

The Impact of Life Events in Older Age on Everyday Mobility

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Abstract

In 2020 The Netherlands will face a decline in population size together with a drastic rise of the elderly population. These demographic developments have, together with other trends (e.g. economic, technological, health, environmental planning trends), impact on activity patterns of people, their travel behaviour and the future configuration of the transport system. The effects of demographic changes in population size and composition are relatively easy to estimate. Alterations in travel behaviour, however, are much more difficult to predict. Besides, there are specific changes in older persons' lives (i.e. life events) that significantly affect their travel opportunities and needs, everyday practice and thus everyday mobility. This paper addresses the results of an in-depth study in which we interviewed 32 older persons on their mobility patterns. We will discuss older persons' experiences with different transport modes, their travel behaviour, and the impact of life events (i.e. transition to retirement and to a one-person household) on travel needs, opportunities, and everyday mobility. As the group of older persons is heterogeneous we will also highlight some regional, gender and age differences. The results of this in-depth study can be used to develop different scenarios that take into account demographic changes (i.e. ageing, changes in population size and composition) as well as the effects of specific life events in older persons' lives. The outcomes of these scenarios lay the foundations for recommendations for politicians on how to achieve sustainable improvement in mobility for elderly people.

Brief biography of the authors

Tineke Hof has a major in Social Psychology (RijksUniversiteit Groningen) and is currently working as a research scientist at TNO Human Factors. She develops and applies knowledge about understanding, influencing and changing human behaviour in traffic, especially of elderly people and vulnerable road users such as pedestrians and bicyclists.

Maartje de Goede studied Psychology and Cognitive Neurosciences at the University of Utrecht, followed by a PhD research project on gender differences in spatial cognition as part of the European 'Wayfinding' project. Currently, she is working as a research scientist at TNO Human Factors on several traffic behaviour research projects on drivers' decision-making in traffic and traffic safety.

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Introduction

All modern societies are currently undergoing a major demographic transition: a large proportion of the population is becoming older. This trend is not without consequences for mobility practices and patterns. With advancing age the number of impairments increases. Some overviews indicate that, depending on how reduced mobility is defined, approximately 25-30% of the population of the European Union is affected by reduced mobility due to individual impairments (OECD, 2001). Many in this group are older persons. Therefore, it should be an important priority for modern welfare states to improve the mobility of its older citizens, to eliminate mobility barriers and, in doing so, to contribute to maintaining older persons' active lives.

Considerable social science research has been done on older persons and transportation, for example on mobility patterns, accessibility, roles of social relations, and car driving. Mobility issues for older people are often described on the basis of travel surveys. Insufficient research has, however, been based on narrative approaches and the older persons' own perspectives (Sirén & Hakamies-Blomqvist 2005). However, it is essential to capture the older persons' own perspectives through in-depth studies because of the heterogeneities among different groups of older persons. These different groups (e.g. younger older persons/older older persons; rural older persons/urban older persons; older women/older men) can be expected to have highly varying everyday mobility patterns and different types of resources in creating and sustaining their own mobility.

Recent transportation research in Europe has indicated that life events are highly significant in influencing mobility patterns and choice of transport modes among older persons (van der Waerden & Timmermans, 2003; Verhoeven, Arentze, Timmermans, & van der Waerden, 2005). Two important life events are:

- the transition from working life to retirement
- the transition from being a two-person household to being a single-person household, i.e. when an older person's partner passes away.

These two life events can be expected to occur in different stages of an older person's life. The transition to retirement typically occurs at the age of 60-65. The second life event, that is when a two-person household becomes a single-person household, often occurs a few decades later, and often not before the age of 80 as the ageing population gets healthier.

Despite the fact that these life events have been repeatedly identified as important in shaping older persons' mobility practices and patterns, little in-depth work has been carried out concerning their impact on transport mode choice (van der Waerden & Timmermans, 2003) or long-term future mobility. In this paper, we describe the results of in-depth interviews to generate new insights on the impact of life events on Dutch older persons' everyday mobility practices and patterns. This study is part of "SENTRIP, Senior Life Transition Points and their Implications for Mobility", a research project

within ERA NET Transport carried out in cooperation between Sweden (Swedish National Road & Transport Research Institute VTI, Lund University, Linköping University, WSP Group Sweden), the Netherlands (Goudappel Coffeng BV, TNO) and Austria (FACTUM).

Methodology

Respondents

The results of a questionnaire-study carried out in 2008 in The Netherlands (Dicke-Ogenia, van Beek, & Jorritsma, 2009) have been used to identify and recruit older persons for in-depth interviews by including questions as to the willingness of respondents to participate in an in-depth interview. Thirty-two persons who had entered retirement or early retirement pension within the last 48 months or had experienced a change in household composition during the last 48 months were recruited for the in-depth interviews.

In June 2009, thirty-two respondents were interviewed. See Table 1 for more details about the respondents.

Table 1 Respondent characteristics

	Transition to retirement		Transition to one-person household	
Region	Urban: 3	Rural: 13	Urban: 11	Rural: 5
Gender	Female: 7	Male: 9	Female: 9	Male: 7
Age	61 – 74: 16	75+: 0	61 – 74: 8	75+: 8

All of the respondents were entirely retired or entered early retirement pension. However, 18 of the respondents were still working voluntarily (14) or paid (4).

All of the respondents lived in one and two-person households, of which one-person households made up 56 % and two-person households 44 %. Of those who lived in a two-person household, 86 % shared their household with their spouse or partner, and 14 % shared their household (temporarily) with their grown-up child(ren).

Procedure

The researcher formulated the interview questions on the basis of the results of earlier research in the SENTRY-project. The interviewer used a semi-structured interview format; she had an outline of topics or issues to be covered, and was free to vary the wording, content and order of the questions to some extent. During the interviews, the interviewer condensed and interpreted the meaning of what the respondents described, and sent the meaning back so that the respondents could give a direct confirmation or disconfirmation of the interviewer's interpretations. Next, the researcher categorized and interpreted the material using data-driven coding by conducting multiple readings of the material and identifying emerging categories from the data.

Results

Current travel behaviour patterns

In this paragraph, we describe which transport modes older persons use nowadays, and their experiences with those transport modes. The findings are summarized in Table 2.

Driving by car, walking and cycling were the most popular modes of transport among the respondents. Twenty-three respondents mentioned using the car as transport mode. Many of the respondents used their car to run errands, to visit friends and family who live further away, for a day out, to go to the hospital, or just for a ride. They used the car because: "it is a convenient way of getting to places", "it is faster than other modes of transport", "I can transport many and heavy groceries better by car than by bicycle", "I like to drive the car, it gives me a sense of freedom and independency", "it is from-door-to-door, and I like that", "when the weather is bad I do not want to walk or use my bicycle", "the train is too expensive" and "I am not able to walk or bicycle due to physical impairments". So, most respondents used the car because of its instrumental value, however, a few respondents also mentioned the affective value of the car.

Twenty-three respondents mentioned walking as transport mode. Many respondents walked to the city centre or market place for running (few and light) errands, to visit friends in the neighbourhood, or just for a walk. They walked because: "it is healthy to go outside and be physically active", "the places I go to are nearby", "I really like it, I am a walker", "I am not able to bicycle because I have chronic rheumatism and I can not drive a car because I never learned how to drive", "I do not use a bicycle because I am afraid since a near-accident" and "the doctor advises me to walk". So, some respondents walked because they thought walking to be convenient and pleasurable, and other respondents walked because they had no other transport options or for health reasons.

Twenty-three respondents mentioned bicycling as transport mode. Many respondents used their bicycle to go to the centre of the city/ village or market place to run errands, to do some shopping, to visit friends in the neighbourhood, to go the church, or just for a ride. They used their bicycle because: "it is a convenient way to get to places you can not reach in other ways", "groceries are better to handle by bike than while walking", "the destinations are too far to walk", "it is faster than walking", "I like to ride my bicycle for health reasons", "for relaxation", "it is the best way of transport", "it is cheaper than using the car", "it is nice to bicycle when the weather is fine", "I am afraid of driving a car", and "I cannot walk because my knees are bad". So, some respondents used a bicycle as a transport means because they found it pleasurable and healthy, and others used their bicycles because it was considered a better (less expensive, more flexible, faster) way than other transport modes or because they were not able to walk due to physical impairments.

Nineteen respondents mentioned using public transport as a means of transport. Many respondents used the train to visit their family and friends living in cities with a train station, to get to the airport for a holiday, or to make a day trip to another city. Few respondents used the bus or tram to reach their destinations. Respondents used the train because: "it is free", "I do not want to drive my car outside my region", "I get a discount", "I enjoy travelling by train", "it is convenient, quiet and comfortable", "the parking fees for cars are too expensive and there are too few parking places", "I do not want to drive and park my car in the busy, crowded city centre" and "I cannot reach those destinations otherwise". So, some respondents travelled by train because it was considered comfortable and they got a discount or free ride, and others travelled by train because certain destinations were better reachable by train than by car.

Fourteen respondents mentioned using a taxi or special transportation services as a transport mode. Respondents used a taxi/ special transportation services to go to the doctor and hospital, to visit family, get from the train station to the final destination, to go out, and to get to the airport for a holiday. Respondents used the taxi/ special transportation services mostly because: "otherwise I have to use public transport", "my friends can not drive me", "I have no car", "my sister can not pick me up at the train station", and "I do not want to use public transport because I dread the (too) high step. So, when other transport options failed, they used a taxi/ special transportation services. Although

some respondents did use taxis/ special transportation services they were not very positive about this mode of transport: "it is expensive", "they never arrive on time", or "they do not show up at all".

Table 2 Current travel behaviour patterns

	Destinations	Reasons
Car use	To run errands, to visit friends and family who live further away, for a day out, to go to the hospital, or just for a ride	Instrumental value and the affective value of the car
Walking	To the city centre or market place for running (few and light) errands, to visit friends in the neighbourhood, or just for a walk	Convenient and pleasurable, no other transport options, health reasons
Cycling	To go to the centre of the city/ village or market place to run errands, to do some shopping, to visit friends in the neighbourhood, to go the church, or just for a ride	Pleasurable and healthy, considered a better mode of transport than others (less expensive, more flexible, faster), not able to walk due to physical impairments
Public transport	To visit their family and friends living in cities with a train station, to get to the airport for a holiday, or to make a day trip to another city	Comfortable, getting a discount or free ride, some destinations are better reachable by train than by car
Taxi or special transportation services (STS)	To go to the doctor and hospital, to visit family, get from the train station to the final destination, to go out, and to get to the airport for a holiday	When other transport options fail

In the next sub-sections, we describe regional, gender, and age differences with regard to these travel behaviour patterns.

Regional differences. Among people living in urban areas walking (11 x) was the most popular mode of transport, followed closely by using the car (10 x) and riding the bicycle (9 x), using public transport (7 x), and using a taxi/ special transportation services (7 x). Among people living in rural areas using the bicycle (14 x) was the most popular mode of transport, followed closely by using the car (13 x), walking (12 x), and using public transport (8 x) and taxi (5 x).

With regard to the different transport modes that the respondents use, there were no remarkable differences between people living in rural or urban areas, except for using a bicycle. People in rural areas used their bicycle more often than people living in urban areas. In addition, people living in rural areas also take walks for fun and make recreational tours by bicycle, while people living in urban regions used walking mainly as a functional transport mode, i.e. for running errands in the city centre.

The reasons for cycling, walking and using the car differed between people living in urban and rural areas. While people living in rural areas often referred to health reasons for bicycle use and walking, people living in urban areas often emphasized the convenience of bicycle use and the closeness of destinations for walking. And while people living in rural areas mentioned using the car more often

because they cannot reach the desired destinations otherwise, people living in urban areas noted the convenience of car use and the ability to carry goods by car.

Gender differences. Among men, using the car (14 x) was the most popular mode of transport, followed closely by riding the bicycle (12 x) and walking (11 x). Somewhat less popular were using public transport (6 x), using a taxi (4 x) and being chauffeured (1 x). Among women, walking (12 x) was the most popular mode of transport, followed closely by riding the bicycle (11 x), driving the car (9 x) and using public transport (9 x) and taxi (8 x) and being chauffeured (5 x). So, women were being chauffeured more often and used public transport and taxis/ special transportation services more often than men. This was mainly due to those women having no driving license and/or car. In addition, men took a taxi/ special transportation services to the hospital more often than women. The men reported that they took a taxi because they could not drive themselves to the hospital when they were ill.

Men and women had mainly the same reasons for using the car: it is considered an easy transport mode, from-door-to-door, and suitable in bad weather. However, two women mentioned that they did drive the car but would rather not. They preferred to use other transport modes, such as the bicycle, but that was impossible due to invalidity and when not-otherwise-reachable destinations had to be visited.

Both men and women walked to reach their destinations because they liked to walk and to be outside. Besides that, men and women mentioned that walking was an easy way to be physically active and stay healthy. However, three women reported that they walked because they had no other transport options. They would rather bicycle but could not do that due to invalidity and fear because of a near-accident. They also could not use a car because they did not learn how to drive as their husbands always used to drive the car.

Both men and women reported the same reasons for using their bicycle: it is considered an easy, fast way of transport, it is considered a nice way to be physically active, and it is considered easier to park your bicycle than your car in the city centre.

Age differences. Among younger old respondents using the car (18 x) and bicycle (18 x) were the most popular modes of transport, followed closely by walking (15 x) and using public transport (13 x). Somewhat less popular were using a taxi (8 x) and being chauffeured (6 x). Among older old respondents, walking (8 x) was the most popular mode of transport, followed closely by riding the bicycle (5 x), driving the car (5 x) and using taxi (4 x) and using public transport (2 x). So, younger old respondents preferred using the car and bicycle while older old respondents depended mostly on walking to reach their destinations.

Both younger old respondents and older old respondents walked to reach their destinations because they liked to walk and to be outside. Besides that, they mentioned that walking was an easy way to be physically active and stay healthy. However, two older old female respondents reported that they walked because they had no other transport options. They would rather bicycle but could not do that anymore due to invalidity and fear because of a near-accident. They also could not use a car because they did not learn how to drive as their husbands always used to drive the car.

Both younger old respondents and older old respondents reported mainly the same reasons for using their bicycle: it is considered an easy, fast way of transport, it is considered a nice way to be physically active, and it is considered easier to park your bicycle than your car in the city centre. However, one older old respondent mentioned that she used her bicycle because she did not like to drive a car anymore. She was afraid of the fast pace of traffic and her slow reactions to that.

The reasons for using public transport differed between younger old respondents and older old respondents. While younger old respondents often referred to the convenience of public transport use and the free rides, older old respondents emphasized that they used public transport because they did not want to drive their car in busy, crowded cities or outside their known region.

Effects of transition to retirement on activity and travel patterns

In this section, we describe the effects of the transition to retirement on older persons' travel behaviour.

Before retirement, the respondents led very regular, almost monotonous, lives. Most respondents worked 40 hours per week, or even more. Most respondents had regular working hours, but some had irregular shifts. Besides their 40-hour work week, several respondents also worked (voluntarily or paid) during the evenings, weekends and holidays. After working hours, respondents that had a full time job (mainly men) went home or to play sports. Almost none of the respondents mentioned visiting friends or family on week-nights. Respondents that had a part time job (mainly women) visited friends on their days off, did housekeeping, and ran errands. At home on week-nights, respondents were busy with housekeeping or watching TV. Due to their working schedules, appointments with friends and other trips had to be planned in advance. Working life also provided much contact with other people, at work as well as after work with colleagues.

The transition from working life to retirement had some consequences for respondents' activities in daily life. Only a minority of the retired respondents, however, reported that changes have occurred in their travel behaviour patterns. Nine of the sixteen respondents claim that no changes have occurred. These respondents report that their retirement only resulted in them not travelling to work (and work-related destinations) anymore. Besides that, they continued using the same transport modes and visiting the same destinations as before their retirement.

Some of the respondents who reported a change in travel behaviour mentioned that they walked and cycled more often since their retirement because they have more spare time. They did not only walk and cycle to get to and from places, but also walked and cycled more for recreation and health. Other respondents who reported a change in travel behaviour stated that they used public transport more often. Only one respondent mentions that he walks and cycles less often since he retired. After his retirement, he and his partner moved from a large city to a smaller town in a rural area. Therefore, he could not go by bicycle to visit his daughter anymore. He also mentioned that he walks less because of his bad knees. Overall, there seem to be no large regional, gender and age differences for the effects of retirement on travel behaviour patterns.

Effects of transition to one-person household on activity and travel patterns

In this section, we describe the effects of the transition to a one-person household on older persons' travel behaviour.

Before their partners died, most respondents undertook many activities together with their partners, such as walking, bicycle trips, going on holidays (in The Netherlands as well as abroad), weekend trips, city trips, and visiting friends. Some respondents had to care for their ill partner at home for some time. They did not have much time to undertake other activities. Men as well as women felt very lonely just after their partners had died. They also did not make trips anymore on their own after their partner died (dining out, holidays, walking and cycling for recreation). Instead they have involved themselves in voluntary work or social-recreational activities that they felt they could do without their partner, such as card games, bingo, elderly club, and gymnastics. Some women mention

that no large changes in activities have occurred after their husbands passed away as they were already used to undertaking activities on their own next to their collective activities.

Compared to the transition to retirement, respondents report more changes in travel behaviour patterns after their partner passed away. Only two of the sixteen respondents say that no changes have occurred.

Men mainly report a change in cycling and walking for recreation since their partners have passed away. Some used to walk and cycle for recreation together, and now that is not possible anymore. They do not like to walk or cycle alone. Women mainly report a change in car use and public transport use since their partners have passed away. Women often used to be chauffeured by their husband, especially when they had no driving license themselves, or on longer distances. A rural, younger old woman, for example, reports using the car less often since her husband died. Her husband used to drive when they visited the theatre, movies, cafe, or other cities. As her husband passed away, she does not make those trips anymore. She now drives the car herself, but she has fewer places to visit. An urban, older old woman told that her husband used to drive the car on trips outside their own region (before his illness). Since her husband has passed away, she takes the train more often. She was already used to using public transport when she made visits on her own to, for example, the beach or the swimming pool. Another woman (urban, older old) also reports that she already got used to using public transport during her husband's illness. They had then decided to sell the car as she had no driving license. So, after her husband passed away, her travel behaviour patterns did not change much.

So, both men and women experience changes in travel behaviour patterns when their partners pass away. There are, however, some differences. While men walk and cycle less for recreation and keep using the car, women have to (re)learn how to drive, and use public transport more often.

Concluding remarks

This study found that especially the effects of the transition to a one-person household on daily activities and travel behaviour were experienced differently by men and women. While men walk and cycle less for recreation and keep using the car, women have to (re)learn how to drive, and use public transport more often, after their partners die.

Changes in daily activities and travel behaviour patterns seem smaller for the transition to retirement. Most respondents reported that their retirement only resulted in them not travelling to work (and work-related destinations) anymore. Besides that, they continued using the same transport modes and visiting the same destinations as before their retirement. In general, after the transition to retirement, respondents walk and cycle more for transportation as well as for recreation due to more spare time.

The results of this in-depth study can be used to develop scenarios to describe and analyze future travel behaviour and differences in mobility effects among older persons in specific regions with varying characteristics. The outcomes of these scenarios may provide the basis for concrete, future-oriented policy recommendations concerning supportive institutional measures that can be introduced to stimulate, expand and enhance older persons' mobility as their lives are changed by key life events that are common to the older population in all European countries.

Acknowledgements

This publication is based on data from "SENTRIP, Senior Life Transition Points and their Implications for Mobility", a research project within ERA NET Transport carried out in cooperation between Sweden (Swedish National Road & Transport Research Institute VTI, Lund University, Linköping University, WSP Group Sweden), the Netherlands (Goudappel Coffeng BV, TNO) and Austria (FACTUM).

The work was funded by Netherlands Institute for Transport Policy Analysis/KiM (NL).

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