VISTA 2012-13 Activities

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About

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Input Data

The Victorian Integrated Survey of Travel & Activity (VISTA) 2012-13 table of activities by time of day for weekdays and weekend days is loaded from vista_2012_13_dedjtr_activities.csv. The file was created by:

1. exporting the VISTA 2012-13 Population Activity profile from DEDJTR in Tableau format;
2. loading the downloaded data in Tableuau Public Desktop; and then
3. exporting the data from Tableau Public Desktop to CSV.

(The alternative would have been to directly process the VISTA data files (also CSVs), but that requires adjusting numbers by using the weights correctly, whereas the DEDJTR file already contains the adjusted numbers.)

A sample record showing the structure of the input data is given below.

```
##
##
##
## ------------------  ----------------
## Age..group.         18 - 64
## Age                 38
## Gender              Female
## Hhid                Y13H0350412
## HomeRegion.ASGC     MSD_31LGAs
## Location.Region     MSD
## Location            Manningham (C)
## Persid              Y13H0350412P01
## Population          356.5136
## Purpose.S..group.   Social / Rec
## Purpose.D           Visited someone
## Purpose.S           Social
## Time1               17:00
## Travdow             Friday
## Travdow..group.     Weekdays
## Wd.Pop              356.5136
## We.Pop              NA
## ------------------  ----------------
```

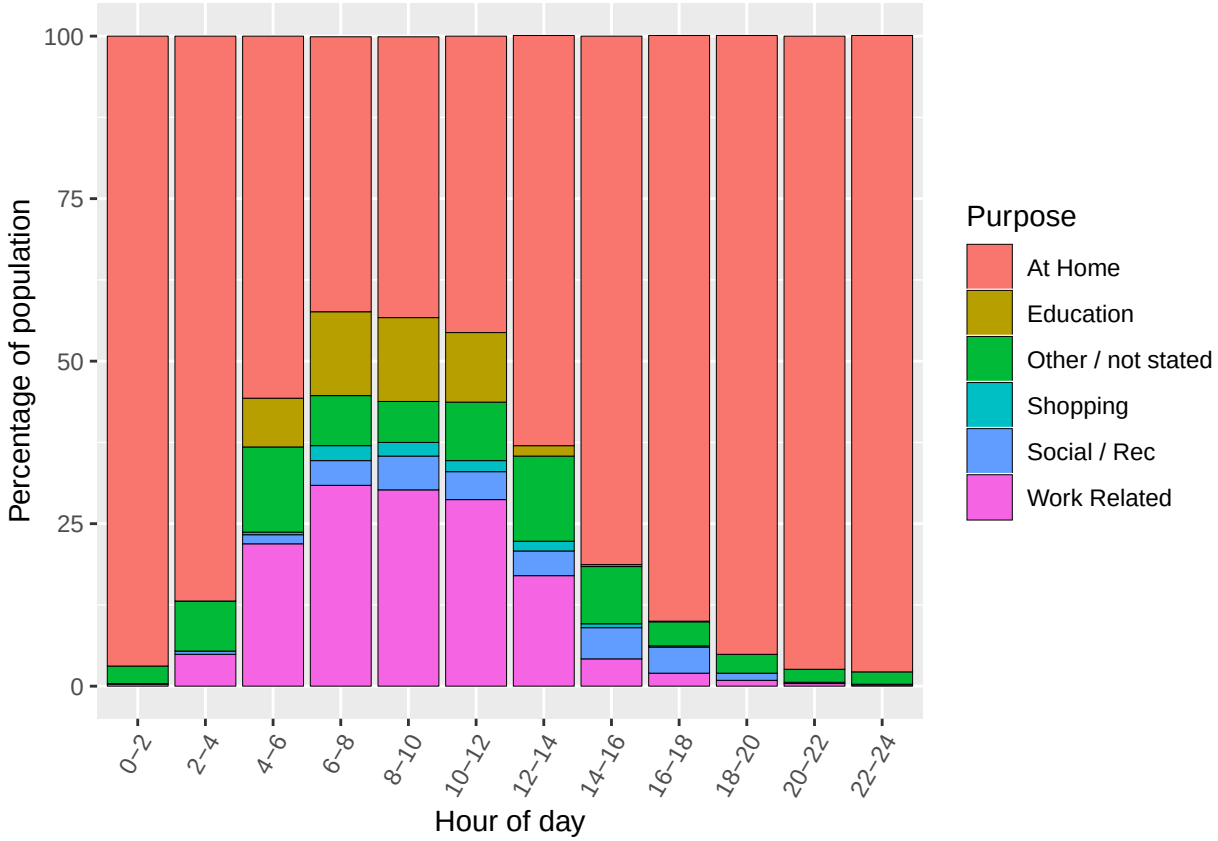
Data Processing

Our intent is to create a *time-of-day distribution of activities for the aggregated Melbourne population (31 LGAs)* from VISTA data, as input for the EES synthetic population generation algorithm. We do this as follows:

1. Convert the hour of day (`Time1`) field to a decimal;
2. subtract `4.0` from the hour of day since the range in the input data is `[4.0,28.0]` when it should be `[0.0,24.0]`;
3. remove records for the 24th hour, which conceptually is the same as the 0th hour of day;
4. remove records for the `Purpose` category **Travelling / accompanying** as it represents people in transit and not at location-based activities;

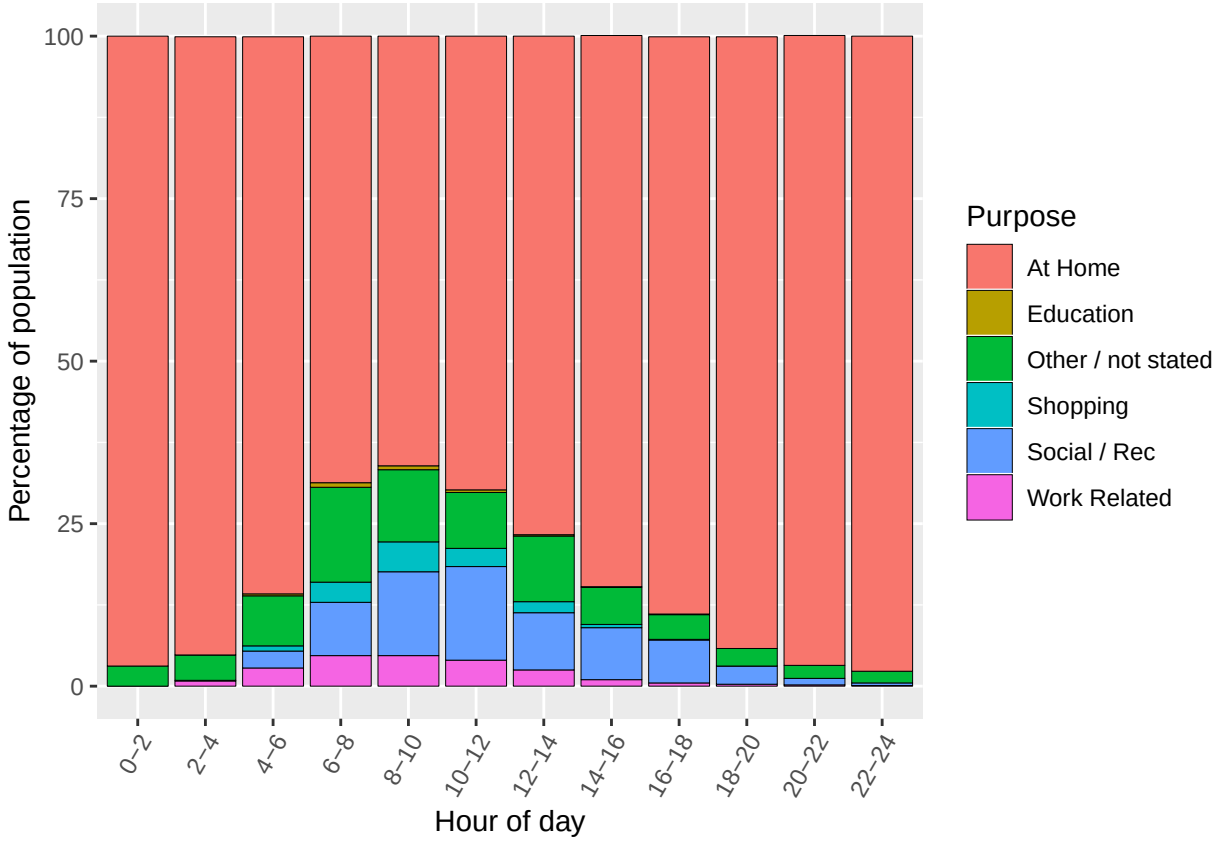
5. sum the time of day records into 2-hour time bins as required by the synthetic population generation algorithm;
6. ensure that each time bin includes 100% of the population; we do this by taking the largest value of `Population` from any time bin to represent 100% of the population, calculating how much of the population is unaccounted for in each time bin (with respect to this number), and then adding the unaccounted to the `Purpose` category **Other / not stated**;
7. separate the data into two groups by categories **Weekdays** and **Weekend days**.

VISTA 2012-13 Weekday Activities by Time of Day




```
##
##
##                0-2   2-4   4-6   6-8   8-10  10-12  12-14  14-16  16-18  18-20  20-22  22-24
## ----------- ------ ----- ----- ----- ----- ------ ------ ------ ------ ------ ------ ------
## home          96.9  86.9  55.7  42.3  43.2   45.6   63.1   81.3   90.1   95.2   97.4   97.9
## education      0.0   0.0   7.5  12.9  12.9   10.7    1.6    0.3    0.1    0.0    0.0    0.0
## other          2.7   7.7  13.1   7.7   6.3    9.0   13.1    8.8    3.7    2.9    2.0    1.9
## shop           0.0   0.0   0.4   2.3   2.1    1.7    1.5    0.6    0.2    0.0    0.0    0.0
## recreation     0.1   0.5   1.4   3.8   5.2    4.3    3.8    4.8    4.0    1.1    0.2    0.1
## work           0.3   4.9  21.9  30.9  30.2   28.7   17.0    4.2    2.0    0.9    0.4    0.2
```

VISTA 2012-13 Weekend Activities by Time of Day




```
##
##
##                0-2   2-4   4-6   6-8   8-10  10-12  12-14  14-16  16-18  18-20  20-22  22-24
## ----------- ------ ----- ----- ----- ----- ------ ------ ------ ------ ------ ------ ------
## home          96.9  95.1  85.7  68.7  66.1   69.8   76.7   84.8   88.8   94.1   96.9   97.7
## education      0.0   0.0   0.3   0.7   0.6    0.4    0.2    0.1    0.1    0.0    0.0    0.0
## other          3.1   3.9   7.7  14.6  11.1    8.6   10.1    5.7    3.8    2.7    2.0    1.8
## shop           0.0   0.0   0.8   3.1   4.6    2.8    1.7    0.5    0.1    0.0    0.0    0.0
## recreation     0.0   0.1   2.6   8.2  12.9   14.4    8.8    8.0    6.6    2.8    1.0    0.4
## work           0.0   0.8   2.8   4.7   4.7    4.0    2.5    1.0    0.5    0.3    0.2    0.1
```