



NCDOT 2021 Traffic Segment Shapefile

The traffic segment shapefile contains Annual Average Daily Traffic (AADT) and Vehicle Classification (VC) estimates. This data resource includes what was submitted to FHWA for Highway Performance Monitoring System (HPMS) for AADT and VC data reporting for 2021. We report AADT on all highways functionally classified (FC) above Local. A full coverage is provided for these routes where AADT segmentation is based on network configuration, travel patterns, and land use. Where divided highways occur, the AADT total for both directions are referenced on the inventory direction. Data is provided for ramps also. The ramp data does not cover all ramp segments but all major traffic flows at interchanges are reported. Some maintained traffic segments require multiple records due to route ID changes at the county boundary in the linear referencing system (LRS). Traffic statistics for these segments are the same on each side of the county boundary but are maintained in this format to preserve the different location referencing data. A total of 30,969 reference records (labeled “Maintenance” in the SOURCE field) are required to provide event data for all maintained AADT segments.

Supplemental AADT are provided on the routes that are Local FC. These are not maintained in the maintenance table described above. A reference is generated through a spatial join between the monitoring station point and the LRS Arc it falls on. The extent of highway this AADT represents has not been determined. This process captures the AADT for Local routes into the published table without requiring a comprehensive maintenance process. The AADT on Local routes may extend beyond the arc used to report it. The user must exercise their judgment in determining the extent of highway for an AADT in this case. There are 15,999 records that are supplemented (labeled “Supplemental” in the SOURCE field) using this method, one record for each station captured.

VC data is provided for those segments where vehicle class data was collected. Truck volume data is collected at stations and the volumes are annualized. Annualized truck percentages for Single Unit (SU) and Multi Unit (MU) trucks are generated from this data. These truck percentages are applied to the 2020 AADT estimates to generate 2020 truck volume estimates. The truck percentage and volume estimates are provided on 12,692 segments in the shapefile. The VC coverage includes the National Highway System (NHS) and the NC Truck Network. VC data is not collected on routes not part of these systems and truck statistics are not provided on those segments.

The referencing provided is based on the 2022 Quarter 1 publication of the NCDOT Linear Referencing System (LRS) maintained by the GIS Unit. This is the official 2021 data set reported for HPMS routes, is the basis for the highway mileage reports, and was used to estimate vehicle miles of travel (VMT) for 2021.



Differences in the arcs and references will occur when using other quarterly publications with this data set.

Attribute Table Fields

The traffic data provided is seasonally factored to an estimate of an annual average of daily traffic. The statistics provided are:

RouteID: The 11-digit unique route number identifier used by NCDOT for our Linear Route System (LRS). See the GIS Data Layers web page for further details: <https://connect.ncdot.gov/resources/gis/pages/gis-data-layers.aspx>. This route number may also be referenced as LRS_ID.

BeginMP: Route milepost at the beginning of the reference

EndMP: Route milepost at the end of the reference

AADT_2021: Estimated Annual Average Daily Traffic for 2021

SU_PCT: Percent of AADT that are Single Unit trucks (FHWA Class 4 – 7)

MU_PCT: Percent of AADT that are Multi Unit trucks (FHWA Class 8 – 13)

SU_AADT: Estimated annual average daily Single Unit trucks for 2021

MU_AADT: Estimated annual average daily Multi Unit trucks for 2021

AADTT2021: Estimated annual average daily total trucks for 2021

SOURCE: Process used to generate LRS references; “Maintenance” are defined traffic segments maintained in the traffic reference table; “Supplemental” are references generated by spatial join between monitoring stations on Local routes and the LRS arcs they fall on to supplement the maintenance data.

TMS_ID: Traffic Survey Group unique station identifier for the source of the AADT volume data

VEHICLECLS: Traffic Survey Group unique station identifier for the reference class station that is the source for the Single Unit and Multi Unit truck percentages

The segment location data are suitable for relating the AADT/VC data with other data by spatial association using the arcs or event association using the Route/Mileposts.

If additional information is needed, or an issue with the data is identified, please contact the Traffic Survey Group at (919) 707-0900 or through our Contact US page: https://apps.ncdot.gov/ContactUS/Home/PostComment?Unit=Traff_Surv.

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