

Traffic Surveys

An extensive programme of traffic surveys was carried out during November 2007 and during April 2008 to establish the volumes and types of motorised traffic (cars, vans and lorries etc.) using the A6 between Derry and Dungiven. Later this year, further surveys will be carried out to establish the volumes and types of non-motorised traffic (pedestrians, cyclists etc.) using the route. This information — collected using a programme of manual counts, automatic traffic counts and video cameras counts — is necessary to allow traffic engineers to model the types and volumes of traffic currently using the road and to model the volumes of traffic likely to use the road in the future. This modelling helps to establish what type of road improvement should be provided and if its construction is an efficient and cost effective use of public resources.

One of the most important characteristics of a stream of traffic is its 'flow', i.e. the number of vehicles which pass a fixed point in unit time. This is commonly referred to as 'volume'. Its direct measurement by counting vehicles is therefore fundamental to any systematic approach to road planning.

How are traffic surveys carried out?

Several survey techniques are used to count traffic:

- manual surveys where a team of observers count the traffic travelling along the road and where appropriate, interview traffic, cyclists, pedestrians and public transport users.
- Automatic traffic counts (ATCs) where permanent loops built into the road surface or temporary tubes stretched across the road surface record the traffic travelling along the road.
- Video surveys where traffic using a road or turning at a junction is captured on video for later analysis.

Manual traffic counts

The simplest method of measuring traffic volumes is by means of counts made by observers stationed at the roadside. Re-settable hand-held counters, usually called hand tallies, are a useful aide where a limited number of vehicle classifications is sufficient. A single hand tally is most frequently used for a straight forward count of total traffic volume travelling along a road. A multiple hand tally can be used to count and classify the type of vehicles using a road.

Automatic traffic counters (ATCs)

Automatic counters can be used continuously over long periods and will count the volume of traffic passing a given point for a fraction of the money and manpower required for a manual count.

Temporary ATCs are pneumatic tube based counters consisting of a pair of rubber tubes stretched across the road surface to record traffic volumes over lengthy periods. Simple temporary ATCs provide volume counts only. More sophisticated ATCs provide classified counts, vehicle speeds, vehicle type, gap and headway.

Permanent ATCs are cable loops built into the road surface linked to a roadside cabinet. A vehicle is detected by its effect on the magnetic flux linked to the cable loops. Data may be stored by an electronic counter connected directly to the loops or may be sent to a central computer by telemetry.

Video surveys

Video cameras temporarily attached to street lighting columns or traffic signs record passing traffic over 12 hour periods with data extracted from the resulting DVDs. Video surveys can provide classified traffic counts by movement, pedestrian flows by direction, vehicle queue lengths, vehicle timings through junctions or sections of a network and the origin/destination of vehicles through a complex junction or area.



Video count at Main Street Dungiven