Tasks 2.7 & 2.8 Education Modelling & School Buses, Car Passenger Modelling and Escorts

Introduction

We have put these two tasks together because of the investigative nature of these tasks and the degree of overlap.

We need a good understanding of what is going on, the nature of behaviour in order to think out alternative modelling approaches.

For school trips, the focus is on the ideas (i) that trip distribution is very constrained by the location of schools (local to residential areas) and (ii) that the choice of mode is also limited, with an emphasis on escorted car trips. For car passenger and escort modelling, the issues are how to model car passenger choices and how car driver trips are related to the escort purpose; our focus is on commuting and education escorts.

Inputs
Household survey
School survey (a structured random sample of pupils at all schools in the Wellington region was surveyed)

Processing
Suggested tabulations/graphs of the <u>school survey</u> are:
- ❑ % mode share by age of school child and /or school grade
- ❑ for car driver, tabulate the answers to the survey question "who else travelled in the car"
- ❑ for car passengers, cross tabulate the answers to the survey questions "who drove" and "who was in the car"
- ❑ trip length by age of school child and /or school grade
- ❑ mode used by the distance from home to school
- ❑ (it may be worth checking out the return trip home too)
- ❑ the graphs and tables need to be repeated aggregating grades to primary and secondary levels.

Analysis of the <u>household survey</u> for school trips should focus on the interaction with other household members and is therefore about escort/car passenger trips. This is combined with commuting escorts in the proposed tables below. Because I have not thought out exactly how to do the analysis with the data, I do not always specify simple tables, but instead describe what we are interested in.

Using the expanded household survey:
- ❑ the first step is simply to tabulate the number and percentage of trips in the data by the common purpose categories by main mode; in principle, our primary interest is in escorting car drivers with purpose 11 (HB work escort) & 12 (HB Education escort) and car passengers with purposes 1 (HBW) & 2 (HBEd); we want to know how big a part of the data they form;
- ❑ next we have to understand how the car drivers and passengers relate to each other and how their trips relate to each other; the figure below attempts to identify what might be the principal trip types (5 in all); we need to find a way of establishing the volumes of tours/trips in each of these categories (and any other important ones which I have not thought of);
- ❑ from this analysis we can hope to be able to identify:

- the extent to which escorting is confined to the family;
- the extent to which drivers are en-route to their own destination of making a special trip;
- generally the trip volumes/proportions involved.

■ **Figure: Relevant Types of Tour**

1. Home - (S1) - Work Pick Up with passenger(s) - (S2) - Work

2. Home with passenger(s) - (S1) - Work Drop Off - (S2) - Work/Other Destination/Home

3. Home with passenger(s) - (S1) - Work

4. Home with passenger(s) - (S1) - School Drop Off - (S2) - Work/Other Destination/Home

5. Home possibly with passenger(s) - (S1) - Pick Up with passenger(s) - (S2) - School Drop Off - (S3) - Work/Other Destination/Home

The stages are numbered (S1-S3) and whether or not there are passengers is identified. The reverse direction trips would need to be covered too.

Outputs
Conclusions as to how education and escort trips should be modelled.