Task 8.2 Observed assignments

Inputs
Car, commercial vehicle and public transport trip matrices (we used observed survey matrices and also estimates from the previous model).
Public and private transport networks.
Screenline counts.
Road speed surveys.

Processing
There are two objectives of this task:
- to obtain an insight into bias and under-reporting in the survey data[1];
- to generate realistic road times for use in model calibration.

Road
Assign matrices and compare with counts and observed speeds.
Note under-reporting of trips.
Adjust trip matrix as necessary to obtain acceptable journey times for model calibration.
Options:
- scaling of matrix to match counts;
- Bayesian combination[2] of survey matrix and estimated matrix from previous model.

Public transport
Assign matrices and compare with counts.
Note under-reporting of trips.

Outputs
A road network with realistic journey times for input to model estimation.
An appreciation of matrix biases, which may affect later tasks.

[1] Note that we are not collecting an interview screenline which would enable purpose-specific biases to be examined. It is a common feature of household travel surveys that they under-estimate the number of irregular and non-home-based trips. Ideally, trip under-reporting should be corrected in the model implementation rather than in the data used for model estimation. This is because the correction factors are themselves estimates and therefore subject to error. However this may not be possible if calibration is to be based on a number of data sets, each with different biases.

[2] A weighted average based on estimated variances.