

**Summary:**

## **Welfare and mobility**

### **Introduction**

Welfare is created in various activity arenas such as the work-place, school and local community. The individual possesses a given set of resources which may be mobilized within the different arenas, thereafter converted, subsequently resulting in dividends in the form of new resources. This study commences with the premise that one must frequently undertake a journey in order to participate in the various arenas. The welfare areas are thus defined on the basis of journey objectives. The survey is based on the fact that transport possibilities are decisive for the access to the various arenas, and that it is these activities which are the foundation of welfare.

Transport possibilities comprise both ambient factors such as transport standards and the physical location of activities, and capability of being mobil defined as access to transport means, financial situation, health and time. Further, travel activity is dependent upon an experienced need in order to undertake that actual activity, i.e. a subjective element. In order to be able to refer to welfare, the activity (activities) and journey (journeys) must have a certain positive attitude or meaning for the traveler.

In the analysis it has been decided to study the relationship between welfare and mobility individually for those sections of the population with different mobility or travel activity. As a basis for identifying the various mobility segments within the population a correspondence analysis has been undertaken based on data from the National Travel Survey from 1991/92. The analysis is limited to a sample resident within the 10 largest urban regions in Norway comprising a total of 2975 persons. In order to be able to capture some of the subjective evaluations of the relationship between mobility and welfare, a sample of 20 persons who can represent the different segments were interviewed.

### **Five mobility segments**

Defining the five mobility segments is based on five main distinctions in the samples' mobility. The first of these concerns those who had not undertaken any journey at all. The second distinction is associated with the degree of activity undertaken outside the home. That is to say between those who are active in *one* arena and those who are active in *several*. A third distinction is made between those who, on the one hand, have short journeys and thus have only a short journey time, and on the other hand, those who have long journeys and use a long time for a journey. A fourth distinction which is also largely related to travel time, is made between those who essentially participate in so-called voluntary activities (leisure-

time travel, personal visits etc.), and those who essentially participate in so-called obligatory activities (work-journeys, journeys connected with purchases, etc.).

Based on these main distinctions, it is fruitful to distinguish between five mobility segments (Fig. S1). On the basis of the particular characteristics of mobility, these segments are defined as 1) “On-the-move”, 2) Duty-bound, 3) Long-distance travellers, 4) Locally mobile, and 5) Immobile. The division is ideal-typical and is built upon information from the respondent’s journeys on one day. However, this day does not have to be a typical day for the respondent. Nevertheless, for many the travel activity will be characterised by repetition. A number of the factors which determine the travel activity will, moreover, be constant.

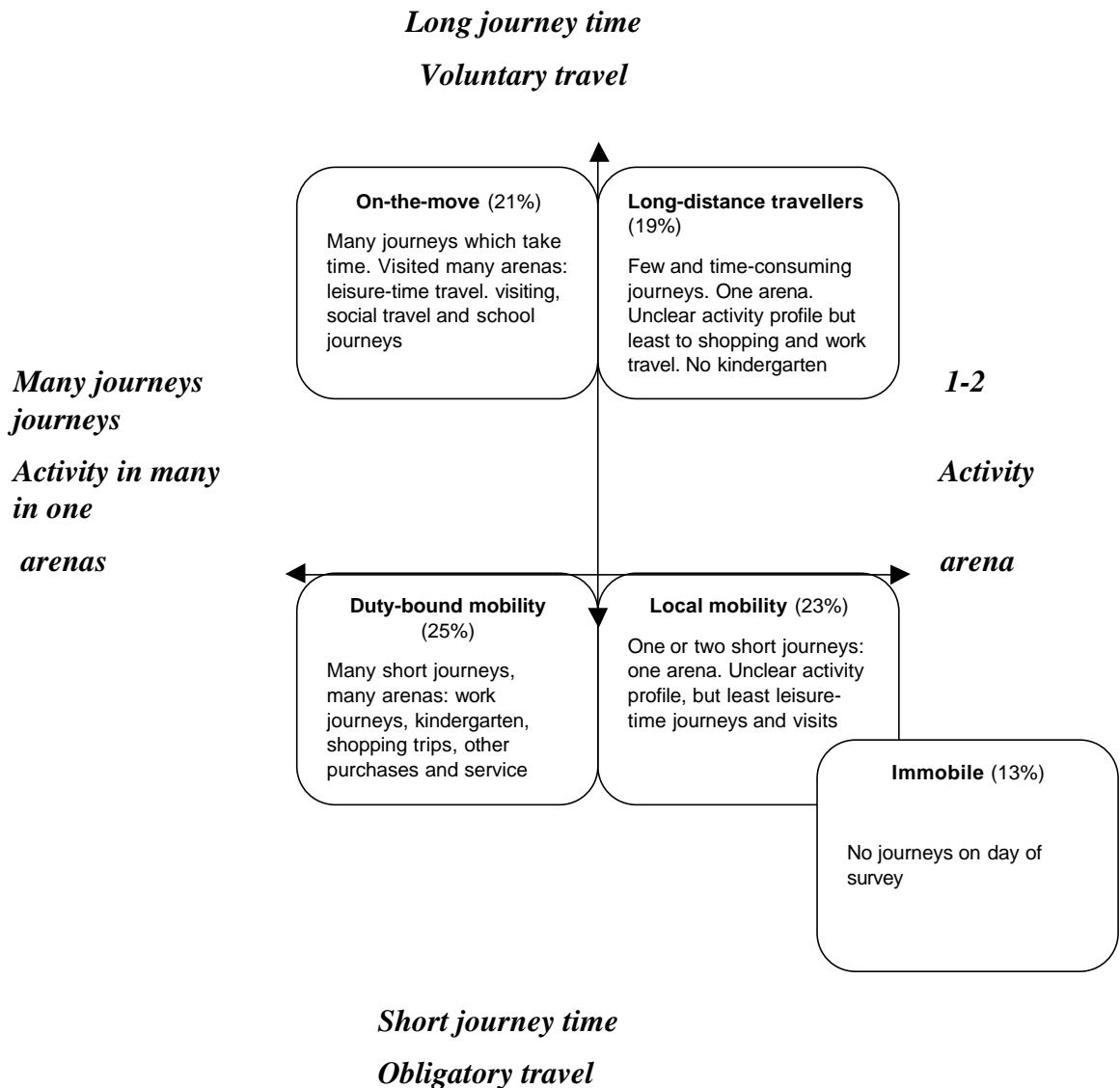


Figure S2: Basic overview of the various mobility segments’ relationship to their own mobility, and how they regard time used for travel.

The mobility profiles reveal two contrasting aspects of activity practice, i.e. manner by which everyday life is organised: one which is home-based, and one which is external to the home. On the one hand we find the Immobile segment who

have not visited any of the welfare arenas outside the home on the day of the survey, and on the other, the On-the-move and Duty-bound segments who have visited many arenas. Between these two relatively clear activity practices we find the long journey travellers who only visit one arena but who use a Long journey time to reach this, and the Locally mobile who visit just one arena in the local community.

### Some general associations

The association between the various mobility segment profiles and their transport possibilities is complex. Neither is the association between each of the factors and mobility unambiguous. It appears that the various factors are associated and partly reinforce each other. Health problems, poor economy and lack of access to a car are also associated. All these conditions have a negative influence on the level of activity and are reinforced in the absence of a public transport service.

The absence of self-controlled time-use such as is registered here, does not, however, have an influence on the activity level. Much time linked with working life and obligatory social care for children appears, on the other hand, to have a clear association with many journeys. Further, it does not appear that a good economy, good health, or satisfactory access to various means of transport is converted into reduced travel time. Rather than affecting the activity level, it appears that the lack of self-managed time-use places certain controls on the type of area where activity occurs. Time for child-care comes into conflict with possibility for participation in the leisure time activity arena. This conflict appears to be stronger for women than for men.

*Table S1: Summary of the various mobility segments' transport resources*

	Local factors		Mobility factor			
	Physical location	Transport standard	Transport means	Economic situation	Health	Time
Immobile	-	-	-	-	-	+
Locally mobile	+	+	-	-	-	+
Long-distance travellers	-	(-)	+	+	+	+
Duty-bound mobile	+	+	+	+	+	-
On-the-move	+	+	+	+	+	-

### Home-oriented persons have the poorest transport possibilities

Based on mobility as a measure of welfare it may be assumed that Immobility has a lower level of welfare than On-the-move and Duty-bound mobility. But this is not necessarily the case. A home-oriented activity pattern can also be the result of self-determined priorities and choice.

The analysis shows, however, that those with an extreme home-oriented activity practice are more poorly situated with regard to transport possibilities than the other segments (see Table S1). The Immobile and Locally mobile clearly have poorer mobility capabilities than the others. These have the lowest incomes, least access to a car, most disadvantages with poor public transport services and considerably more health problems than others.

The qualitative interviews showed, among other things, that several did not go out in winter on account of poor mobility capabilities combined with a lack of winter maintenance on public roads. Lack of transport possibilities clearly result in lower welfare for the elderly with poor health and for wheel-chair users than for others.

*“Yes, I go nevertheless, I do, but it isn’t so very far.”*

*“No, it’s dark you understand, and it’s so slippery and this year has been particularly bad. - I really worry about that, you know.”*

*“It was precisely on those days when I didn’t go out.”*

*“How much I go out depends very much on the time of the year I was going to say. I don’t go out much in winter.”*

*“Last Tuesday when it suddenly began to snow I had to stay at home that day and then I couldn’t go to work.”*

### **Outdoors-oriented have good transport possibilities**

For those who are out-door oriented, i.e. the On-the-move, and the Duty-bound mobile segments, the situation is the reverse. They are in a favourable economic situation, also regarding transport means and health. The only element lacking is time, among other things because some of the time they have at their disposal is disposed to travel. The mobility profile of the On-the-move and the Duty-bound mobile segments can by no means be said to be the result of their general transport possibilities. Rather it is their life-style and family situation which explains mobility.

Time can be regarded as a personal resource for self-management and a product which may be traded. The study does not suggest that those with a better economy than others convert any of this resource into less travel time. Those with a high income undertake more and longer journeys than others. A high income, particularly a high household income, is not traded off into greater flexibility, but rather is converted to several activities throughout a larger geographical area. It is reasonable, therefore, to assume that the On-the-move and Duty-bound segments journeys are very largely a result of personal desires and preferences.

### **Many journeys can be experienced as stressful**

The fact that those who are extremely outdoor-oriented participate in several arenas does not necessarily imply that they have a higher welfare. A single journey, not to mention several, can be experienced as bothersome and stressful. The results of the qualitative survey can suggest that this applied to many of the journeys undertaken by the On-the-move and Duty-bound segments. Travel resulted in stress on account of the many tasks which had to be undertaken within a tight time framework.

*“Sometimes just getting the kids can be stressful.”*

*“If one is to discuss stress in trying to get home, then it is trying to meet all the different time departure times.”*

Time is not like the other mobility resources. Time is consumed in travelling while at the same time it is not something which can be saved by not travelling! Time and social duties, and time which of necessity is associated with work activities says,

in consequence, more about how a journey may be experienced than the fact that one does not have time to undertake it.

Working at home is one way to reduce stress. But none of those interviewed saw the possibilities implicit in this. To stop working completely was no solution either. Reduced working hours on the other hand, was a solution for some:

*“I think it a bit depressing that , well, what I have heard, is that some people working at home work far too much.”*

*I don't want the job to intrude upon my home life; I am not too keen about working at home on a PC.”*

*“I think I'd go out of my mind just working at home.”*

### **Activity is also a mobility resource**

Outdoors activity can also be a (mobility) resource which provides the possibility for familiarising oneself with various offers and activities (orienteering possibility). Child-care and work, for example, provide the opportunity of participating in a number of arenas outside the home. Once one has left the home then impulses to become active in other arenas are encountered.

The situation regarding the more elderly Local mobile and Immobile in a wheel-chair can illustrate this. A number of these appears to lack both orienteering and activity possibilities. These segments are the largest outside the labour market, and neither do they have the responsibility for children. The most active elderly had acquired alternative arena which they regularly visited, while several of those who sat in a wheel-chair did not have permanent activities outside the home with the exception of shopping trips.

### **The conflict between to have, to be and to love**

Based on a welfare perspective it is tempting to rank activities associated with obligatory journeys lower than other journeys associated with leisure-time travel. A distinction can also be made between activities associated with *to have*, *to be* and *to love*. Activities related to the labour market, care and household management (to have) for example, must be satisfied before the need for leisure time activity and social relations (to be, and to love). In this perspective, voluntary travel is the basis for further welfare, or welfare at a higher level, more so than obligatory travel.

People with children and association with working life have scarce time resources. Time scarcity for families with children also influences which type of arena where one may be active, and at the same time limits the possibilities for self-development in the arena for leisure-time activities. Based on the analysis of constrained time, it appears that shopping trips are undertaken at the cost of leisure time travel. The qualitative analysis showed that this conflict was stronger for women than for men.

Further, the qualitative interviews showed that there is a conflict between care for children and self-development outside the home. That is to say a conflict between *to love* activities and *to be* activities. Both men and women who were interviewed experienced this.

*“When I fetch the children from the kindergarten and arrive home and tidy the apartment and make food, this also takes time, putting the clothes away, vacuum cleaning, always something to be cleaned, that is almost always necessary, and then make food. All this takes time.”*

*“It’s clear that as a mother of small children, and at work, there is very much that there is no time for.”*

*“Clearly one is at home much more when one has small children and the like.”*

*“I feel that I don’t really have anything that can call my own.”*

One of the largest differences between the On-the-move and the Duty-bound mobile segments is associated with the type of arena in which they have been active. The On-the-move segment have in the first instance visited arena associated with education, their own or other’s leisure time activities, and social relations, while the Duty-bound mobile segment has visited arenas associated with the labour market, social care, and management of the household.

There is an obvious dilemma between care for children and the individual. One of the most important distinctions between the Duty-bound mobiles and those On-the-move is that the latter had solved this problem by determining permanent agreements on participation in their own activities outside the home, or by combining the children’s activities with their own activities. Some solved this by taking time to do this. Some women considered this problem as associated with basic differences between men and women.

*“Those days when I take the children to the kindergarten I have the chance to work as long as is necessary. - There is a kind of unspoken agreement that we try to balance this time alone over time.”*

*“Men manage to do much more in addition .... This is so important for them, much more so than for a women. For me, it is important that I have some time together with the children, and preferably that it doesn’t appear completely bombed out the whole time, isn’t that right?”*

### **Different experiences with travel**

What the mobility profile means for people’s welfare is not only dependent upon transport possibilities, but equally as much upon that which is desired, whether this gives a purpose and has a positive significance for the traveller. Most conspicuous are the different experiences of travel time itself (see Fig. S2).

For the long-distance traveller, the journey can be regarded as an element of the *investment* which is made in determining where they wished to reside. For the typical Immobile and Locally-mobile individual, travel is very largely associated with *surmounting these obstacles*. For those On-the-move, travel is largely the consequence of their preferences. Travel is typically associated with a positive *expectation* about the activity they are to engage in. The typical Duty-bound mobile traveller has few voluntary journeys; many of the journeys undertaken by individuals in this segment are more or less obligatory to ensure that the logistics in the home will increase. The journeys are undertaken with *borrowed time* from other activities.

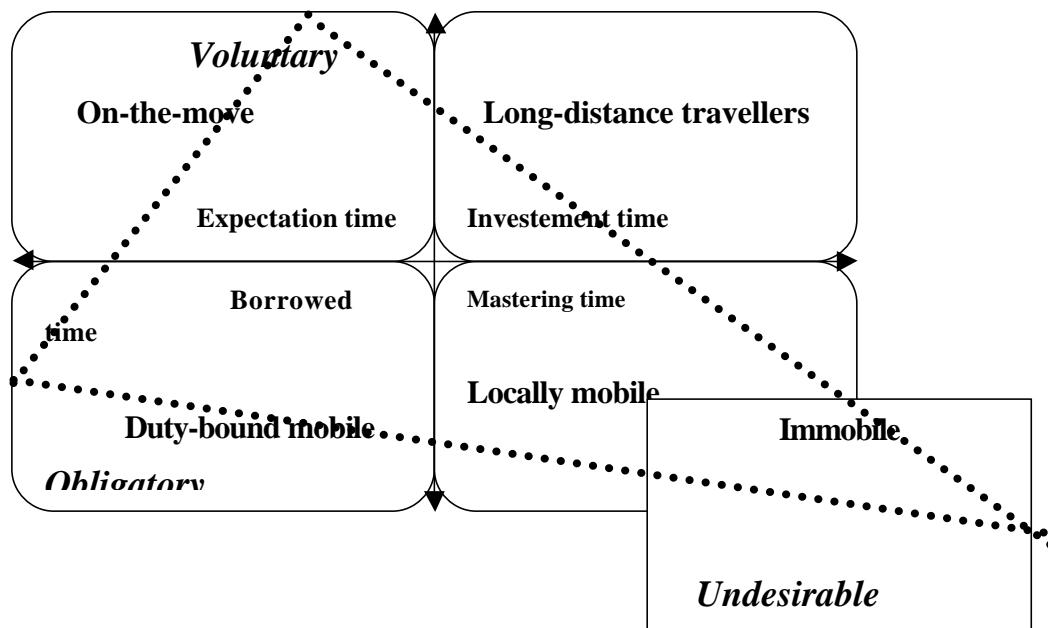


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### Long travel in order to live well

The degree to which one lives centrally or in the periphery has no connection with the type of arena in which one is active. Those who live centrally (less than 2.5 km from the nearest town hall) undertake, however, somewhat more journeys and visit more arenas than others. Distance has the greatest significance for the amount of time invested in the specific arena. Long-distance travellers reside further from the centre and have a longer journey to the workplace than other segments. Based on welfare considerations and an overall evaluation of time used for travel based upon the number of arenas, long-distance travellers emerge as the most disadvantaged. They spend more time travelling, but do not invest this time in more than two arenas, generally speaking. Long travel time can affect the possibilities to engage in other activities.

*“Basically I have more than enough with work and travel and the like.”*

*“An then there is dinner, and then I read a bit or look at TV and, well then I go to bed.”*

Time used for travel in itself is not necessarily detrimental for welfare. For this group there was very much concern with priorities. The place of residence was more important than having several short journeys. For many, travel has become a habit, a break or a manifestation of the boundary line between job and home. To actually come away from the local community periodically was also considered an advantage.

*“The way in which we are living at resent is very good, quite and peaceful, simultaneous to the fact that we live close to the centre of X (a small centre outside of Oslo). There is just a short way to go the swimming pool and the*

*school, so this is just ideal. At the same time it is quite rural and - well I would much rather live here than move back to an apartment in the town.”*

*“One feels that one has put work behind... If I had lived here on the top as such (i.e. on top of the job), then I would have felt that I was at work 24 hours a day.”*

*“Previously, I worked down here, and it was very claustrophobic to work in the local community where I also spent my leisure time... I think it is fine to be able to get away.”*

### **Travel as an activity arena**

Travel-time is experienced not only as a necessary evil, and neither is it time which is not put to some purpose. The qualitative survey showed that time used on long journeys is used for reflection, relaxation, dozing, conversation, reading, and so forth.

*“No, it is not only a headache. Sometimes in summer it may appear as such, when one never arrives home, so to say, but these are isolated days.”*

*“It’s not a stress factor. I am used to driving so think about all sorts of strange things which arise in my head, so car driving functions completely automatically.”*

*“There’s newspapers on the train, good to absorb the daily news.”*

*“I get a chance to relax.”*

*It’s often like a free-zone, I enjoy taking the bus. If I am particularly worn out as a result of something, then I just lay back and take a nap.”*

### **Requirements of the transport system**

The various segments, here presented as ideals, place different demands on local and regional planning. In order to maintain or improve welfare of the On-the-move and Duty-bound mobility segments, it is important to present a transport system which can be relied upon, i.e. which functions and goes on time without unforeseen delays. These two segments operate with marginal time limits and are dependent upon a good, and not least a punctual public transport service. Considerable stress may arise if they are not able to rely on it.

*“In order to fulfil the requirements of the job we really must take that suburban train we intend to reach.”*

*“I admit to a certain satisfaction that the actual journey does not take so very long unless completely unforeseen circumstances arise such as the train being cancelled, or something similar.”*

*“Sometimes I take a taxi home if I am really stressed out, if don’t reach it (the buss). I don’t take a chance that the bus will come. This is quite a stress factor.”*

If delays are constantly experienced, travellers in these two segments are quick to change to another transport means which they consider more reliable. This has particularly occurred with the Duty-bound mobility segment and who regard public transport as of little assistance in the organisation of their daily programme.



*“... I took the bus once and took far too long time, so I then took the train, that is the local train to the centre and then the train and used two and a quarter hours just to get to Lysaker (about 8 km from Oslo centre).*

*“Yes, it is clear that the stress factor is reduced when we all go together in the car.”*

For Long-distance travellers, it is both natural and important that the system functions without delay, but they are not affected to the same degree by long distance, less frequent departures or occasional delays. They include the highest proportion using public transport. For this group it is important that departures are precise, the journey is comfortable (seats and the opportunity to do what they want), and that the journey does not normally take longer time than necessary. For car drivers it is important to avoid queues. Presenting a satisfactory transport system for this segment is a particular challenge with the aim of reducing pressure on the housing market in the large urban concentrations.

*“The most negative factor is the variation, that the journey can take longer than intended on many occasions... But for the rush-hour traffic, I could have estimated the journey time quite precisely.”*

*“We have the best bus service, I don’t have to think about that, buses depart every ten minutes in the morning, so I don’t have to stress, otherwise I really feel this.”*

*“One can always take the train, (they go) every half-hour or so in the rush hours.”*

*“Yes, it’s pretty grim not knowing where to put our feet. But if one leaves at six-thirty then one can benefit from the “early morning carriage” where the lights are off and it is absolutely forbidden to talk to one’s neighbour, that’s delightful, because if one is really worn out, then one just has to crawl in and just do what you want.”*

Common for the Locally mobile and the Immobile segments are poor mobility. This may be coped with when distances are short and they are not dependent upon any particular transport means. For some of the elderly, access to public space can be experienced as a hazard. The qualitative interviews showed that traffic could be experienced as unnerving and that use of the means of transport was problematic both for the elderly and those in wheel-chairs.

*“...then I need two people to lift it and, well it is hopeless...no, it’s all too much trouble.”*

*“I am not anxious, even though - yes there are a couple of crossings on the corner, but there one can almost guess the percentage ignoring red lights, cyclists and so forth, and I see elderly people who are afraid to go out because they go so fast. There is probably a bit too much of these carefree cyclists and drivers. I have experienced this, also the wife, several times that they have almost collided with us.”*

These groups also place strong demands on the physical structure of the public transport services and the network, for example maintenance of pavements and the roads in winter in order to improve their welfare.

The municipal services for handicapped persons provide an alternative for those unable to use public transport. The most important problems with this service is the

waiting time and lack of flexibility. It appears, however, that there are more who could have benefited from this service than those actually using it. Neither should it be taken as given that this service is available to all who need it.

*“I should have had the chance to use the service. It would then be much easier for me to visit others and so on, but now I am dependent upon someone coming to fetch me.”*

Many interesting hypotheses have emerged in the analysis. Further analysis of the specific requirements of the different segments of the population concerning the public transport system will be of value to the transport sector. Groups which have not come into focus here include youth who travel a lot. Their experiences contribute an important theme which requires closer examination.