APPENDIX N

Appendix/Attachment Title

Average Daily Traffic Count Formulas & Example Calculations

Appendix/Attachment Revision and Year:

Version 1.0, 2020

Appendix/Attachment Introduction and Discussion

ADT values for the roadway being carried shall be obtained through requesting traffic counts or from historical records and reported in the bridge inspection report.

If there are no traffic counts available from RDS or the traffic counts which are part of the SI&A data are significantly incorrect, then a manual vehicular and truck traffic count on the structure shall be undertaken.

The BITL shall use his/her judgment as to whether or not the traffic counts on the previous inspection report or provided from SCDOT are still relevant. This could depend on how old the count is, whether traffic patterns have changed for the area, etc. If the BITL suspects the counts may not represent current traffic conditions, then the team shall obtain a manual count as described in this Appendix.

Appendix/Attachment Description

The traffic counts can then be calculated using the formulas and example in this appendix. When complete, the BITL shall submit the counts to RDS who can perform actual traffic counts. Traffic count information is maintained in RIMS.

Traffic Count Formula for use when SCDOT Traffic Volumes are not provided or if the BITL recommends the update of SCDOT Traffic Volumes.

Definitions:

Rush Hour = 3hrs A.M. + 3hrs P.M. = 6 hrs (7 AM – 10 AM & 3 PM – 6 PM)
Off-Peak   = Early AM   = 3 hrs (4 AM – 7 AM)
Remaining =   = 15hrs (10 AM – 3 PM & 6 PM – 4 AM)
                                     = 24hrs

Off – Peak carries no traffic

Rush hour (6) hrs = 42% ADT
Remaining (15) hrs = 58% ADT

Instructions:

Take twelve-minute counts and extrapolate according to the above. Document and note actual time count was made. If twelve-minute counts are used, then a factor of 5 will be used to make the counts per hour, i.e. 5 X 12 = 60 min = 1 hour

Example #1:

Counts were taken at 11:00 AM (hour outside of rush hour and off-peak categories) for 12 minutes. The total vehicles counted were 50. Find the ADT.

50 (counted) X 5 (factor to convert to per hour based on twelve-minute counts) = 250 cars/hr
250 (cars/hr) X 15 (hours outside rush hour and off peak categories) = 3750 cars

Therefore, 3750/0.58 = 6466 ADT. Round up to 6500 ADT.

Example #2:

Counts were taken at 9:00 AM (hour inside rush hour category) for 12 minutes. The total vehicles counted were 75. Find the ADT.

75 (counted) X 5 (factor to convert to per hour based on twelve-minute counts) = 375 cars/hr
375 (cars/hr) X 6 (hours included in the "rush hour" category) = 2250 cars

Therefore, 2250/0.42 = 5375 ADT. Round up to 5400 ADT.