

# **DISABILITIES AND PUBLIC TRANSPORTATION IN SWEDEN – WHAT CAN BE DONE TO IMPROVE ACCESSIBILITY FOR PASSENGERS?**

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## **SUMMARY**

In Sweden it is possible for disabled persons to receive a permit which gives them access to a specialised form of para-transit service which is funded by the municipality where the person resides. There are some problems with this form of transportation and the municipality of Mölndal wishes to investigate in what ways it would be possible to improve accessibility for the para-transit permit holders in regard to regular public transportation.

Data was collected via questionnaires and interviews. A majority of the respondents use the specialised para-transit service for all of their travels but twelve percent of the population would like to use other means of transportation more frequently. Improvements also need to be made for those who are already utilising the regular public transportation to some extent. Many of the respondents felt unsafe or afraid when using buses, trains or trams and therefore preferred the para-transit service or the recently introduced ring-and-ride service.

Some simple improvements to the public transportation system were given as well as reasons for why utilising anything but the specialised public transportation was not possible.

**Key Words:** specialised public transportation; empowerment; accessibility; social exclusion

## **1. INTRODUCTION AND PURPOSE OF THE STUDY**

The city of Mölndal is a municipality with 61 000 inhabitants [Mölndals Stad 2011]. It is adjacent to Gothenburg, the second largest city in Sweden, and is a part of the Gothenburg metropolitan area [Mölndals Stad 2009]. In the municipality there are both rural and urban areas. There are many modes of public transportation available to the citizens in the urban communities: buses, trains, trams and a ring-and-ride service. In the rural areas, going by bus is the only option if you do not have a car. The disabled throughout the community also have access to a specially designed para-transit service which is funded by the municipality [Mölndals Stad 2009]. Of all the bus- and tram stops in Mölndal there are 41 with at least 100 boarding passengers per day, 18 of them have been adapted to be easily accessed by people with disabilities [Gatukontoret, Mölndals Stad 2011, p.48]. Improving accessibility in Mölndal with regards to transportation and movement of the disabled is an ongoing mission [Gatukontoret, Mölndals Stad 2011, pp.14–15].

The aim of this study is to find out if and how public transportation can be made

more accessible for disabled persons. This is done by investigating what difficulties the citizens of Mölndal entitled to the specially designed para-transit services experience while using other means of public transportation as well as what improvements they would like to see. The method of doing this will be a general survey to para-transit users as well as semi-structured interviews.

- How can public transportation be made more accessible for para-transit users?
- Would the para-transit users benefit, with regards to empowerment and social exclusion, by widening their modes of transportation?

## **1.1 Description of special forms of transportation**

### **1.1.1 The specialised para-transit service**

Sweden has been a party to the *Convention on the Rights of Persons with Disabilities* since 2009 [Regeringskansliet 2012] which states that everyone, regardless of physical or mental disability, should have the same possibilities to partake in society and everyday life. The specialized para-transit service is a part of the work to achieve this. To gain access to this service you have to apply at the municipality and a doctor needs to certify that you need the special assistance. Permit holders can book a trip up to two weeks in advance as well as on the same day and depending on the individuals needs, travel is made by either a regular taxi or a minibus. The driver is obliged to help the passengers get home safely and will help carry groceries etcetera into the person's home [Mölndals Stad 2012a]. Some general concerns and opinions is that this mode of transportation does not provide the same flexibility for the individual as regular public transport since it needs to be booked in advance. Waiting- and transportation times can be long due to the fact that it does not follow a fixed route and you may have to travel with other people who might need to be dropped off before you. Furthermore the fee is higher than when riding buses or trams.

### **1.1.2 The ring-and-ride service**

The ring-and-ride service was introduced in Mölndal in November 2010. Easily accessible minibuses are used and the ring-and-ride stops are generally closer to peoples homes than bus stops because there are a lot more of the former. The fees are the same as when using regular public transportation and it is possible to continue riding on the same ticket when switching to another mode of transport. It does not require a special permit but you need to book your trip in advance and stops are only made where the driver has been told to pick someone up or drop someone off. This means that the routes and travel times may vary. There are special ring-and-ride bus stops but people with a para-transit permit will be picked up at their home. The ring-and-ride service operates in a smaller geographic area than the specialised para-transit service and they guarantee that trips will never take more than one hour [Mölndals Stad 2012b].

## **1.2 Economic incentive**

In the spring of 2011 when the study took place, 2296 individuals in Mölndal were permitted to use the para-transit service, this corresponds to 3.8 percent of the total population. In 2010 the cost of public transportation in the municipality was 53.1 million SEK and 41 percent (21.8 million SEK) of that budget was used for the para-

transit service [Gatukontoret, Mölndals Stad 2011, p.13]. This is a large expense for the municipality and the politicians are under constant pressure from the citizens to improve public transportation while keeping fees and taxes down. If it would be possible to reduce the cost mentioned above while maintaining or hopefully raising the level of satisfaction among para-transit users that would be very valuable.

## 2. MATERIALS AND METHODS

### 2.1 Data collection, subjects and analysis

The data for this study has been collected in two phases using both quantitative and qualitative techniques: a general questionnaire by mail and personal semi-structured interviews. Qualitative content analysis [Bergström & Boréus 2005, chap.2] was used to structure and analyse the qualitative data received through interviews as well as via the open questions in the survey. Arguments and opinions given in surveys and interviews were coded and organized into different categories to gain a clearer understanding of the views expressed. The answers from the surveys and interviews were subsequently analysed using the concepts empowerment and social exclusion. The study began by constructing a survey with the help of officials at the city of Mölndal. Questionnaires were sent out to 500 of the 2296 para-transit permit holders in the municipality. The subjects were randomly selected using systematic sampling by age. Most of the people who have a para-transit permit are senior citizens (65 years or older) as can be seen in table 1.

*Table 1: Age distribution of para-transit permit holders (2010-12-31)*

| Year of birth | Women | Men | Total |
|---------------|-------|-----|-------|
| - 1930        | 884   | 366 | 1250  |
| 1931 - 1945   | 340   | 196 | 536   |
| 1946 - 1965   | 174   | 132 | 306   |
| 1966 - 1990   | 74    | 89  | 163   |
| 1991 - 2011   | 18    | 23  | 41    |

(Data regarding number of permit holders received from the City of Mölndal)

Ethical research guidelines have been adhered to throughout the study. The respondents were informed about the purpose of the research and by whom it was requested. They were also assured of the fact that all data will be handled confidentially and that no unauthorised persons will have access to it. Before interviews it was stressed that each person's participation in their interview was completely voluntary and that they could cut the interview short at any time.

As mentioned above, 500 surveys were sent out and of the ones returned 176 were properly completed (7.7 percent of the para-transit population and 35 percent of the sample). 23 surveys were excluded due to not being adequately filled out. The data in the returned surveys was entered into a statistics program and analysed.

A contact sheet was sent out along with the survey and those interested in being interviewed were asked to fill out the form as well as the survey. 21 respondents expressed an interest in being interviewed and eventually eight interviews were conducted. To ensure that the selection of interview subjects was fair the contact information was put in a random order by lottery and, starting from the top of the list, people were called until the proper amount of subjects had been reached. I tried calling on different times during the day and different days to ensure that everyone was given a fair chance of being contacted. In all cases the informant chose the place most convenient for them to have the interview which for everyone but two was their home. One took place outdoors in the centre of Mölndal and one in a senior centre. The interviews were between 30 and 45 minutes long and executed in a semi-structured manner with some general themes prepared beforehand. All eight interviews were recorded in order for me to focus on the interview instead of having to take notes.

## **2.2 Theories**

The data collected will be discussed and analysed using theories of empowerment and social exclusion. The definitions are described below.

### **2.2.1 Empowerment**

The term empowerment has been used with its contemporary meaning since the 1920's but it did not become commonly adopted until the end of the 1970's. At that time it was a politically charged word meaning social change through activism and the individual's influence on society. Over time it has lost some of its radical connotation and is now often seen more as a tool for self-fulfilment and personal development than a way to reform the Establishment [Askheim et al. 2007, pp.10–11]. In regard to disabled persons it is generally seen as a reference to actions which make it easier for people to control their lives [Wehmeyer 2004].

*Empowerment is a multi-dimensional social process that helps people gain control over their own lives. It is a process that fosters power (that is, the capacity to implement) in people, for use in their own lives, their communities, and in their society, by acting on issues that they define as important.*

[Czuba & Page 1999]

This meaning of the word will be used while analysing the results from the surveys and interviews.

### **2.2.2 Social exclusion**

The concept of social exclusion is very complex and there is not a general definition which is universally accepted throughout the scientific community [John Preston 2009, p.140]. For the purpose of this paper the following definition will be used,

*An individual is socially excluded if (a) he or she is geographically resident in a society and (b) he or she does not participate in the normal activities of citizens in that society.*

[Burchardt et al. 1999, p.230]

Burchardt et al. realises that social exclusion may be voluntary but since the

underlying causes can be very complex they argue that it is more practical to assume a general view of total exclusion and leave it up to individual researchers to determine how much to problematize depending on the research in question [1999, pp.229–231]. Parodi and Sciulli conclude that the more fragile groups in society, such as the disabled, are at higher risk of being socially excluded [2012, pp.12–13]. The notion put forth by Preston and Raje that “social exclusion is not due to a lack of social opportunities but a lack of access to those opportunities” [2007, p.153] will be considered throughout the analysis and added to the above definition.

### **3. RESULTS**

Many para-transit users are not interested in other forms of transportation because they feel their disability is making it impossible for them to use anything other than the para-transit service. 66 percent responded that they use the para-transit service exclusively or almost exclusively, between 90 and 100 percent of their travels are made with the para-transit service. There are also those who do not like being completely dependent on the para-transit service but are forced to use it since other means of transportation are not accessible to them. In the surveys, 12 percent indicated that they wanted to use public transportation more than they do at the moment. In the surveys and interviews many suggestions for improvements as well as reasons for not using buses and trams were given.

In the open questions several persons wrote about having fallen while riding public transportation or of getting caught between the doors of the vehicle. One suggestion for lessening the stress when entering the bus or tram was to make marks on the curb where the doors will be when the vehicle has stopped and making sure that the drivers always stop in the same spot. Several respondents also expressed the view that bus drivers are more considerate than tram drivers and were therefore more inclined to use the bus than the tram. A common concern was that the distance between the curb and the vehicle was too large and that a low instep was not always available or was not low enough.

As can be seen in figure 1 the most common obstacle was entering the vehicle. This problem is caused by a high instep or a large distance from the platform to the vehicle which makes it difficult or impossible for the passenger to enter, especially when trying to manoeuvre a walker or a wheelchair at the same time. 56 percent of the respondents are dependent on a walker (with wheels) to move around. 15 percent of the respondents are not using any walking aids. The other main problems are poorly maintained walkways and too large a distance to the nearest public transport stop. Many also expressed, both in interviews and surveys, a problem with using the new ticket system which prevented them from using buses, trams and trains.

Figure 1: Obstacles to using public transportation (multiple choice)

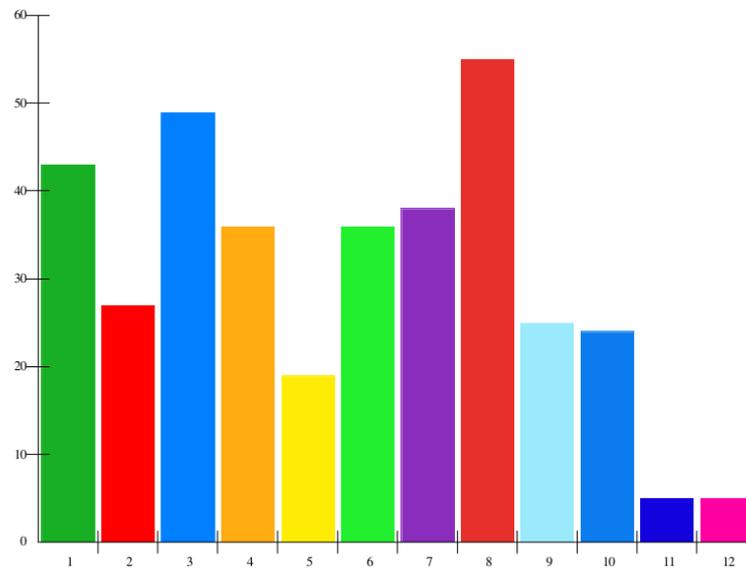
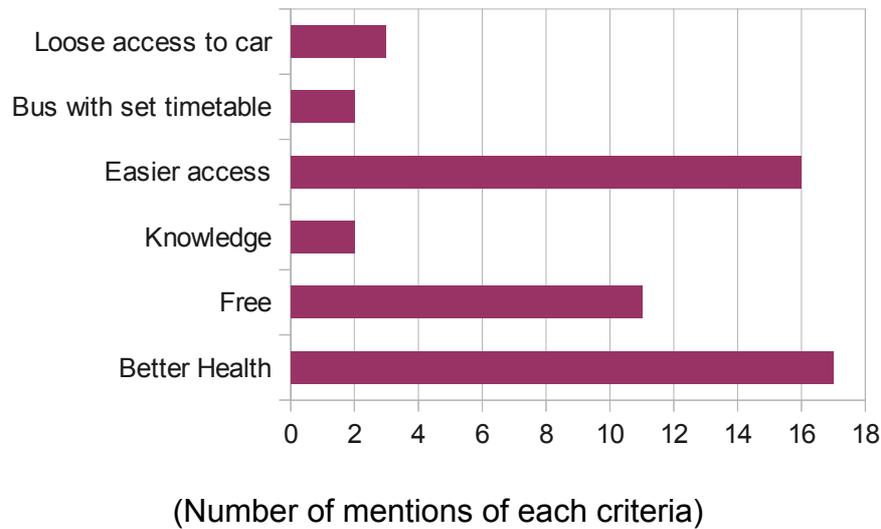


Table 2: Legend to figure 1

|  | Frequency |
|--|-----------|
| 1. Too far to nearest bus-/train-/tram stop                | 72        |
| 2. The curb is too high                                    | 45        |
| 3. Poorly kept pedestrian walkways during winter           | 83        |
| 4. In need of assistance from other person                 | 60        |
| 5. Don't know which bus goes where                         | 32        |
| 6. Don't know how to pay for my ride                       | 61        |
| 7. Worried about not getting on or off the vehicle in time | 65        |
| 8. Difficulty entering the vehicle                         | 93        |
| 9. Feel unsafe on the way to/from the bus stop             | 43        |
| 10. Feel unsafe on the vehicle                             | 40        |
| 11. Don't know where the bus stop is situated              | 9         |
| 12. No answer given  | 9         |

As seen in figure 2 below, one of the main incentives for beginning to use regular public transportation would be if it was free. Senior citizens living in Gothenburg travel for free during the day and many of the respondents can not see why the same system would not work in Mölndal. Six out of the eight interviewees mentioned this in reference to terms such as fairness as well as cost effectiveness. One respondent expressed the opinion that public transportation should be free for everyone regardless of age or disability as this would eliminate the need for costly ticket inspections as well as be beneficial to society in other ways.

Figure 2: What would make you use public transportation more?



There was an almost completely positive response to the ring-and-ride service. Attributes that were especially praised were the drivers, the proximity to the home, the accessibility and the fact that it is social. The drivers were described as caring and positive, they help the passengers into the bus and make sure their seatbelt is fastened. The social aspect was mentioned several times, particularly in the interviews. There are only two or three drivers which gives the passengers a sense of familiarity and it is easy to converse with both the drivers and the other passengers because of the size of the minibus. Another positive aspect is that you get a call ten minutes before the bus arrives so you have time to get ready and do not have to wait outside. The negative comments were that you had to book the trip in advance, that you don't get help to carry your belongings inside and that the service is not available in all areas of the municipality.

Several respondents had had negative experiences when using the para-transit service and some expressed that they only used it when they absolutely had to because of this. The most common complaints were that the cars were often late and that the drivers were unfriendly or at times even rude. Generally though the satisfaction with the service was good and most of the respondents were grateful that it exists. The cost was of some concern and many chose to utilise the service less than they would prefer due to this.

## 4. DISCUSSION

### 4.1 Discussion of research ethics

Because of confidentiality regulations in the municipality I was not allowed to take part in the selection process when the surveys were to be sent out and I did not get to see any names or addresses. This reduces the risk of research bias or of colouring the analysis. Due to the same regulations employees at the municipality offices sorted the completed surveys when they were returned and removed any approvals to be contacted about taking part in interviews from them. This meant that

I did not know anything about the possible interviewees either, apart from the name and telephone number. This was very positive in my opinion because I entered into every interview with as few preconceived notions as possible. I also began every interview by stating that I had no knowledge of what the interviewee had answered previously so they would feel no apprehension about repeating themselves.

One problem with using the systematic sampling by age is that younger people are less visible in the survey answers due to the fact that they make up a small part of the total population of para-transit users (see table 1). The fact that there were only 20 respondents under the age of 65 may have skewed the results and it is important to consider the age factor before making any generalisations. I feel that the suggestions that have been made regarding improvements are not age specific except for the one about free rides for senior citizens and thus they can probably be considered to be improvements that would be beneficial to people with disabilities regardless of age.

#### **4.2 Discussion of the results**

The most common obstacles to using buses or trams can be deduced to apprehension or fear at one or more times during the travel situation. Many feel especially unsafe and stressed when trying to enter or exit the vehicle. They feel there is not enough time to register their ticket and find a seat before the bus or tram starts. The acceleration and deceleration is often not very smooth and many of the respondents have a valid fear of falling due to this. This is a difficult problem to come to terms with since one of the objectives of public transportation is to offer a fast and simple way of travelling and most commuters are probably not interested in getting longer travel times. By making it easier to travel in various ways, for example making markings on ground of the bus stops, the disabled passengers can feel empowered. Being able to choose which form of transportation to use in order to participate in society could be an important aspect to counteract social exclusion.

As can be seen in figure 2 many expressed that they would be more inclined to use regular public transportation if it was free. That is: the monetary benefit of using public transportation is at the moment not large enough to outweigh the added difficulties for the individual. This is a problem which needs to be addressed. It can be solved by either making the para-transit service more expensive or by following suit and adopting the system already in place in Gothenburg. Since the elderly and the disabled are often subject to social exclusion because of a difficult economic situation, the latter alternative would definitely be most beneficial. In order to empower the group it is important to make sure they can access their community when they have the need for it.

Free trips for senior citizens or para-transit users seems to be something that could make many more inclined to use regular public transportation and this should be investigated further.

The fact that many expressed a high level of satisfaction with the ring-and-ride service is an indication that it is a form of transportation that should be promoted more. It provides personal service and it is a social form of travelling that is very appreciated by the passengers. A lot of the respondents had not tried it or lived in an area where it was not yet available which means that there could be a large number

of individuals who would benefit by this form of transportation if they knew more about it and had the chance to try.

## CONCLUSION

There are para-transit permit holders who wish to increase their number of travels with regular public transportation and it is important to try to accommodate their needs. Simple solutions such as markings on the platform and making sure that the drivers stop close to the curb and at the same place every time would simplify travelling for those that are mobile enough to get to the bus stop. It will take larger investments and adaptations to simplify travel for those who are not as mobile but it is important to keep trying. Expanding the ring-and-ride service might be a good idea since it gives the passengers the sense of security they are missing on buses and trams and also stops closer to their home.

Many para-transit users have also expressed that there is no possibility for them to utilize other means of transportation. Therefore it is important to keep working on improving the services they receive as well. This is especially important since the elderly and disabled often are at higher risk of being socially excluded.

The work that is being made to improve accessibility in the municipality of Mölndal is a starting point but there is a lot that can be made to give better service to the passengers.

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