

## 02

## COUNTING PEDESTRIANS

**2.1 WALKING TRIP RATES / MODAL SPLIT**

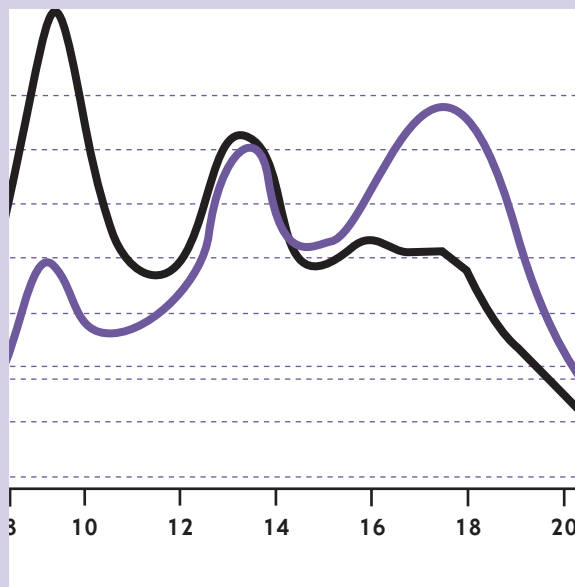
**2.1.1** Travel diary surveys such as the London Area Travel Survey (LATS) or the National Travel Survey (NTS) provide walking trip rates and modal split figures. However, these are to be treated with caution as only walk-only trips are generally included. Additionally, some diaries exclude very short walking trips, and even when included the results are extremely sensitive to the quality of the data collection process. In reality, every trip includes a walking element and walking to access other modes is a vital element in London's transport mix.

**2.2 PERMANENT PEDESTRIAN COUNTERS**

**2.2.1** A variety of automatic pedestrian counting systems are available for permanent installation at important sites. A number of these operate at key town centre sites and the Strategic Walk Network has also employed counters on leisure routes to monitor trends.

**2.2.2** Automatic counters can achieve a good degree of accuracy. However, they require a substantial effort on initial calibration and subsequent maintenance. Therefore in general they are only suited to long term or permanent installation.

**2.2.3** Further information on such counters can be obtained from Colin Buchanan or from Central London Partnership who have undertaken research into the use of automatic pedestrian counters (please contact Matthew Mace - [mmace@c-london.co.uk](mailto:mmace@c-london.co.uk)).



## 2.3 PEDESTRIAN COUNTS

**2.3.1** Pedestrian counts can be required for a number of purposes. The sample size required depends on the accuracy needed for the scheme and this should be agreed at the outset. It is worth noting, in particular, that for the purpose of before and after monitoring, relatively large samples are required to pick up changes in pedestrian flows.

### 24-hour weekday flows

**2.3.2** The following ‘rule of thumb’ methodologies, employed to estimate a 24-hour average weekday count for the time of year, may prove helpful.

**2.3.3** These rules of thumb work well for most urban sites with daily usage above 1,000 pedestrians. However, variation is much higher at sites with high leisure or tourist flows.

**TABLE 2.1 “RULE OF THUMB” PEDESTRIAN COUNT SAMPLING**

	ACCURACY LEVEL 1	ACCURACY LEVEL 2	ACCURACY LEVEL 3
<b>Context</b>	An initial rough estimate is needed	To compare relative usage between sites or change over time (expected change > +/- 10%)	To measure change over time
<b>Margin of error (from average weekday total for the time of year)</b>	+/-25%	+/-5%	+/-4%
<b>Confidence interval</b>	90%	90%	95%
<b>Method</b>	Two one-hour long counts (10:00 – 11:00 and 16:00 – 17:00) on one weekday	Every 5th 15-minute period should be counted (i.e. periods rotating ‘around the hour’) on one weekday 07:00 – 22:00	Full 07:00 – 22:00 count for 3 weekdays
<b>Scaling factors</b>	Scaling using reliable factors from similar streets (generally between 600% and 900%)	Scaling using reliable factors from similar streets (generally between 500% and 600%). Simple linear interpolation gives the same accuracy in many cases.	Scaling using reliable factors from similar streets (generally around 104% but up to 112% where night or early morning flows are high)

**NOTE:** All count sites experience daily fluctuations, and even accuracy level 3 only refers to a 95% confidence interval, i.e. 1 in 20 observations will lie outside the +/-4% margin of error quoted.

## MEASURING PEDESTRIAN ACTIVITY

**2.3.4** Estimates of flows for shorter periods, e.g. for one of the peak periods, can be subject to much higher variation. Where a high degree of accuracy is required, three days of counts of the survey period are recommended.

### Weather and seasonal variation

**2.3.5** Variation in pedestrian counts due to weather is relatively small at sites with predominantly commuters, shoppers etc. At sites with many leisure users and tourists, variation may be higher. Most sites encounter significant seasonal variation. Therefore, the following principles should always apply:

- Surveys should be undertaken in neutral periods (outside of school holidays and the pre-Christmas period)
- Where pedestrian counts are to be compared, e.g. before / after monitoring, counts should take place at the same time of the year.

### Survey days

**2.3.6** It is often suggested that Tuesday and Thursday constitute the most representative weekdays. This principle can be followed where no further information about the nature of pedestrian flows caused by adjacent land uses exists.

**2.3.7** Saturday and Sunday pedestrian flows are generally characterised by higher variation, both daily and seasonal. Therefore before and after comparisons of weekend pedestrian flows should be avoided where possible. Where accurate Saturday or Sunday counts

are required, an average of three days is recommended. Comparisons should be carried out at the same time of year. Weather conditions and the impacts of any special events should be recorded.

### Manual vs. CCTV

**2.3.8** Counting pedestrians from CCTV footage can be more cost-effective than manual counts in some cases. Furthermore, where very high volumes are counted, footage can be slowed down or rewound to increase accuracy.

### Choice of count sites

**2.3.9** A number of factors should be taken into account when choosing a site for a count:

- Representative – pedestrian flows can vary significantly over short sections especially in proximity to large trip generators yet counts cannot be carried out every few metres. The sites chosen should be approximately representative of the pedestrian link they are situated on.
- Practical – pedestrian flows are best measured at points with few conflicting movements, e.g. not right next to a busy bus stop.
- Defined – the actual count cordon should be at a defined, identifiable, and relatively permanent point on the footway.

**2.3.10** An exact reference of the count cordon should always be recorded on a map for future reference.