

How to Create Traffic Pattern Plots

To create these plots, the first step is to calculate the Annual Average Daily Bicycle and Pedestrian Traffic (AADBP) over the whole year. If a full year of data is available, AADBP is the total count for the year divided by the days in the year. If daily counts are available throughout the year, but some days are missing, AADBP can be computed using the formula suggested by the American Association of State Highway Transportation Officials (AASHTO) method¹.

1. Calculate the average for each day of the week for each month to derive each monthly average day of the week.
2. Average each monthly average day of the week across all months to derive the annual average day of the week.
3. The AADBP is the mean of all of the annual average day of the week.

In mathematical form, the AASHTO method can be represented as follows:

$$AADBP = \frac{1}{7} \sum_{i=1}^7 \left[\frac{1}{12} \sum_{j=1}^{12} \left(\frac{1}{n} \sum_{k=1}^n DT_{ijk} \right) \right]$$

where

DT = daily traffic for day k , of day of the week i , and month j

i = day of the week

j = month of the year

k = index to identify the occurrence of a day of week i in month j

n = the number of occurrences of day i of the week during month j

After the AADBP for a given site has been computed, plot the daily traffic by hour for weekdays, weekends, and by season or month as a percent of AADBP. Similarly, plot the daily percent of AADBP day of week and month of year.

¹ AASHTO Guidelines for Traffic Data Programs. (1992) (pp. 114). Washington, D.C.: Joint Task Force on Traffic Monitoring Standards of the AASHTO Highway Subcommittee on Traffic Engineering.