# JDiBrief - Analysis

## Public transport victimisation: METHOD (3 of 5)

Author: Lisa Tompson, UCL Jill Dando Institute

**POPULATION AT RISK**: The victimisation *rate* refers to the number of crimes per population at risk during a period of time in an area. For generic crime the population at risk is commonly thought of as the area's resident population or the number of households. However in some cases, potential targets are more narrowly defined (e.g. in particular settings or targets that fit a specific profile).

The travelling population are not easily definable, and yet they are precisely the population at risk for victimisation on public transport. In addition to the resident population (who may or may not use public transport), there can be a number of tourists, both native and foreign, who need to be factored into calculations, in addition to the commuting population. This is an incalculable list, and one which is not captured in full in any known database.

In the absence of a reliable benchmark for the population at risk for public transport users, we suggest using – where available – passenger surveys. These provide an approximation of the demographics of the travelling population. Surveys do though have the universal limitation of sample size, hence results from analysis using their data should be interpreted with caution. They further limit analysis to the data variables collected in the survey (e.g. certain age categories).

**CREATING INDEX VALUES**: Estimating the rate of victimisation involves comparing the victim population with the travelling population to determine the frequency of crime happening to different sub-groups. We can use index values to help us calculate how these populations compare. To do this we use the following formula: **(% victim population / % population at risk) * 100**.

**EXAMPLE:** 5.7% of thefts on buses are found to be from persons over 65 years old. When surveyed, this age group make up 9% of the population of bus passengers. Using the formula we divide the proportion of the victim population (5.7%) by the proportion of the population at risk (9%) and multiply by 100. This produces an index value of **63** (see Figure 1).

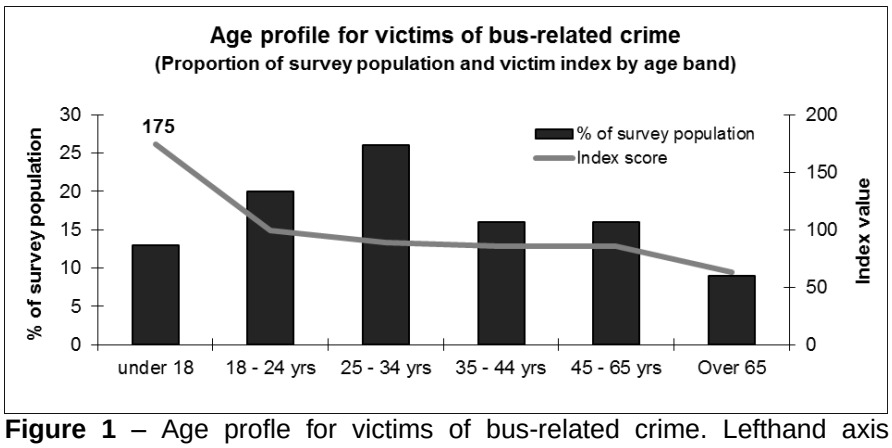


**Figure 1** – Age profle for victims of bus-related crime. Lefthand axis represents the survey population (in bars), righthand axis represents index values (as a line).

**INTERPRETING INDEX VALUES**: If the victim population were directly proportional to the population at risk then all index values would be 100. Any index value higher than 100 indicates that there is disproportionate victimisation going on. For instance 200 would signify that a subgroup had twice the expected *rate* of victimisation. On the other hand, any index values below 100 represent a lower than expected risk of victimisation. So in our example above, persons aged over 65 are at a much lower risk of becoming a victim of theft than other age groups.