

FOREWORD

This year's edition of the Annual Summary Statistics is substantially different from those published in previous years. There have been many changes made in the procedures used to develop this publication as well as to ensure the integrity of the data. It is necessary to be aware of and understand these changes, as they may affect the procedures applied to this data.

Beginning in July 2002, the Division of Planning assigned Edwards and Kelcey (EK) with the task of identifying DeIDOT's federal traffic data reporting requirements and developing a compliance report. EK made recommendations for DeIDOT to improve compliance with federal requirements, addressing documentation of procedures, as well as the specific methods used for traffic data collection and reporting. Subsequently, EK was contracted to support implementation of these recommendations. One of EK's implementation responsibilities was to review DeIDOT's latest Annual Summary Statistics production.

One of the major findings of the Annual Summary Statistics review pertains to the TRADAS software system that is used in the production of the Annual Average Daily Traffic (AADT) statistics, as well as others. The TRADAS system uses the Hallenbeck Formula for calculation of AADT from the short-term count data collected. The Hallenbeck formula, as shown below, allows for a daily correction factor to adjust the temporally- biased short duration counts.

$$AADT = AADT24 \times ACF \times G \times D \times M$$

Where:

AADT = Annual Average Daily Traffic

AADT24 = Coverage or short-duration count data in 24 hour periods

ACF = Axle Correction Factor

G = Growth Factor

D = Daily Factor

M = Monthly Factor

This formula is consistent with the formula stated in the FHWA's Traffic Monitoring Guide (TMG). However, the equation was developed based upon a 24 or 48-hour data collection period. Currently, the Department collects short-term count data on a seven (7) day basis. This eliminates the need for the Daily Factor (D), used to adjust a 24-hour count to estimate a weekly average. To address this inconsistency, EK contacted the vendor responsible for TRADAS to determine, first if there was adequate data available to remove 'D', and second to remove 'D' if possible. The TRADAS vendor determined that there was adequate data available for the volume count locations, and subsequently removed the Daily Factor from the model. These revisions resulted in traffic data that was of much better quality than the original data set. The resulting deviations in the TRADAS AADT calculations are less than three percent (3%) when compared with the raw data collected, a significant improvement over the previously reported deviations of up to twenty percent (20%).

Another data quality check on the Annual Summary Statistics showed that when calculating AADT, TRADAS was utilizing the wrong Traffic Pattern Groups (TPGs) for assignment of axle correction factors and seasonal adjustment factors. After further investigation, it was determined that originally there were only four (4) TPGs. However, in the past five (5) years, DeIDOT has assigned four (4) additional TPGs, for a total of eight (8). This resulted in the assignment of incorrect seasonal and axle correction factors for some of the segments counted since the addition of these new TPGs. Unfortunately, this information was never updated in the TRADAS system, until now. A full review of TPG assignment was performed for all data collection sites in 2002, yielding higher data quality for publication in this year's Annual Summary Statistics.

Lastly, there are some new features in this year's production of the Annual Summary Statistics to increase data usability. Currently, the Department operates 74 continuous automatic traffic recorders (ATRs), which collect volume data year round. This year, a color map of all ATR locations has been added, showing the capabilities of each station.