

To: Transport & Health Policy Makers, & Practitioners
From: Prof Adrian Davis, TRI, Edinburgh Napier University
Date: 12th March 2021
Subject: Essential Evidence 4 Scotland No.36 Use of non-motorised modes and life stages

Top Line: Utilisation of a life-stage approach to travel behaviour change identifies groups which may be most effectively targeted in increasing use of non-motorised travel modes.

It has been argued that society has become increasingly car dependent. Those with the greatest propensity to own and use a motor car include those of working age, male, on higher incomes and who have children. Few studies have utilised a life stage approach (sometimes termed life-course) to inform travel behaviour change. One UK study which did consider links between non-motorised mode use and life stage did so using data for Edinburgh.¹ Edinburgh is a compact, high-density city with a historic core. A life stage can be defined as a specific, optional event such as learning to drive, moving home, moving job or having children. An individuals' attitude to travel and subsequent travel behaviour changes in response to life stage and life cycle events. The ten most common life stage groups in the Scottish Household Survey (SHS) data set were examined. These are listed below:

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| 1. Full time employment, working age | 6. Pre-school, pre-school age |
| 2. Permanently retired from work, retired age | 7. Self-employed, working age |
| 3. Children (5–15) at school | 8. Working age, looking after home/family |
| 4. Part-time employment, working age | 9. Permanently sick/disabled, working age |
| 5. Higher/further education, working age | 10. Unemployed and seeking work, working age |

Of the six socio-economic variables tested to devise the population segments from the SHS, the most influential variable upon the characteristics of the ten population segments is life stage. Of the ten population segments, almost all of the individuals in high earning households (91% of those without children, 94% of those with children) have motor vehicles available and could be regarded as car dependent. The population segments with lowest motor car availability are the population segments 'retired living on own' (17%), 'students' (26%) and 'in-between jobs' (38%).

In terms of adult bicycle availability, the primary difference between population segments relates to the presence of children within the household. The bicycle availability percentages for 'high earners with children' and 'part-timers with children' are 66% and 59% respectively; the equivalents for the same households without children are much lower at 46% and 33% of bicycle availability for both the higher earners and the part timers with and without children in the household. The three population segments with the highest proportion of adult bicycles available are 'high earners with children' (66%), 'part-timers with children' (59%) and 'students' (51%).

It is of particular interest that exercise was provided as a reason by many of those cycling and walking to work. Exercise is a key advantage specific to non-motorised modes and is becoming increasingly important in our fitness and health conscious society. From the travel behaviour analysis, the ten population segments were placed on a spectrum of high, medium and low propensity to use non-motorised modes. 'Students' (typically before entering the life stage of full-time employment), those 'in-between jobs' and 'part-timers without children' have the greatest propensity to use non-motorised modes; those in retirement, as well as 'High earners without children', have the least propensity to use non-motorised modes.

¹ Riley, T. 2006 Use of non-motorised modes and life stage in Edinburgh, *Journal of Transport Geography*, 14: 367-375.