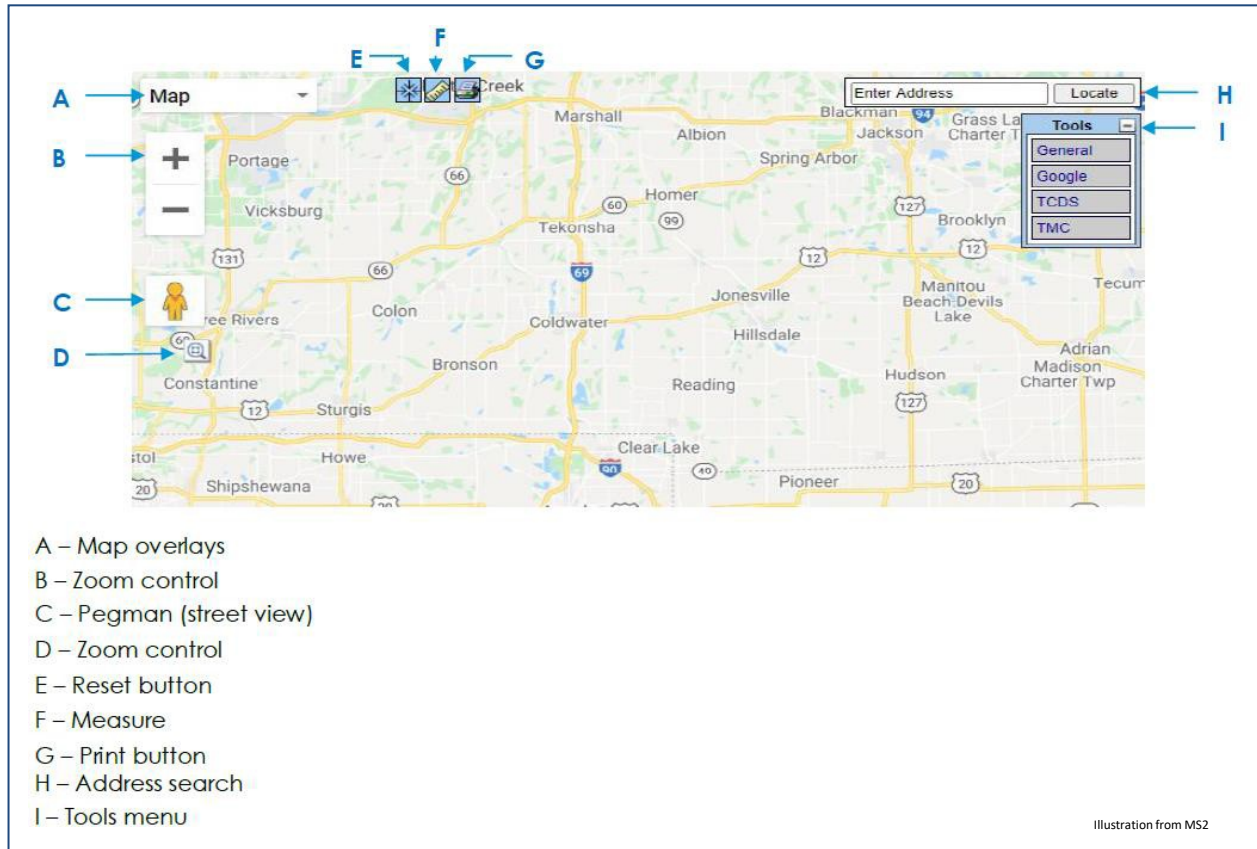
Map Area

The map area displays the spatial content of the application along with spatial tools to aid in visualization and querying.

The Google Maps™ interface is already familiar to many users and can be used to access TDOT traffic count information:

- Zoom the map in and out
- Switch between map, satellite, and hybrid views
- Use the Google Street View™ option
- View count locations on the map
- Pull up count location details from the map

Hint: Click on Tools (upper right) to see all counts under TCDS using TCDS locations and the drop-down menus. Click on location points in maps to view details.



The following links to the image above:

Map Overlays - A

Provides the following options: Map, Satellite, Hybrid, Terrain, Earth, and GIS Only maps.

Zooming - B

Use the “+” or “-” buttons which controls the zoom of the map either in or out.

Street View - C

Click and drag to the desired section on the map to see a street level view.

Reset View - E

Click to zoom the map back to its default position.

Measure - F

Click to enable the measure tool. Click on the map to start a linear measurement. Click again to add vertices. Double-click to end the measurement and a pop-up will display the approximate distance (in feet, meters, and miles).

Print - G

Click to print the current view of the map.

Locate Address - H

Type an address into the search box. Click the Locate button to the right of the address entry box to pan and zoom the map to that address.

Tools menu - I

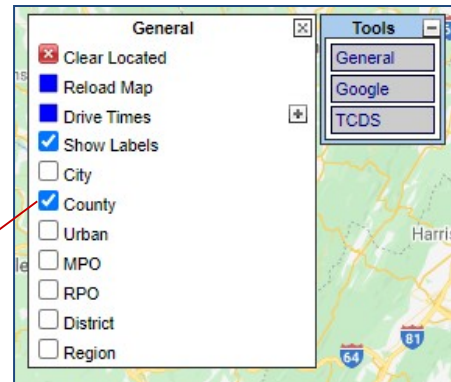
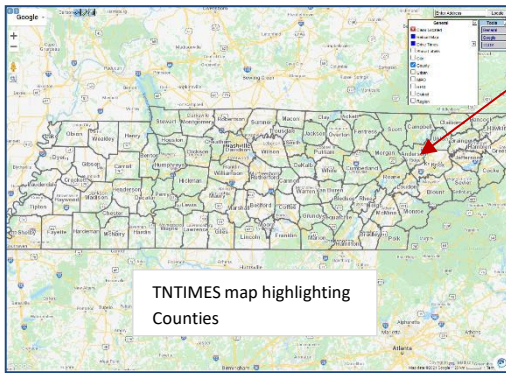
Click on any of the Tools menu options to view or select additional actions to perform on the map.

Tools Menu

The tools menu in TNTIMES can be used for several locational and querying purposes.

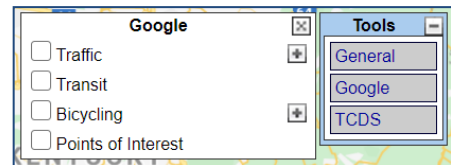
General

Highlights various preloaded data layers which can be turned 'on' or 'off'.



Google

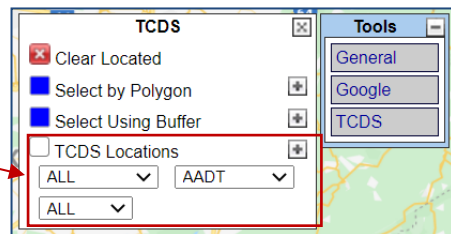
Google data layers including, traffic flow, transit information, Bicycling and Points of Interest.



TCDS

Traffic Count Database System

- a. Spatial analysis tools which can be used for on map querying e. using buffers and polygons to select traffic station locations
- b. TCDS locations can be toggled on and off to see count locations and accompanying attributes in Tennessee

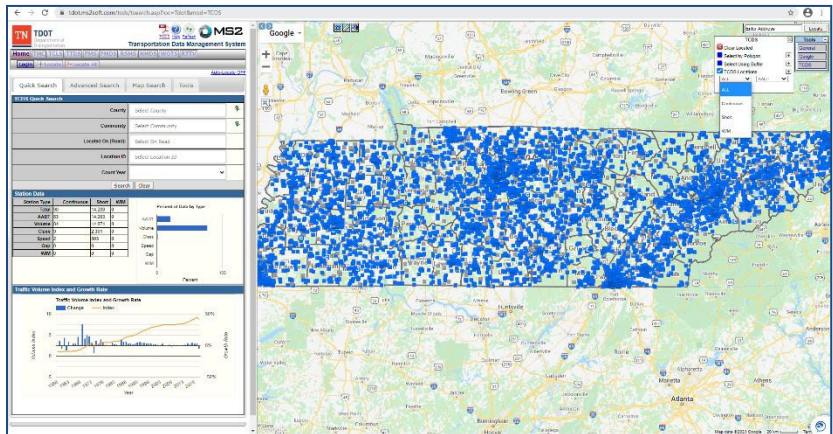


Hint: Click on the + or - buttons to reveal more menu options. This can be done in **Tools TCDS, Google** and **General**

TCDS Cont'd

Use the TCDS operation to display:

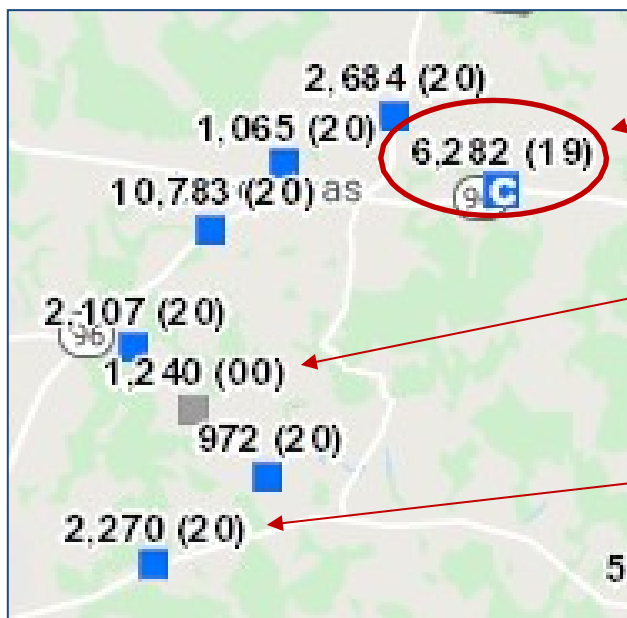
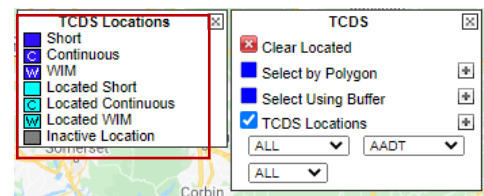
- a. Continuous counts, Short term counts and Weigh in Motion
- b. Active or Inactive counts
- c. AADT or Location ID



Symbology and Terminology

Traffic counts in TNTIMES are derived from various sources. These may include Short terms counts (pneumatic road tubes or EDL automated systems), Counts from ATR (Automatic Traffic Recorders) or CCS (Continuous Count Stations). In the future TDOT intends on adding Weigh In Motion (WIM) data to TNTIMES.

Term in TNTIMES	aka
Short term counts	Coverage counts
Continuous Counts	ATR/ CCS



Continuous Count Station Count (ATR location) for 2019 AADT - 6,282

Inactive short-term count location. Last count AADF – 1,240 in yr. 2000

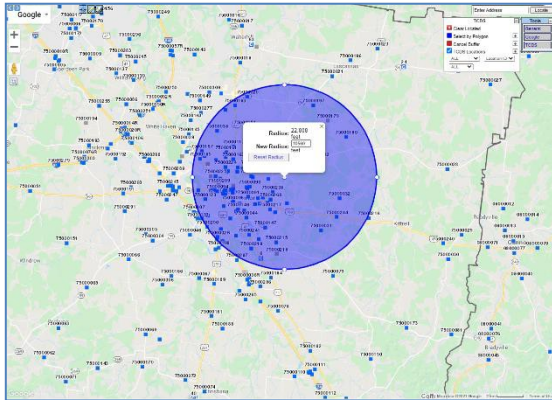
Active short-term count location. Last count 2020 AADT – 2,270

Hint: To move on to another query use the **clear located** operation in TCDS to clear the highlighted traffic count locations on screen.

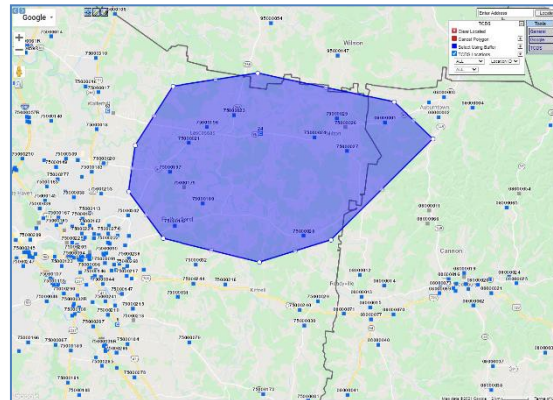
TCDS Cont'd

Select by Polygon & Select using Buffer (Map Search)

Traffic counts can be selected by using a polygon or a designated buffer to highlight them based on Area of Interest.



- Select using Buffer (feet)



- Select by Polygon

After selecting Area of Interest; other queries can be performed using Build Search

Enter search criteria (multiple criteria can be used) by clicking the drop-down search fields, then click Search.

Some search criteria include:

- AADT
- AADT Year
- Category
- County
- Functional Class
- Rural / Urban

Build Search	
Enter search criteria below. Then click the "Search" button.	
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
-- Select Search Field --	▼
<input type="checkbox"/> Search Master Locations Only	
<input type="button" value="Search"/> <input type="button" value="Home"/> <input type="button" value="Reset"/>	

You have created a polygon or circle to search by and can 'Search' now or further refine your results by selecting criteria above and then doing a search.

Hint: Click on count symbols in map to get information about Count location, type of count, Lat Long, AADT, interval and other relevant information.

Hint: Using Select by Polygon and Select using Buffer is a quick way of querying the application based on a specific Area of Interest (AOI). Cancel Polygon in TCDS operation when completed and after clearing screen. **Build Search** can be accessed from home screen.

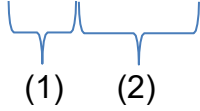
Location ID versus AADT

When selecting a count location, there can be two identifiers.

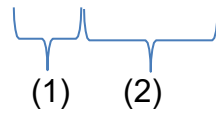
1. Location ID

This includes the **County Number (1)** and **traffic station number (2)**

75 000128 – Regular Location ID



75 000047R – Ramp Location ID



Continuous Count location ID's are regular numbers eg. 32

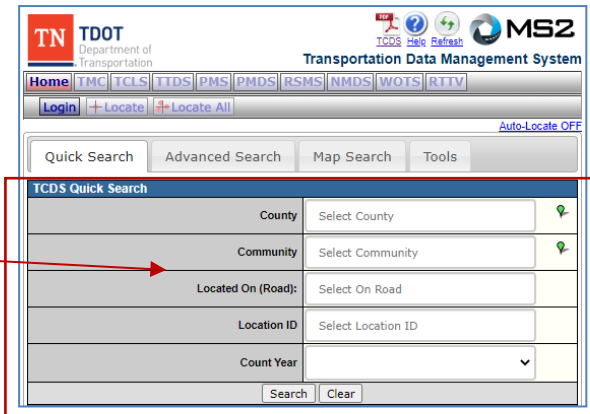
Section Two

Querying TNTIMES Quick Search

TNTIMES quick search can be used to query the database and find count locations and accompanying attributes.

Search by:

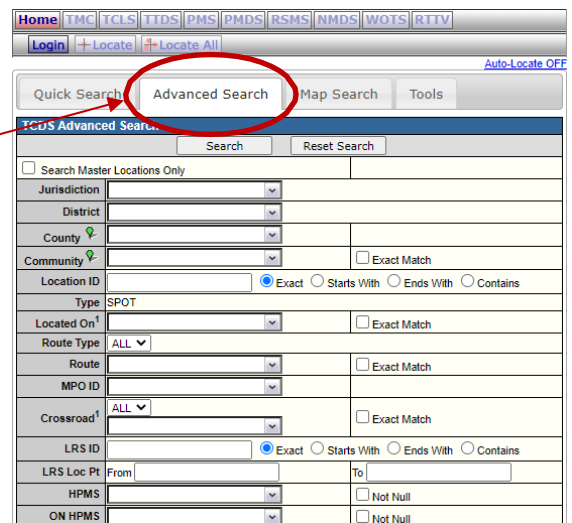
County, Community, Located on, Location ID or County year. Search criteria can be combined.



TNTIMES Advanced search allows for more complex queries and more options.

Search by:

Functional class, Rural/ Urban, Direction, Count date etc... Search criteria can be combined.



Results

Results from a query will be displayed in the query input area in TCDS.

Record		of 2060		Go to Record	go
Location ID	01000008	MPO ID			
Type	SPOT	HPMS ID			
On NHS		On HPMS			
LRS ID	01SR116002	LRS Loc Pt	19.061		
SF Group	Urban	Route Type			
AF Group	17	Route			
GF Group	Anderson	Active	Yes		
Class Dist Grp		Category	CC		
Seas Class Grp					
WIM Group					
QC Group	Default				
Funct'l Class	Major Collector	Milepost			
Located On	CREEK ST.				
Loc On Alias					
	SW LAKE CITY				
Less Detail					
County	Anderson	FIPS County Code			
Community	LAKE CITY	# Lanes	0		
Jurisdiction		Surface Type			
District		Count Cycle			
Control Section		Ctrl Section MP			
Perm Station	No	DOT ID			
WIM Station	No	Latitude	36.218138		
Virtual	No	Longitude	-84.182139		
Mega-Site	No	Speed Limit			
MPO		LTPP			
Owner ID	tdot	State Owned			
Days Since Last Count Check		Rural/Urban	Urban		

Number of records retrieved based on query

Station attributes include year AADT, K & D Factors

AADT							
Year	AADT	DHV-30	K %	D %	PA	BC	Src
2019	3,519		9	65			
2018	3,240		9	65			
2017	3,260		9	65			
2016	3,421		9	65			
2015	3,291		8	65			

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Raw traffic count information is broken down by Date, Interval, and Total.

TNTIMES currently records, **Volume counts, Classification counts, Speed**

VOLUME COUNT			VOLUME TREND	
Date	Int	Total	Year	Annual Growth
Tue 3/3/2020	60	15,230	2020	12%
Wed 3/6/2019	15	17,306	2019	3%
Wed 3/14/2018	15	16,571	2018	-3%
Tue 2/23/2018	15	15,763	2017	0%
Tue 3/10/2015	15	15,495	2016	7%
Wed 3/5/2014	15	16,529	2015	-2%
Wed 2/27/2013	15	15,348	2014	3%
Tue 3/6/2012	15	15,738	2013	0%
Wed 3/23/2011	15	15,302	2012	6%
Wed 3/3/2010	15	15,683	2011	-3%

Date	Int	Pace	85th	Total
Tue 3/3/2020	60	50 - 60	60	15,230

Date	Int	Total
Tue 3/3/2020	60	15,230
Thu 4/9/2015	60	16,303

Hint: Click on the eyeball link to the left of any of the count dates to see more detail and more functionality to manage the count.

Results Cont'd

Clicking on the eyeball link in any count category will navigate to the Count Report. This report includes Location information, Count data information, Interval, and individual count metrics.

AM and PM Peak are also included in the report.

Volume Count Report					
LOCATION INFO			INTERVAL: 15-MIN		
Location ID	D1000008		Time	15-min Interval	Hourly Count
Type	SPOT		1st	2nd	3rd
Funct'l Class	5		0:00-1:00	10	13
Located On	CREEK ST.		1:00-2:00	1	4
Direction	2-WAY		2:00-3:00	2	2
County	Anderson		3:00-4:00	6	4
Community	LAKE CITY		4:00-5:00	7	5
MPO ID			5:00-6:00	9	16
HPMS ID			6:00-7:00	20	24
Agency	Idot		7:00-8:00	25	28
COUNT DATA INFO			8:00-9:00	42	34
Count Status	Accepted		9:00-10:00	51	33
Start Date	Mon 12/18/2017		10:00-11:00	54	47
End Date	Tue 12/19/2017		11:00-12:00	55	43
Start Time	12:00:00 PM		12:00-13:00	46	49
End Time	12:00:00 PM		13:00-14:00	38	48
Direction			14:00-15:00	42	60
Notes			15:00-16:00	48	65
Station			16:00-17:00	64	62
Study			17:00-18:00	55	62
Speed Limit			18:00-19:00	57	72
Description			19:00-20:00	41	39
Sensor Type			20:00-21:00	27	40
Source			21:00-22:00	22	25
Latitude/Longitude			22:00-23:00	17	15
			23:00-24:00	12	10
			Total	3,199	
			AM Peak	10:15-11:15 201	
			PM Peak	16:00-17:00 301	

Count Navigation: <<< < > >>>

Count Type: VOLUME

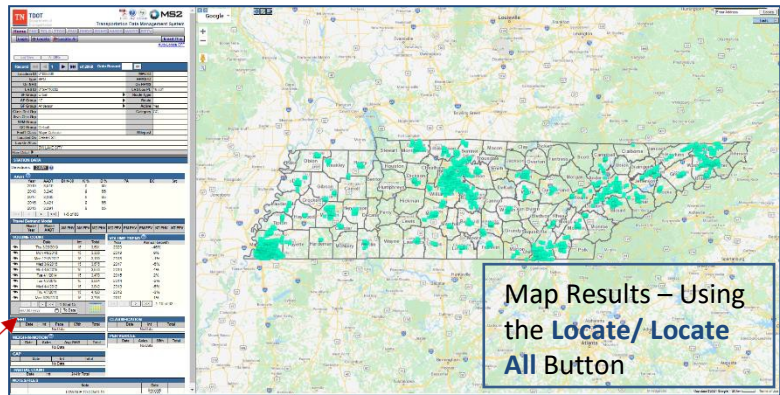
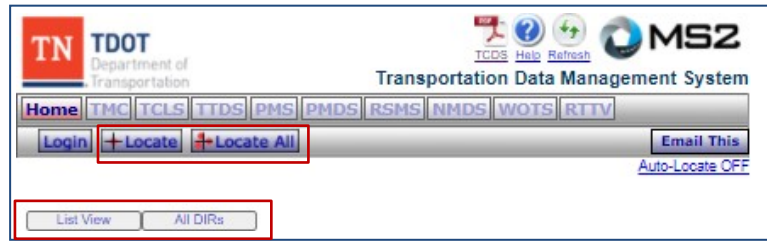
Directions: 2-WAY

View Calendar | View in Excel | Bar Graph | Line Graph | Weekly Report | Hourly Volume By Lane | Compare Count

Count Result and map interaction
The Locate/ Locate All button

TNTIMES is a geospatial application and attributes are interlaced in a spatial environment for visualization purposes.

Query results can be seen in table format or in a map using the **Locate** button to see a single count location or **Locate All** to see all the results on a map.



Tabular Results

Map Results – Using the Locate/ Locate All Button

List View results of TN-TIMES data

Search Criteria

Form View | Export XLS | # of Counts | FHWA Export | Edit All | Count Status

163 Records Found Export Master Locations Only

Loc ID	County	Community	On	From	To	Dir	Latest
81000087	Anderson	CLINTON	N. CHARLES SEIVERS BLVD			NE OF CLINTON 2-WAY	17047
03000035	Benton	-	I-40			EAST OF SR-69 2-WAY	33860
06000166	Bradley	CLEVELAND	GEORGETOWN RD. N.W.			CLEVELAND 2-WAY	16526
07000094	Campbell	-	I-75			NEAR ANDERSON CO LINE 2-WAY	42533
08000081	Cannon	WOODBURY	W. MAIN ST.			WOODBURY 2-WAY	14069
11000052	Cheatham	-	I-24			NEAR ROBERTSON CO LINE 2-WAY	55750
15000069	Cocke	-	I-40			S OF PLEASANT GROVE 2-WAY	28949
15000129	Cocke	-	I-40			Near Jefferson 2-WAY	30755
16000059	Coffee	TULLAHOMA	E. CARROLL ST.			NORTHEAST TULLAHOMA 2-WAY	14678
16000103	Coffee	-	I-24			NEAR RUTHERFORD CO LINE 2-WAY	46010
18000058	Cumberland	-	I-40			N. OF CROSSVILLE 2-WAY	35459
18000059	Cumberland	-	I-40			N.E. OF CROSSVILLE 2-WAY	40675
18000062	Cumberland	-	I-40			NEAR ROANE CO LINE 2-WAY	30803
18000132	Cumberland	-	I-40			PLATEAU - NEAR PUTNAM CO. LINE 2-WAY	32890
19000018	Davidson	NASHVILLE	OLD HICKORY BLVD.			W OF GOODLETTSVILLE 2-WAY	12202
19000150	Davidson	GOODLETTSVILLE	LONG HOLLOW PK.			L.H. PKE OF GOODLETTSVILLE 2-WAY	23992
19000187	Davidson	NASHVILLE	MEMPHIS-BRISTOL HWY.			W OF BROOK HOLLOW RD 2-WAY	18326
19000201	Davidson	NASHVILLE	I-65			S OF TRINITY LN 2-WAY	180988
19000214	Davidson	NASHVILLE	I-65			B/T HARDIN PLACE & O.H. BLVD 2-WAY	178745
19000217	Davidson	NASHVILLE	I-40			N OF ROBERTSON RD 2-WAY	97775
19000268	Davidson	NASHVILLE	I-40			NEAR CHEATHAM CO LINE 2-WAY	61048
19000300	Davidson	NASHVILLE	I-24			N OF MAIN ST 2-WAY	114267
19000302	Davidson	NASHVILLE	I-24			NEAR EWING DR 2-WAY	42241

Hint: Use **List view** above to see a listing of all query results

Classification Data Report

The Classification Report is accessed by clicking on the eyeball link in the classification tab. The report highlights the FHWA F Scheme with raw data of vehicles crossing classification sensors.

24 Hour count data based on the FHWA Vehicle classification scheme with totals.

Quick reports for classification data

Example of Line graph highlighting classification on a route – in this case cars (EB vs WB)

Classification Report

Location ID	01000038	Located On	N. MAIN ST.	County	Anderson
Counted By			N OF CLINTON	Community	CLINTON
Start Date	Wed 4/1/2015	Loc On Alias		Station	
Start Time	11:00:00 AM	Direction	2-WAY	Agency	tdot
Source	Syst_Combine_Legacy	Sensor Type		Owner	LEGACY
Axle Factor	0.979	Count Status	Accepted		
Import Type	LEGACY	Imported	12/3/2019 5:53:43 PM		
Filename	Class_Short				

Directions: 2-WAY NB SB

Count Navigation: <<< < > >>> Count Type: CLASS

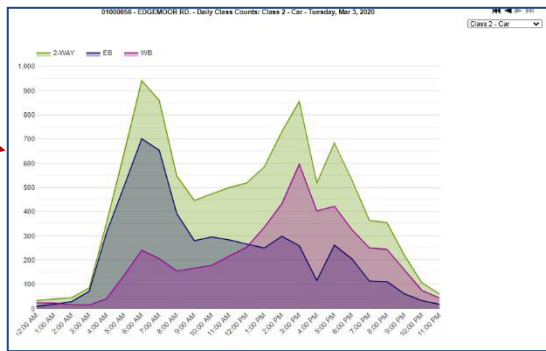
Start Time	Motor cycle	Car	Pick up	Bus	2A SU	3A SU	>3A SU	<5A 2U	5A 2U	>5A 2U	<6A >2U	6A >2U	>6A >2U	TOTAL
12:00 AM	2	55	14	0	0	0	0	0	1	0	0	0	0	72
1:00 AM	0	19	9	0	0	0	0	0	1	0	0	0	0	29
2:00 AM	0	17	3	0	0	1	0	0	1	0	0	0	0	22
3:00 AM	0	32	10	0	2	0	0	0	1	0	0	0	0	45
4:00 AM	0	72	18	0	1	0	0	0	0	0	0	0	0	91
5:00 AM	0	125	49	0	0	1	0	0	2	0	0	0	0	177
6:00 AM	1	315	125	0	2	1	1	0	1	0	2	1	1	450
7:00 AM	1	551	168	0	4	1	1	7	3	0	2	0	1	739
8:00 AM	1	406	141	0	4	2	1	3	2	0	2	0	1	563
9:00 AM	0	394	136	0	5	5	1	3	2	0	1	0	3	490
10:00 AM	0	309	99	0	6	4	0	1	4	0	1	0	1	426
11:00 AM	2	404	128	0	1	0	0	1	7	0	0	1	1	543
12:00 PM	2	483	131	0	2	4	0	8	8	0	1	0	0	615
1:00 PM	3	532	159	0	1	2	0	5	4	0	0	0	2	708
2:00 PM	7	578	189	0	10	4	0	0	3	1	2	2	1	797
3:00 PM	7	636	212	0	3	8	0	2	2	0	0	0	2	870
4:00 PM	11	602	208	0	2	1	0	2	1	1	2	0	2	830
5:00 PM	8	678	195	0	4	3	0	4	2	1	0	0	0	895
6:00 PM	7	543	158	0	1	2	0	3	1	1	0	1	0	715
7:00 PM	10	401	98	0	1	1	0	2	4	0	1	0	1	519
8:00 PM	7	416	98	0	2	0	1	1	1	0	1	0	0	527
9:00 PM	1	201	80	0	1	0	0	1	1	0	0	0	1	256
10:00 PM	1	153	35	0	1	2	0	0	2	0	0	0	0	205
11:00 PM	2	87	24	0	0	0	0	0	1	0	0	0	0	114
TOTAL	73	7939	2482	0	53	40	5	41	53	4	15	5	17	10707

Count Navigation: <<< < > >>>

View Calendar
 Bar Graph
 Line Graph
 View in Excel
 Monthly Report
 Weekly Class Report
 Single Count Class Report

FHWA Vehicle Classifications

- Class 1 Motorcycles
- Class 2 Passenger cars
- Class 3 Four tire, single unit
- Class 4 Buses
- Class 5 Two axle, six tire, single unit
- Class 6 Three axle, single unit
- Class 7 Four or more axle, single unit
- Class 8 Four or less axle, single trailer
- Class 9 5-Axle tractor semitrailer
- Class 10 Six or more axle, single trailer
- Class 11 Five or less axle, multi trailer
- Class 12 Six axle, multi-trailer
- Class 13 Seven or more axle, multi-trailer



Reference

MS2 – Traffic Count Database System User Guide; Traffic Count Database System (TCDS) Documentation (2021)



TN-TIMES

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2021