

A Traditional Method for Computing Monthly and Daily Factors

Compute the Monthly Average Daily Traffic (MADT) for each month by averaging the average daily count for each day of the week in that month.

$$MADT_j = \frac{1}{7} \sum_{i=1}^7 \left[\frac{1}{n} \sum_{k=1}^n DT_{ijk} \right] \quad (2)$$

where

$MADT_j$ = Monthly Average Daily Traffic

Compute the average daily traffic (ADT) for each day of the week separately for each month.

$$ADT_{ij} = \frac{1}{n} \sum_{k=1}^n DT_{ijk} \quad (3)$$

where

ADT_{ij} = Average daily traffic for day i of the week in month j .

Compute monthly factors by dividing AADBP by MADT.

$$M_j = \frac{AADBP}{MADT_j} \quad (5)$$

where

M_j = monthly expansion factor

Next, compute daily factors, D_{ij} , for each month. This can be done by dividing $MADT_j$ by the average number of crossings on a given day of the week in that month as shown in Equation 6. For example, the daily factor for a Monday in January can be computed by dividing the MADT for January by the average number of crossings on a Monday in January. This produces a total of 84 daily factors (12 months x 7 days).

$$D_{ij} = \frac{MADT_j}{ADT_{ij}} \quad (6)$$

where

D_{ij} = daily expansion factor for day i of the week in month j