# Task 1.2 Specification of Survey Compatibility (Auckland example)

Coding definitions which are common between the household, public transport and external cordon surveys are required.

### Trip Time, Time Periods and Day

These are given in Table 1 with a new field, PERIOD.

**Table 1 Time Periods**

| Period | Time | Codes for PERIOD |
|---|---|---|
| Weekday AM Peak | 7.00-8.59am | 1 |
| Weekday Interpeak | 9.00am-2.59pm | 2 |
| Weekday School PM Peak | 3.00pm-3.59pm | 3 |
| Weekday PM Peak | 4.00pm-5.59pm | 4 |
| Weekday Offpeak | 6.00pm-6.59am | 5 |
| Saturday | All day | 6 |

### Trip Purpose

The expected modelled trip purposes are given in Table 2 along with the allocated codes for new field TRIPPURP.

The NHB purposes have been expanded into 2 coding categories:

- NHBBus in which both ends of the trips are for business purposes or the normal workplace
- NHBO covering all other NHB trips.

**Table 2 Trip Purposes**

| Purposes | Abbreviation | Codes for TRIPPURP | |
|---|---|---|---|
| | | Not ESCORT | ESCORT |
| HB (home-based) work: blue/white collar | HBW: B or W | 1 | 11 |
| HB education | HBE | 2 | 12 |
| HB shop | HBSh | 3 | 13 |
| HB social | HBSo | 4 | 14 |
| HB other | HBO | 5 | 15 |
| HB Business travel | HBBus | 6 | 16 |
| NHB Business travel | NHBBus | 7 | 17 |
| NHB (non-home-based) other | NHBO | 8 | 18 |

The above trip purposes are defined in terms of productions-attractions (PA) from each of the survey trip end purposes, plus for the HTS the type of place at each trip end is considered where there is some ambiguity in the trip end purpose.

Following the PA purpose allocation, the trip direction is identified for HB trips using coding for a new field, PROD, in Table 3.

**Table 3 Trip Direction**

| Direction | Codes for PROD |
|---|---|
| Productions | 1 |
| Attractions | 2 |
| NHB trips | 3 |

### Main and Secondary Modes

The transport modes for a trip are in Table 4 along with the database coding. This applies to the mode on each leg of a trip and also to the main mode which is subsequently determined.

The fields for each leg are labelled MODE1, MODE2, MODE3, etc and the main mode MMODE then is derived from these using the mode hierarchy (Table 5) and consideration of distance travelled by each mode.

**Table 4: Mode of Transport**

| Composite Mode | Constituent Modes | Codes for MMODE, MODE1, MODE2, etc |
|---|---|---|
| Light vehicles | Car – driver | 1 |
| | Car - passenger | 2 |
| | LCV - driver | 3 |
| | LCV - passenger | 4 |
| | Motorcycle driver/ passenger | 5 |
| | Taxi passenger | 6 |
| Public transport | Public transport passenger: | |
| | - Bus | 7 |
| | - Train | 8 |
| | - Ferry | 9 |
| | School bus passenger | 10 |
| Active | Walk | 11 |
| | Cycle | 12 |
| Commercial Vehicles | Trucks (MCV and HCV) | 13 |
| NA | | -1 |
| Missing | | -2 |
| Exclusions | Truck passenger, Charter bus passenger, Other modes, etc | -3 |

**Table 5 Mode Hierarchy**

| Rank | Modes |
|---|---|
| 1 | Train passenger |
| 2 | School bus passenger |
| 3 | Ferry passenger |
| 4 | Public bus passenger |
| 5 | Truck (MCV/HCV) driver |
| 6 | LCV driver |
| 7 | Taxi driver |
| 8 | Car driver |
| 9 | LCV passenger |
| 10 | Taxi passenger |
| 11 | Car passenger |
| 12 | Motorcycle driver/ passenger |
| 13 | Cycle |
| 14 | Walk |
| 15 | Other |

## Car Availability

Table 6 sets out the model definitions of car availability and the coding for the new field, CARAV. A combination of household and person information will be used to categorise trips into car availability categories.

**Table 6: Car Availability**

| Level of car availability | Description | Codes for CARAV |
|---|---|---|
| Choice1 (1 car in household) | No. of cars in household ≥ no. of adults/no. of licensed drivers | 1 |
| Choice2 (2 cars in household) | | 2 |
| Choice3 (3+ cars in household) | | 3 |
| Competition1 (1 car in household) | Residents of households where: no. of cars < no. of adults/no. of licensed drivers | 4 |
| Competition2 (2 cars in household) | | 5 |
| Competition3 (3 cars in household) | | 6 |
| Captive to public transport | Resident of non-car-owning household | 7 |
| Captive to car | Possessor of employer-assisted vehicle | 8 |

## Person Type

Table 7 sets out the ART3 person type definitions and codes (PERTYPE).

### Table 7: Person Types

| Person Types | Codes for PERTYPE |
|---|---|
| Infant, age<5 | 1 |
| Child, age 5-10 | 2 |
| dependent child, age 11-17 | 3 |
| working adult child (full-time only) or adult, age<26 | 4 |
| working adult child or adult, age 26+ | 5 |
| Other adult child or adult, age <26 | 6 |
| adult child or adult, not retired, not working age 26+ | 7 |
| adult, retired | 8 |
| Other | -1 |

## Household Types

Table 8 sets out the ART3 household type definitions and the coding applied to the Person database. This is done for each household as identified in PERSONID and applied to a new field HHTYPE.

### Table 8: Household Types

| ART3, including retired | Codes for HHTYPE |
|---|---|
| 1 adult, not working, not retired | 1 |
| 1 adult, working | 2 |
| 1 adult retired | 3 |
| 2 adults, none working, 1 or more not retired | 4 |
| 2 adults, 1 working | 5 |
| 2 adults, both working | 6 |
| 2 adults, both retired | 7 |
| 3+ adults, none working | 8 |
| 3+ adults, 1 working | 9 |
| 3+ adults, 2 working | 10 |
| 3+ adults, 3+ working | 11 |

## Type of Worker

Table 9 sets out the worker and employment related classifications and the coding and filed names of each.

### Table 9: Types of Worker

| Classification | Criteria using Survey Coding | Codes |
|---|---|---|
| **Full/part time** | | **WORKFP** |
| Full time (>30hrs/week) | MAINACT = 1 | 1 |
| Part time (all other) | MAINACT = 2, 3 | 2 |
| Other | MAINACT not equal to 1, 2, 3 | -1 |
| **Socio-economic group** | | **WORKSE** |
| White collar: NZSCO Major Groups 1-5 | (ANZCSO1= 1 and ANZCSO2 = 1, 2, 4, 5) or<br>(ANZCSO1= 2) or<br>(ANZCSO1= 3 and ANZCSO2 = 14, 15) or<br>(ANZCSO1= 4) or<br>(ANZCSO1= 5) or<br>(ANZCSO1= 6) | 1 |
| Blue collar: NZSCO Major Groups 6-10 | ANZCSO1 not equal to -1 or -2 and not meeting the above criteria | 2 |
| Not known | ANZCSO1= -1 | -1 |
| Not working | ANZCSO1= -2 | -2 |
| **Type of employment** | | **EMPTYPE** |
| Paid employee | EMPTYPE = 1 | 1 |
| Self-employed | EMPTYPE = 2 | 2 |
| Employer of other persons | EMPTYPE = 3 | 3 |
| Family business | EMPTYPE = 4 | 4 |
| Volunteer | EMPTYPE = 5 | 5 |
| Not known | EMPTYPE = -1 | -1 |
| Not working | EMPTYPE = -2 | -2 |
| **Work arrangement** | | **WORKARR** |
| Fixed hours | WORKTYPE = 1 | 1 |
| Flexible hours | WORKTYPE = 2 | 2 |
| Rostered shifts | WORKTYPE = 3 | 3 |
| Work from home | WORKTYPE = 4 | 4 |
| Not known | WORKTYPE = -1 | -1 |
| Not working | WORKTYPE = -2 | -2 |

## Zoning

Trip ends in the HTS were geo-coded to both x-y co-ordinates and 2006 meshblocks; the model zones have been allocated using a meshblocks to zone equivalence.

In the PTIS and ECS the geo-coding was to x-y co-ordinates from which zones were allocated via GIS shapefiles.

The filed names given to trip end zones are given in Table 10 and Table 11 gives the correspondence between external links that cross the regional boundaries and zone numbers allocated to them.

### Table 10: Trip End Zone Codes

| Trip End | Code |
|---|---|
| Origin zone | OZONE |
| Destination zone | DZONE |

### Table 11: External Links and Zone Numbers

| External Links | Zone Numbers |
|---|---|
| SH1 North of Te Hana | 513 |
| SH2 East of SH1 | 514 |
| SH1 South of Pokeno | 515 |
| Tuakau-Pukekawa Rd | 516 |
| Wily Road | 517 |