

MRTS02

Provision for Traffic

Appendix

APPENDIX: TRAFFIC SURVEYS ON LARGE PROJECTS

Definitions

Travel time survey definitions are given in Table A1.

Table A1 – Travel time survey definitions

Term	Definition and Assumptions
Free flow travel time	The free flow travel time is the travel time measured during free flow conditions (i.e. Level of Service A) when travelling at the posted speed limit.
Weigh points	Defined locations at which GPS coordinates can be compared.
Delay	Delay is measured as the time difference between the actual surveyed time and the free flow travel time.
Travel time	Travel time is the time taken to travel between two defined weigh points.

Travel Time Surveys

General

Travel time surveys shall be undertaken according to Austroads Guide to Traffic Engineering Practice 3: Traffic Studies. A floating car survey shall be used using a GPS unit for recording time and position (hence travel time).

A Garmin GPSMap76 unit should be used for the collection of travel time data. This data shall be in a consistent format to enable future use by Transport and Main Roads for other studies. If another GPS unit is proposed, the Contractor is required to demonstrate that the operation and output is equivalent/ acceptable. The unit should be set up with the following parameters –

- a) Units: Metric;
- b) Map Datum: WGS84 UTM; and
- c) Track record method: Set to record every 1 second of data. This is required for high speed travel time surveys such as those undertaken on motorways to obtain the required accuracy. This may mean that the GPS units will require downloading to a laptop part way through the survey.

To enable the data to be easily accessed in the future, all tracks shall be named individually in accordance with the following naming convention –

- a) Use the main UBD name e.g. Gateway (do not use the road label e.g. street);
- b) Use the main direction of travel (N, S, E, W);
- c) Use the time period e.g. AM, PM Off;
- d) Use the date in brackets (Year, abbreviated month in words and day); and
- e) Use a two digit run number and reset this number every day.

E.g. Gateway N AM (2006Mar14) #58

Weigh points shall be used to calculate the travel times. Weigh points shall be located at the centre of the interchanges for motorways and centre of intersections for unsignalised, roundabouts or traffic signals. In some cases, the Administrator will provide the weigh points. The same weigh points shall be used for before, during and after construction travel time surveys.

The unit shall be switched off between each run including when the direction changes. This will create a new track for each different run.

Recording

The GPS data shall be downloaded into a spreadsheet and the following information shall be calculated –

- a) Travel time for the entire length;

- b) Delay for the entire length (when compared to the free flow time);
- c) Average speed for the entire length;
- d) Travel time between weigh points;
- e) Delay between weigh points; and
- f) Average speed between weigh points.

The spreadsheet can be obtained from the Network Operations and Modelling Branch of Transport and Main Roads at no cost.

Auditing of surveys and other surveys may be undertaken by the Administrator or an independent party.

Travel time surveys shall consist of one complete travel time survey in each direction from the start to end of project site. Where queues are expected to extend beyond the Site, the travel time surveys shall also be extended.

AM travel time surveys shall start randomly between 7:00am and 8:30am and continue until finished. Records shall be kept to show randomness of start time.

PM travel time surveys shall start randomly between 3:00pm and 5:30pm and continue until finished. Records shall be kept to show randomness of start time.

Updated spreadsheets with all travel time information shall be provided to the Administrator weekly. Raw GPS files should be available for auditing on request by the Administrator. GPS coordinates shall also be provided to the Administrator for input into Transport and Main Roads databases.