

# COBALT User Guide

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GOVERNMENT OPERATIONAL RESEARCH SERVICE

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## 5.2 Link Input Section

### ***Link Classification Subsection***

This is the first of three tables required for links in the link-only section of the ***separate*** option for calculation in COBALT. In this section users need to specify every link involved in or affected by the scheme, as covered by the study network. Enter a link name, a link type, the length (in km) and the speed limit (in mph). The link type should match one of the ones from the parameter file, which are given in Section 5.5.1 below.

Note: if the link type is likely to change details between the two schemes, for example if a link is changed from a single to dual carriageway, the link needs to be entered twice:

- once in its 'Without-Scheme' state (e.g. single carriageway), which will have zero flow in the With-Scheme forecast in the link flow subsection (described below); and
- once in its 'With-Scheme' state (e.g. dual carriageway), which will have zero flow in the Without-Scheme forecast.

The two versions of the link will need to be referred to by different link names; e.g. one could be given the suffix '\_DS'.

If no link-only calculations are required, this table and the following two tables should be included in the input file, but with no data rows.

### ***Link Flow Subsection***

In this section enter the vehicle flows, in units of Annual Average Daily Traffic (AADT), for each link using the same link names as specified in the previous table. This information needs to be entered for the base year, and any years identified in the years subsection, above.

For links which do not have any flow for a particular forecast (e.g. because they appear in the 'With-Scheme' scenario but not in the 'Without-Scheme' scenario), a zero value should be entered.

### ***Link Local Accident Rate Subsection***

In this section, users can enter local accident rates for all, some, or none of the links identified in the previous sections. We intend to add capability to apply a local severity split in due course.

Data to calculate local accident rates can be obtained from the appropriate police or local authority and should relate to a period when conditions on the road have been broadly unchanged (for example, no abnormal changes in traffic flow, no changes in junction design or road geometry, etc). For existing links where local accident data are not available, and for new links, the program will use the default accident rates from the parameter tables described in Chapter 4.

For links where observed accident data exist, it can be entered in this table in one of two ways. Either:

- the observed numbers of accidents on a given link for consecutive years should be entered as a comma-delimited series in the second column 'Observed Accidents'. The first year of this series should be given in a third column 'First Observed Accident Year'. Data for a maximum of 5 consecutive years can be used;

or:

- a pre-calculated rate (PIA per million vehicle km) may be entered in the second column with an 'R' suffix and the year to which it refers in the third column (e.g. 0.236R 2010).

If no observed accident data is being used, the table should remain in the input file, but with no links listed.

## 5.3 Junction Input Section

### ***Junction Classification Subsection***

The three input tables described above for link inputs are followed by corresponding tables for junctions. In this first table the user needs to specify every junction to be explicitly examined in the study area. Enter a junction name, a number corresponding to junction type, the highest entry arm carriageway standard (Single or Dual), the highest entry arm road standard (Major or minor – i.e. motorway/A road or not) and the speed limit (in mph). The different junction types are listed below:

- |   |                                    |
|---|------------------------------------|
| 0 | Priority                           |
| 1 | Priority with Ghost Islands        |
| 2 | Priority with Single Lane Dualling |
| 3 | Signals                            |
| 4 | Roundabout – Standard              |
| 5 | Roundabout – Small                 |
| 6 | Roundabout – Mini                  |
| 7 | Roundabout – Signalised.           |

If no junction-only calculations are required, this table and the following two tables should be included in the input file, but with no data rows.

### ***Junction Flow Subsection***

Enter the vehicle flow volumes for each arm (up to six arms) of the junction, in units of annual average daily traffic (AADT) for the base year, and the 'Without-Scheme' and 'With-Scheme' forecasts for each key year. For the forecasts, users can enter the year, or the index number for the year from the ***Years subsection***. Exit-only arms should be excluded.