

CHALMERS



Passengers' Valuation of Quality in Public Transport with Focus on Comfort

A Study of Local and Regional Buses in the City of Gothenburg

Master of Science Thesis in Geo and Water Engineering

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CHALMERS UNIVERSITY OF TECHNOLOGY

Göteborg, Sweden 2010

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Cover:

The left picture shows the local bus route 58 and the right picture shows the regional bus route Orange Express.

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ABSTRACT

The Gothenburg region is facing challenges considering how to manage a population increase and at the same time achieve a sustainable infrastructure development. Measures are therefore required to attract new passengers as well as to keep the people that already use the public transport system. One factor that car users point out as the main reason for travelling by car instead of with public transport is comfort. In this project, it has been investigated how passengers value comfort on board local and regional buses in the region of Gothenburg. A focus group discussion was arranged as a complement to the literature study and to give input to the following questionnaire. The questionnaire survey was performed on board the regional bus route Orange Express and the local bus route 58 where passengers were asked about the importance of ten comfort factors. They were also asked to grade the current standard on board considering these factors. Qualitative phone interviews were performed in order to get a deeper understanding about how public transport trips are experienced in a larger perspective. When the interview participants identified distractions during their trip, the main part of these could be related to the time spent on board the bus. The on board study showed that most passengers think that comfort is important and that they are pleased with the current standard on board. The respondents on board the regional bus route think that the comfort standard is higher, as well as more important than the respondents on the local bus route. Older respondents consider comfort as more important than younger respondents. Women think that the comfort standard on board is better and at the same time more important than men does.

Keywords: public transport, valuation, local bus, regional bus, quality, comfort, focus group, questionnaire, on board study, qualitative interview

Värdering av kvalitet i kollektivtrafiken med fokus på komfort
En studie av regional- och lokal busstrafik i Göteborg
Examensarbete inom Geo and Water Engineering

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SAMMANFATTNING

Behovet av ett hållbart transportsystem i Göteborgsregionen växer i takt med att befolkningen ökar. En av de avgörande faktorerna till varför resenärer föredrar bilen framför kollektivtrafiken är komforten under resan. Ett sätt att attrahera fler resenärer till kollektivtrafiken är att förbättra kvaliteten ombord på fordonen. Det är därför av intresse att undersöka hur resenärer värderar komfort ombord på bussar, vilket har studerats i detta examensarbete. Studien har genomförts med hjälp av följande metoder; litteraturstudie, fokusgrupp, enkätundersökning samt kvalitativa intervjuer. Fokusgruppen och litteraturstudien användes för att öka vår förståelse för hur resenärer upplever komfort ombord och som underlag för den efterföljande enkätundersökningen. I enkätundersökningen fick bussresenärer värdera tio komfortfaktorer genom att svara på hur viktiga de tycker att dessa är samt genom att betygsätta den nuvarande standarden av dem. Enkätundersökningen genomfördes ombord på den regionala busslinjen Orange Express och på den lokala busslinjen 58 i Göteborg. För att få en djupare förståelse för hur en kollektivtrafikresa upplevs från dörr till dörr utfördes kvalitativa intervjuer per telefon. Merparten av de hinder som intervjudeltagarna nämnde innefattade den del av resan som spenderats ombord på bussen. Enkätstudien visade att resenärer tycker att det är viktigt med komfort och att komfortstandarden ombord på de två studerade busslinjerna är hög. På den regionala busslinjen ansågs dock komforten vara något viktigare och av högre standard än på den lokala busslinjen. Trender på båda busslinjerna är att vikten av de flesta komfortfaktorerna ökar med respondenternas ålder samt att kvinnor värderar komfort högre än män.

Nyckelord: kollektivtrafik, värdering, lokal buss, regional buss, kvalitet, komfort, fokusgrupp, enkätundersökning, ombordstudie, kvalitativ intervju

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Preface

This master thesis has been carried out from January 2010 to June 2010, at the department of GeoEngineering, Road and Traffic Group, Chalmers University of Technology, Sweden. The project has been performed at Sweco Infrastructure in Gothenburg, on behalf of the Swedish Transport Administration and the Traffic and Public Transport Authority in the City of Gothenburg.

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The City of Gothenburg, June 2010

Jenny Karlsson and Emelie Larsson

1 Introduction

The Gothenburg region is facing challenges considering how to manage a population increase and at the same time achieve a sustainable infrastructure development. The population increase in the region has been close to one percent every year since 1990 (Göteborgsregionens kommunalförbund, 2006, p. 4). This is the result of a high birth rate combined with people moving into the region. Central issues that have to be dealt with are how to meet environmental objectives and how to maintain an accessible city (Göteborgsregionens kommunalförbund, 2006, p. 6). In order to achieve an accessible city in a sustainable way, it is necessary to have a good and frequently used public transport system. According to the Swedish transport policy (Proposition 2008/09:93), public transport, together with pedestrians and cyclists, are prerequisites for transportation in a larger city.

Measures are required to attract new passengers as well as to keep the people that already use public transport. If the use of public transport was doubled, the carbon dioxide emissions from private cars in Sweden would be decreased by about 20 percent (Svensk kollektivtrafik et al. 2008, p. 1). Actions to increase the use of public transport can be divided into four categories; quality, knowledge, properties and social attitudes of the public transport system (Göteborgsregionens kommunalförbund et. al, 2009, p.10). Several studies have shown that quality functions as a base for the rest of the aspects in public transport (Trafikkontoret, 2007, p. 17). It is also known that a sustainable transportation system is depending on a high quality public transport system with reasonable pricing (Europeiska gemenskapernas kommission, 2009, p. 6).

Quality in public transport covers a wide range of aspects. To simplify the concept, European Commission (1998, p.75) suggest to categorize quality aspects in public transport into eight groups of which comfort is one of them. A trip can be more attractive if the passengers experience that the comfort on the vehicle is good (Sandow & Westin, 2007, p.47). One factor that car users points out as the main reason for choosing to travel by car instead of with public transport is comfort (Garvill, 1994 cited in Berge & Amundsen, 2001, p.27).

Since improving comfort is a part of achieving a more attractive public transport system, it is of interest to investigate how public transport users value comfort factors. It is also of interest to identify differences in valuation between user categories in order to attract a wide range of passengers. However, a public transport trip is more than the time spent on board the vehicle. To achieve an attractive public transport system, it is important that the whole trip runs without distractions. It is therefore of interest to investigate how users experience their whole trip and where along the trip distractions occurs.

1.1 Purpose

The aim of this project is to study how to improve the passenger quality by investigating how passengers value comfort on board local and regional public transport. To study quality in a wider perspective, the project will also identify distractions that affect the passengers total travel experience.

1.2 Scope

This project is focusing on public transport by bus in the Gothenburg region. An on board study is conducted on a regional bus route as well as on a local bus route. The studied regional bus route is the eastern part of Orange Express, between Nils Ericson Terminal and Sjövik bus station. The local bus route is the southern part of route 58, between Gothenburg Central Station and Brottkärr/Skintebo in the City of Gothenburg. The participants in the on board study are at the age of 15 years and older. A selection of these passengers was asked to participate in a qualitative interview.

1.3 Method

The project started with a literature study and was followed by a focus group discussion. The focus group was arranged as a complement to the literature study and to give input to the following questionnaire. The questionnaire survey was performed on board public transport buses where passengers were asked to evaluate comfort factors. The valuation was performed by letting bus passengers rate the degree of importance as well as grade the current standard on board for each of the studied comfort factors. To get a deeper understanding about how public transport trips are experienced in a larger perspective, qualitative phone interviews were performed.

2 Public transport

According to Transport Analysis (*Trafikanalys*), public transport is defined as;

“In advanced organized and regularly available transportations which are offered to the public or a specific group of people according to stated rules.”

(SIKA, 2005, p.7)

Furthermore, Transport Analysis divides public transport trips into local, regional, inter-regional and international trips. Local and regional trips are usually made within a county, inter-regional trips are made between two or more counties, and international trips are those made over a national border (SIKA, 2009a, p.14).

During 2007, trips with local and regional public transport in Sweden increased by almost three percent. The same year, more than half of all public transport trips in Sweden were made by bus (SIKA, 2009b, pp.18-20).

The main function of the public transport system differs depending on its operating area. In sparsely populated areas, the purpose is to supply the basic transportation needs, while it in larger cities is to decrease traffic congestion and to improve the environment. On a regional scale the purpose is to create opportunities for education and increase the job market (Hydén et al., 2008, p.244).

Transport Analysis describes a trip by bus as one boarding. When changing to the same or another transport mean, every new boarding is seen as a new trip (SIKA, 2009a, p.17). The definition of a bus trip used in this project is wider and does also involve walking to and from the bus stop as well as gathering of information before travelling. Most people plan their trip before travelling, maybe using a traditional timetable or a timetable online. More experienced users that often travel the same route might not plan their trip as they already know when the bus leaves and where it is going. Vuchic (2005, p.531) describes that walking to and from the bus stop is appreciated by some users, but most users do not like that walk. However, this is not depending on walking distance, weather conditions and the surrounding environment.

Generally, passengers have to wait a while at the bus stop before the bus arrives. An attractive bus stop involves features such as weather protection. It is also important that it feels safe standing there. To achieve a smooth boarding and alighting, it is important to consider the number of steps, their height and the width of the bus door (Vuchic, 2005, p.531).

The largest part of the trip is often the time spent on board the bus. This is described further in Chapter 2.3.1. It is not unusual that a user has to change bus or change to another public transport mean to reach the final destination. Hydén et al. (2008, p.270) describes that regardless if the user has to wait for the bus or not, the interchange is experienced as a sacrifice.

2.1 Involved in the public transport system

The public transport system has to meet demands from its users and operators as well as from the community. The public transport users want an affordable and well functioning system while the ambition for the operators is to achieve an efficient system to a low cost. Also the community and its leaders have an interest in how the public transport affects the city (Vuchic, 2005, pp.528-529).

2.1.1 Responsible authorities

The responsibility for public transport development in Sweden is divided between several authorities. The Swedish governments' role is mainly to secure the basic transportation needs and to improve the conditions for development and coordination. Means to achieve this could for example be legislations and investments in the traffic infrastructure (Svensk kollektivtrafik, 2010d).

Responsible for carrying out the transport policy decided by the government is the National Public Transport Agency (*Rikstrafiken*), together with the Swedish Transport Administration (*Trafikverket*) and the Swedish Civil Aviation Administration (*Luftfartsverket*). The National Public Transport Agency's responsibility is, through the travellers' perspective, work towards a coordinated national and long distance public transport system for bus, boat, train and air transports (Rikstrafiken, 2010). The Swedish Transport Administration is a public authority responsible for the long term planning of infrastructure and construction, operation and maintenance of public roads and railroads. Their responsibility also involves pushing the development of public transport forward (Trafikverket, 2010).

Within each county, the County Council (*Landsting*) and the municipalities generally have a mutual responsibility for the local and regional public transport. This task is in the county appointed to a Public Transport Authority (*Trafikhuvudman*) (Svenska Lokaltrafikföreningen, 2002, pp.10-13). The Public Transport Authority in the County of Västra Götaland is Västtrafik. Västtrafik investigates the needs of the travellers, and purchases the needed traffic in the region through tendering (Västtrafik, 2009, p.7).

Responsible for the traffic in the City of Gothenburg is the municipal administration Traffic and Public Transport Authority (*Trafikkontoret*). This also involves a responsibility for the public transport, in collaboration with Västtrafik. The Traffic and Public Transport Authority's responsibility is to prepare for, and to carry out the decisions that are decided by the Traffic Committee (*Trafiknämnden*) (Göteborgs stad, 2010).

In April 2010, the Swedish government handed over a proposition to the parliament about a new public transport legislation (Proposition 2009/10:200). The government proposes to enable open competition between public transport companies. The limitation for commercial bus companies to operate on local and regional public transport is rescinded. The idea with the proposition is to improve the conditions for putting the travellers' needs in centre when designing public transport services.

2.1.2 Users of the system

The public transport users differ when it comes to for example age, gender, income and travel habits. It can therefore be challenging to meet the user requirements as people have different preferences and opinions. Holmberg and Hydén (1996, p.116) state that women, people under the age of 18 and elderly people are the most frequent public transport users. In a route survey performed among close to 400 000 public transport passengers in the Gothenburg region in 2006, 57 percent of the respondents were women and 43 percent were men (Västtrafik, 2007, p.17). Men uses car more than women and also travels more often and make longer trips (Proposition, 2008/09:35). Income and car possession are also important factors when it comes to the use of public transport. About two thirds of the public transports users are either missing driving licence or the opportunity to use car (Hydén et al., 2008, p.259).

Vuchic (2005, p.351) has divided the users into four groups depending on their knowledge about the public transport system and their need of information. Users that frequently travels with the same route, like commuters to work and school children, have high knowledge about the system. Another category is regular users who travel on a different route or at another time than they usually do. People that are familiar with the city but not uses public transport regularly needs more information about the public transport system. The group that are in most need of information about the city and its public transport system is visitors to the city. How familiar the users are with public transport systems influence their attitude and their willingness to use public transport. Kottenhoff (1999, p.226) presented a study performed among train users, showing that people who travel more seldom were willing to pay more for their trip compared to those who travelled more often.

How satisfied the passengers are depends on how well their expectations correspond to the actual performance. The expectations are based on previous experiences, social attitudes and the public transport users' needs (Oliver 1997 cited in Felleson, 2009, pp.15-16). A study performed by Sjöstrand (1999, p.90) showed that previous experiences also are well connected to valuation. Ampt et al. (1995 cited in Sjöstrand, 1999, p.87) describes that lack of experience can lead to lower valuation as it is difficult to value something without having experience of it. It is therefore important to study people with different experiences separately.

2.2 Public transport in the Gothenburg region

The City of Gothenburg, with its 500 000 inhabitants, is a municipality located on the Swedish west coast (Erlandsson, 2010). The Gothenburg region (Figure 2.1) consists of 13 municipalities and has about 900 000 inhabitants (Göteborgsregionens kommunalförbund, 2010). Many people from the surrounding municipalities are commuting daily into the city centre of Gothenburg. The public transport types operating the regional traffic in the Gothenburg region are buses and trains. The types used in the city centre of Gothenburg are trams, boats and buses.



Figure 2.1. View of the Gothenburg region.

In 2007, 1 300 000 of the trips in the Gothenburg region were made by car and 450 000 by public transport (Trafikkontoret, 2007, p.5). Studies have shown that about 20 percent of the trips made by car in the region have a suitable public transport option available. This group chooses to go by car because they are used to it and because it is convenient (Göteborgsregionens kommunalförbund et al., 2008, p.5).

According to a study performed by the agency Transport Analysis, 142 trips per resident were made with public transport in the region of Västra Götaland in 2008. This was the second highest value among the counties in Sweden. Almost half of these 142 trips were made by bus. The average travel length of the trips by bus in Västra Götaland was nine kilometres, which is the same as the mean value for the whole country (SIKA 2009a, p.17).

The local project K2020

In order to reach a sustainable development and to create opportunities for a continuing growth in the Gothenburg region, a local project named K2020 was introduced in 2004. The main goal with the project is to increase the market share for public transport from 24 to 40 percent until year 2025. This means that from year 2006, the number of public transport trips have to increase from 450 000 trips per day to one million trips per day (Trafikkontoret, 2007, pp.3-5). To be able to reach the goal, the structure of the public transport system and the travel behaviour in the region needs to be changed. K2020 is focusing on the City of Gothenburg and its

surrounding municipalities. The project is a collaboration between The Göteborg Region Association of Local Authorities (*Göteborgsregionens kommunalförbund, GR*), the City of Gothenburg, Västtrafik, The Swedish Transport Administration and Västra Götalandsregionen (*Göteborgsregionens kommunalförbund et. al, 2009, p.3*).

In order to attract more passengers to the public transport system and succeed with the project K2020, it is needed to put in measures that are focusing on the public transport passengers. This involves working towards a simpler and more reliable system, as well as improving the comfort and shortening the travel times. The measures are divided into four main areas; knowledge, quality, features of the traffic system and social attitudes. The Traffic and Public Transport Authority believes that quality will function as a basis when working towards the goals of K2020. By improving the traffic system and increase the awareness considering the benefits of using public transport, they hope to change the social attitudes towards public transport (*Trafikkontoret, 2007, pp.15-16*).

2.3 Public transport quality

As mentioned in Chapter 2.1.2 the valuation of public transport differs among the users. When it comes to public transport quality from a users' point of view, Holmberg and Hydén (1996, p.111) use the keywords accessibility, convenience and finally safety and security. Accessibility involves aspects related to frequency of service, travel time and reliability. It also includes the situation for passengers with special needs due to different kinds of disabilities. Convenience involves comfort aspects on board the vehicle as well as at the bus stop, possibilities to change transport means and the road standard to and from the bus stop. The keyword safety includes traffic safety but also safety concerning violence and abuse on board and when waiting at the bus stop. Furthermore, a literature survey made by the Norwegian Institute for Economical Transport (*Transportøkonomisk institutt*) showed that the most important factors in public transport is travel time, accessibility, reliability, comfort, security, price and information (*Berge & Amundsen, 2001, p.22*).

Another survey made by the Norwegian Institute for Economical Transport has evaluated quality improvements concerning design, such as ease of boarding, shelter at stops and information on board. This study shows that the improvements has lead to that about 50 percent of the respondents travels more with the public transport after the design was improved (*Fearnley et al. 2009, p.25*).

2.3.1 Experienced comfort

In a good and market adjusted public transport system, it is not enough that people reaches their destination cheap and quick. The system also involves factors that are difficult to measure, which can be of great significance for how passengers experience their trip. These qualitative factors can be described as comfort, convenience and service level. They are however difficult to measure by objective means, such as monetary values. Hence, subjective measurements are often preferred when investigating these factors (*Berge & Amundsen, 2001, pp.1-3*).

Comfort is a term often associated with well-being. Johansson (1989, p.2) defines comfort in public transport as;

“The level of a persons’ experienced well-being during a trip.”

Johansson also divides comfort into the following three parts; comfort during boarding/alighting, comfort when changing transport mean and comfort during the trip. Kottenhoff (1999, p.243) describes comfort on board as an important factor and that it is one out of three attributes that influence how passengers experience quality. The other two attributes are timetable and on board service.

It is known that the importance of good comfort increases with the travel time (Sandow & Westin, 2007, p.47). On the other hand, a study performed by Sjöstrand (1999, p.74) showed that bus passengers valued the time spent on board the vehicle lower than a frequent timetable, travel time, walking time to the bus stop and the time spent on interchange.

A crowded public transport vehicle leads to discomfort and can be described by the availability of standing passengers to move. It can be measured by the average number of people per square meter, and a common standard used in cities today is four persons per square meter. The single most important comfort factor for the passengers is, according to Vuchic (2005, pp.531-532), availability of seats. If the passengers have to stand during the trip, the travel time is perceived to be longer compared to when seated. In a study performed by Sjöstrand (1999, p.75), availability of seat was valued higher than the interchange of bus and low floor buses. A bus entrance with low floor was considered as more comfortable than a bus entrance with steps. Design of the seats and leg space are important factors as well when it comes to comfort aspects (Kottenhoff 1999, p.346).

Another factor influencing the experienced comfort is ride comfort (Kottenhoff, 1999, p.330). A survey performed by the public transport operator in Oslo (*Oslo Sporveier*), driving was valued second highest after punctuality. In the same study, cleanliness on the public transport vehicles causes the highest dissatisfaction. Cleanliness was however not shown to be as important as driving and punctuality (Felleson et al, 2009, p.13).

If the interior noise in the vehicle exceeds a certain level, it can lead to discomfort for the passengers. Interior noise includes, among others, noise from other passengers and from the vehicle. Another comfort factor on board the vehicle is illumination (Vuchic, 2005, pp.531-532). What degree of illumination that can be experienced as pleasant depends on the users’ preferences, needs and the time of day. Some passengers might want to have very bright light for reading or working, while others prefer dark illumination for relaxing.

It is also difficult to set an exact figure on the desired temperature on board a public transport vehicle. The temperature needs to be adjusted to the current season, since the passengers are dressed differently depending on the weather. The temperature should therefore be pleasant when wearing clothes suited for the current outdoor climate. The desired temperature also depends on the humidity on board the vehicle. The temperature should preferably be in the range of 16-25 °C. It is also known that the

importance of a pleasant temperature increases with the length of the trip (Vuchic, 2005, p.532).

It is quite common that public transport passengers bring a large luggage or a stroller on board the vehicle. An important factor for these passengers is that there is enough space for their luggage on board. Furthermore, if the smell on board a public transport vehicle is experienced as unpleasant, it could lead to discomfort during the trip.

2.3.2 National evaluation of customer satisfaction

In Sweden, the trade organization, the Swedish Public Transport Association (*Svensk kollektivtrafik*), performs an annual survey named *Kollektivtrafikbarometern*. The survey investigates the customer satisfaction of the public transport system. This survey is made through monthly phone interviews to a statistical selection of the Swedish population between the age of 15 and 75. The respondents are asked to answer how well they agree with positive statements on a scale from one to five. The grades four and five mean that the respondent is satisfied with the current standard. The customer satisfaction is then calculated based on the share of respondents that have answered grade four and five, and travel at least once a month. The questions asked are dealing with aspects related to quality and attitudes of public transport and have been developed together with the public transport operators. The results from the survey performed in 2008 showed that 65 percent of the users were satisfied with the Swedish public transport system (*Svensk kollektivtrafik*, 2010a).

There is however not much focus on comfort aspects in this survey. The two comfort factors which are investigated are whether it is nice and clean on the vehicles and if it the seats are comfortable. These questions are dealing with public transport in general and are not associated with a certain public transport trip (*Svensk kollektivtrafik*, 2010b). The result for Västtrafiks' bus passengers in the City of Gothenburg for 2009 shows that about 50 percent of the respondents are satisfied with the two investigated comfort factors (Figure 2.2). It can also be concluded that the respondents are more satisfied with how comfortable the seats are than how nice and clean the vehicles are.



Figure 2.2. Västtrafiks' result of customer satisfaction for bus passengers from *Kollektivtrafikbarometern* 2009 (*Svensk kollektivtrafik*, 2010c), concerning the factors 'Comfortable seat' and 'Nice and clean'. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factors (i.e. answered grade four and five on a five graded scale).

The result from the national survey can be divided into different user categories, for example gender, age and travel frequency. The result from the survey shows that women are more satisfied with the current standard of the two comfort factors than men (Appendix 1, Figure 1.1). The difference between the genders is larger for 'Comfortable seat' than for 'Nice and clean'. However, the difference between the genders is, for both factors, only a few percent. Considering the factor 'Comfortable seat', respondents between the age of 15 and 24 years old are most satisfied while respondents between the age of 25 and 44 years old least satisfied. For 'Nice and clean', respondents older than 60 years are most satisfied, while respondents between the age of 45 and 59 years are least satisfied (Appendix 1, Figure 1.2). The respondents were also asked to answer how frequent they use public transport. For both 'Comfortable seat' and 'Nice and clean', passengers that travels daily with public transport are less satisfied with the factors than passengers who travels less frequent (Appendix 1, Figure 1.3).

3 Methodology

As mentioned earlier in chapter 2.3.1, comfort is a qualitative feature that is difficult to estimate with objective measures. Comfort can therefore be measured using valuation which is a subjective measure. To obtain reliable results, more than one study should be conducted when studying public transport (Svensson, 2001, p.25). In this project, passengers' valuation of comfort factors on board the vehicle is studied using two different methods which cover both quantitative and qualitative perspectives. It is known that research projects commonly involve both qualitative and quantitative methods (Quinn Patton, 2002, p.5). To receive better understanding about an issue, a good idea is to start by evaluating it using a qualitative method (Brundell-Freij et al., 2000, p.27).

The qualitative method used in this study was a focus group. The following quantitative study was performed by an on board study using a questionnaire survey. According to Quinn Patton (2002, p.14), a quantitative study makes it possible to measure answers from a large number of respondents on a limited set of questions, and hence ease the statistical aggregation and comparison of data. This is because quantitative methods involve standardized measures with a limited number of predetermined response categories, which the respondents' answers can be divided into.

The focus group discussion was arranged as a complement to the literature study and to give input to the following questionnaire. The intention was to create a discussion concerning comfort in public transport. It was also used to increase the awareness of which terms that are used when discussing comfort factors.

The on board study was performed to receive the public transport passengers' valuations and thoughts about comfort on board the vehicle. This on board study functioned as the main part of the valuation study. The survey was performed using questionnaires which the bus passengers were asked to fill in by themselves during their trip. The questionnaire was based on the literature study together with the focus group.

To investigate how public transport users experience their whole trip, qualitative interviews were performed which is suitable when wanting to understand issues in more detail. The interviews were also performed to further investigate the questionnaire result from the on board study. This method usually contains a smaller number of respondents (Quinn Patton, 2002, p.14).

3.1 Focus group

Focus groups are useful when gathering information about peoples' perceptions and feelings. One way to use a focus group is when studying issues concerning quality. In a focus group, everyone has to be able to express their opinion and therefore the group size should not be too large (Casey & Krueger, 2009, pp.6-12). A focus group usually consists of five to ten participants that discuss a certain subject and share their experiences (Baxter & Courage, 2005, p.515). Furthermore, Casey and Krueger (2009, p.151) state that there is no significant problem if the participants know each other as long as they are not in a position of control of each other.

A moderator is leading the discussion and makes sure that it stays to the topic, without participating in the discussion (Waara, 2001, p.27). Prepared questions should work as a basis for the moderators' work, but it is important that the participants feel free to discuss in order for different views to appear (Baxter & Courage, 2005, p.536). The questions should be easy for the participants to understand and they have to be familiar with the words that are used (Casey & Krueger, 2009, pp.36-37).

During the discussion, one person is taking notes about what is said. This person should not be involved in the discussion but have enough knowledge about the subject to be able to determine which comments that is of interest for the study (Baxter & Courage, 2005, p.531).

It is important that the respondent clearly understands the questions and therefore the questions should be short, one-dimensional and encourage to discussion (Baxter & Courage, 2005, p.524). It is also important to use different types of questions at different phases during the discussion. There are five types of questions that should be asked; opening, introductory, transition, key and ending questions. To get all participants involved in the discussion, the focus group meeting should start with an opening question, which is easy and quick to answer. After the opening question, there should be an introductory question to introduce the topic. The transition questions are used to lead the conversation into the key questions and to go more in-depth than the introductory question. The main interest is on the key questions and they should therefore be given most attention and time. The final questions are, as the name indicates, the ending questions. The purpose with these questions is to give the respondents time to reflect back on previous comments and to bring closure to the discussion (Casey and Krueger, 2009, pp.38-41).

3.1.1 Performance

The focus group members were chosen from the Sweco AB office in the City of Gothenburg and consisted of six participants, three women and three men, who were not familiar with this project. The group was heterogeneous with varying age, education and travel behaviour. The focus group meeting lasted for 30 minutes and was held during casual circumstances.

The meeting started with questions about the respondents travel behaviour to make them feel more comfortable with the situation. The term comfort was then introduced as they were asked to describe their perceptions of comfort in public transport. The following key questions dealt with comfort on their most recent trip with public transport and what they thought would be needed to make bus trips more comfortable.

As a final step, all factors that had been discussed were listed. The participants received the list on a paper and were asked to rank the three most important factors. The most important factor received three points, the second most important got two points and the third factor got one point. The remaining factors automatically received zero points. This was made to get a brief understanding about how the focus group participants valued the discussed comfort factors.

3.2 On board study

A questionnaire study was performed among bus passengers in the Gothenburg region. In order to receive comparable answers, it was desirable that the respondents related to the same kind of trip. According to the Norwegian Institute for Economical Transport (Norheim et al., 1993, p.9), this will result in more accurate answers since they can be connected to a specific trip. Therefore, the respondents were asked to fill in the questionnaire on board the bus during their trip. To find out if there are any differences in how people value comfort depending on if it is a local bus or a regional bus, one route of each type were studied.

3.2.1 Selection of bus routes

When selecting suitable bus routes for the on board study, several criteria were considered. The respondents should preferably have travelled enough time on board the bus when answering the questionnaire. The reason to this was that they should have had the possibility to receive an opinion about comfort on the current trip. A test showed that the questionnaire took about four minutes to fill in, but it had to be taken into account that it might take longer for some people. A bus route with quite long travel time was therefore needed. As people have different preferences, it was preferable that the respondents had varying backgrounds concerning gender, travel behaviour, age and car possession. A bus route that travels through different city districts probably results in a wider range of respondents. To increase the probability that the respondents mainly consider the actual route, it was preferred to choose a route where several of the stops along the route only are travelled by the studied bus route. To ensure that surveys performed on board the same route but at different occasions are comparable, it was desirable that the vehicles on the route were of the same type. To minimize the number of trips needed for the on board study, frequently used routes was desirable. Finally, routes where no changes are planned were to prefer in order to open up the possibility to use the survey results in the future.

Regional bus

Orange Express is the regional bus route selected based on the earlier mentioned criteria and in consultation with the Traffic and Public Transport Authority in Gothenburg. To simplify the performance of the on board study, the study is limited to the north part of Orange Express. This part stretches between Sjövik in Lerum municipality and the Nils Ericson Terminal in the City of Gothenburg (Figure 3.1). Sjövik is a small village in Lerum municipality, about 30 kilometres from the City of Gothenburg.

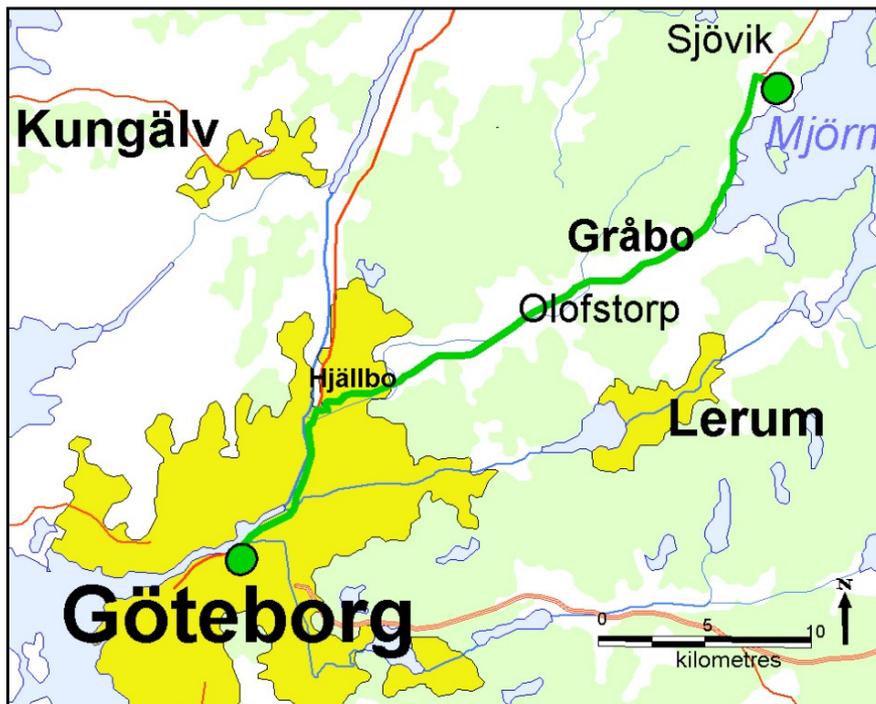


Figure 3.1. The studied stretch on Orange Express between the Nils Ericson Terminal and Sjövik. The stretch is visualized by the green line.

The total travel time for this route is 55 minutes. Most of the passengers on these trips travel all the way from the bus terminal in Gråbo, close to Sjövik, to the Nils Ericson Terminal. On its way from Sjövik to the City of Gothenburg, Orange Express passes 34 bus stops of which many are smaller stops on the countryside which are equipped with weather protection and benches. It also passes next to newly built areas with private houses. The final stop before reaching the Nils Ericson Terminal is Hjällbo, an area with many apartment buildings. It takes about 20 minutes to travel with Orange Express between Hjällbo and the Nils Ericson Terminal. This means that people who are boarding Orange Express in Hjällbo on its way to the terminal still have time to fill in the questionnaire. However, there are many other public transport options if one wants to travel between Hjällbo and the Nils Ericson Terminal. It is therefore not many passengers that are boarding and alighting Orange Express in Hjällbo.

At early weekday mornings, there is more frequent traffic from Sjövik and Gråbo into the City of Gothenburg than the opposite direction. Later, during the morning afternoon peak hours, there are buses driving every 15 minutes in both directions. The evening traffic is less frequent and drives with one hour interval. The rest of the day, Orange Express is driving with an interval of 30 minutes. During weekends, Orange Express only drives at Saturdays one time every hour during the day. There are 77 departures per day on Orange Express (both directions) on a weekday and 27 departures per day during Saturdays. However, all routes do not drive the whole stretch. This data is valid during the period 13 December 2009 to 11 December 2010 according to Västtrafiks timetable. A route survey performed in 2006 shows that there are about 2400 passengers travelling with Orange Express during a weekday. This corresponds to an average of 31 passengers on each route (Västtrafik, 2007).

It is the bus company Orustrafiken that operates Orange Express. The bus type used for Orange Express is, according to Krafft¹, a boogie bus which is 15 metres long and has 63 seats (Figure 3.2). With people standing as well, it has room for a total of 83 passengers.



Figure 3.2. One of the boogie buses that operates on the route Orange Express.

Krafft¹ also describes that the buses are equipped with air conditioning and that the buses are cleaned every day, both inside and outside. When performing the questionnaire survey it was observed that the seats have adjustable backrests and armrests (Figure 3.3). They are also equipped with seatbelts and there is also a small lamp placed above every seat. To board this type of bus, the passenger has to manage a stair with three steps. The entrance in the back of the bus is usually used for alighting and has a stair with four steps.



Figure 3.3. Typical seats on board Orange Express.

¹ Stefan Krafft (Traffic developer, Västtrafik) e-mail 20 April 2010.

Local bus

Based on the previous mentioned criteria and in consultation with the Traffic and Public Transport Authority of Gothenburg and Västtrafik, the south part of the local bus route 58 was selected. This part of the route stretches between Brottkärr or Skintebo in the city district of Askim and Gothenburg Central Station and has a total travel time of about 45 minutes (Figure 3.4). There are 34 or 36 bus stops along the studied route, depending on if the end station is in Brottkärr or in Skintebo. Many of the bus stops have neither bench nor weather protection

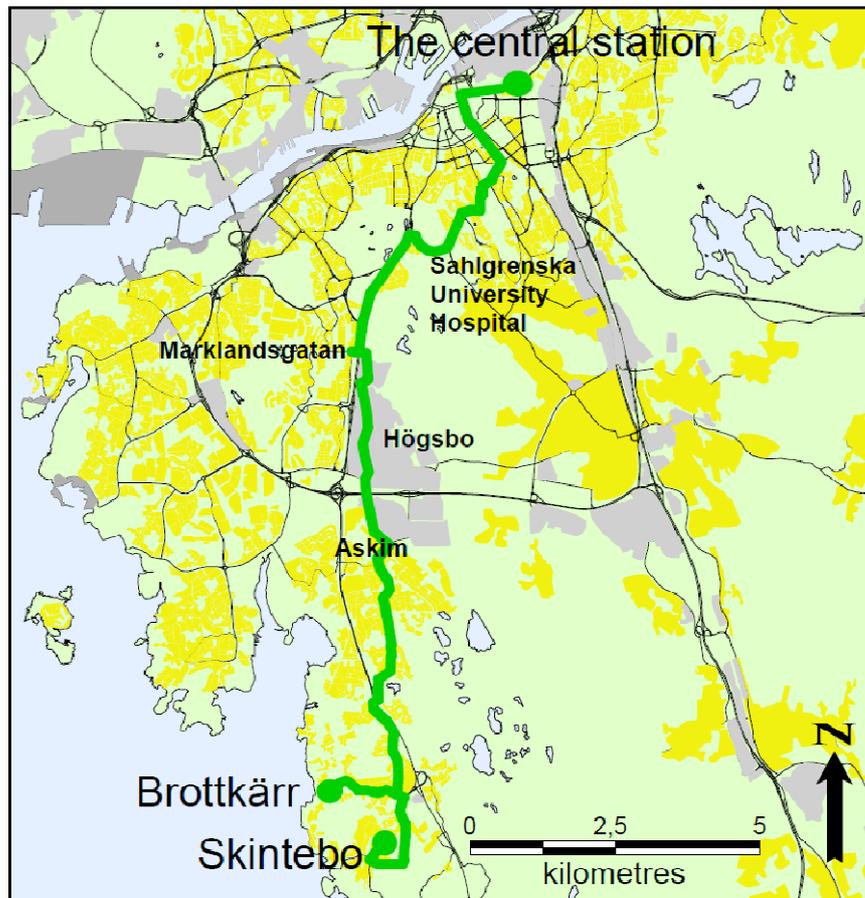


Figure 3.4. The studied stretch on route 58 between the Gothenburg Central Station and Brottkärr/Skintebo. The stretch is visualized by the green line. The grey areas represent industrial areas, and the yellow areas are residential areas.

Askim is an area in the City of Gothenburg where many people want to live and the pressure on the real estate market on private houses is high. Over 70 percent of the trips in Askim during 2005 were made by car. This can be compared to the average value in the City of Gothenburg the same year, which was about 50 percent. The share of public transport trips was about 13 percent which is the lowest share among the districts in the City of Gothenburg (Stadsbyggnadskontoret distrikt söder & Stadsdelsförvaltningen Askim, 2008, pp. 10-13).

In the northern part of Askim, route 58 passes Sisjön, a commercial and industrial area which many people visit and work in. This area is quite vibrant during daytime, but deserted during night time. After passing the industrial area, route 58 continue its

way to the city centre and passes Marklandsgatan, a large public transport junction with many people living in its surroundings. It also passes several large working places, for example Sahlgrenska University Hospital and Chalmers University of Technology, before reaching the city centre of Gothenburg.

Route 58 has a more frequent timetable than Orange Express. On weekdays, buses at route 58 are driving with an interval of 15 minutes during morning hours and in the afternoon. The rest of the day, as well as during weekends, the interval is 30 minutes. There are 122 departures on the stretch (both directions) on a weekday and 96 departures per day during weekends. However, all departures do not drive the whole stretch. This data is valid during the period 13 December 2009 to 19 June 2010 according to Västtrafiks' timetable. According to the earlier mentioned travel route survey from 2006, about 7600 passengers travel with route 58 during a weekday. This corresponds to an average of 67 passengers on each route (Västtrafik, 2007).

It is the public transport operator Göteborgs Spårvägar that operates route 58. According to Spartalis² at Göteborgs Spårvägar Buss, an underlying company to Göteborgs Spårvägar, 18 metres long articulated buses are used for route 58 (Figure 3.5). Two types of buses are used at this route; buses driven by gas and buses driven by diesel. A gas driven bus can take about 108 passengers of which 50 are seated. A bus driven by diesel has room for about 111 passengers, of which 48 are seated. Buses that are driven by gas have lower capacity than buses driven by diesel and are mainly used at shorter routes. When performing the questionnaire survey, it was observed that the articulated buses used for route 58 have low floor at all three entrances which make boarding and alighting easier for the passengers (Figure 3.5).



Figure 3.5. An articulated bus that operates on route 58.

² Paul Spartalis (Personnel planning, Göteborgs Spårvägar Buss AB) e-mail 20 May 2010.

Furthermore, Spartalis³ describes that there are no rules considering temperature on board the buses in their current contract with Västtrafik. In future contracts, there will however be requirements considering air conditioning on board the buses. Spartalis² points out that there might be a problem combining air conditioning with bus doors that opens continuously during a trip. Buses that operate at route 58 are cleaned after each day in use. Figure 3.6 shows an interior view of a typical bus operating on route 58.

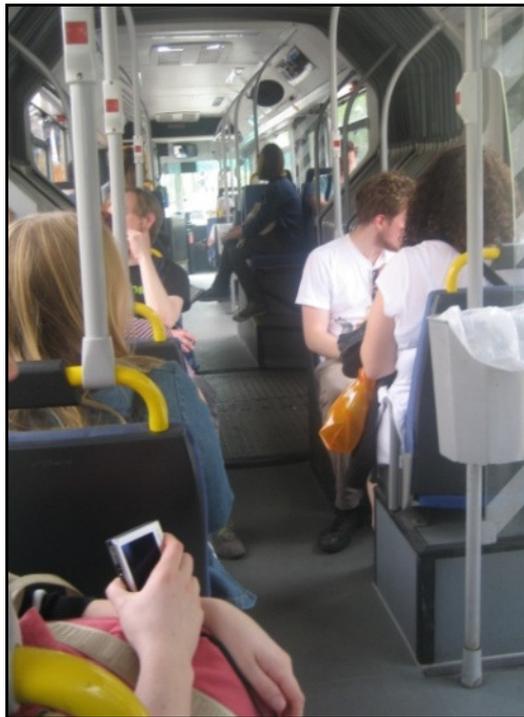


Figure 3.6. On board route 58 when there are no people standing in the aisle.

3.2.2 Description of questionnaire

The questions asked in the questionnaire are intended to investigate the importance of comfort on board and how good the current comfort standard is. The questionnaire was written in Swedish and can be found in Appendix 2. The elements in the questionnaire are focused on following areas:

- Facts about the respondent (gender, age, travel frequency and car option)
- The present journey (start and end point for the trip)
- Valuation of comfort factors

To find out how familiar the respondents are with public transport, they were asked to answer how frequent they use the public transport system. As mentioned earlier in Chapter 2.3.1, comfort is more important on longer trips. To find out if there are some factors that are more important on longer trips, the respondents were asked to fill in how long they will travel on the studied departure. The respondents were also asked

³ Paul Spartalis (Personnel planning, Göteborgs Spårvägar Buss AB) e-mail 20 May 2010.

about how frequent they use public transport as well as if they had the choice to go by car instead of by public transport for this trip. Finally, the respondents were asked if they are willing to pay more in order to get higher level of comfort on the public transport. The purpose with these questions is to further investigate how travellers value comfort.

In order to investigate how important the comfort factors are to the bus passengers, the respondents were asked to answer to what degree they agree with a statement for each comfort factor on a four grade scale. The respondents were also asked how satisfied they are with each of the ten comfort factors as well as the total comfort on the current trip, on a four grade scale. Hydén et al. (2008, pp.265-266) describes that passenger satisfaction combined with importance can be used to decide where to put in measures to improve the passenger conditions. It is the factors that are important to the passengers but that they are unsatisfied with that should be improved. This method has for example been used when evaluating results from the Swedish Public Transport Associations' annual study which is described in Chapter 2.3.2. Based on the literature study together with the focus group discussion the following ten factors were selected:

- Temperature
- Availability of seat
- Comfortable seat
- Nice and clean
- Smell
- Noise
- Illumination
- Crowd
- Storage possibilities
- Smooth driving

3.2.3 Performance

The study was performed during three weeks in March 2010. The questionnaire was distributed between different bus stops and on different departures. The reason for this was to capture different user categories and to reduce the risk of asking the same person several times. The on board study was mainly performed during peak hours.

The questionnaires were distributed directly to the passengers that were on board the bus at the time. When the respondents had filled in their questionnaires, they were collected by the person who distributed it and the study on that trip ended. If wanted, the respondents also had the opportunity to mail their questionnaire. To be easy to fill in on board the questionnaire was printed on thick paper.

During the studied time interval, there were a few cancelled departures. In March 2010, 11 out of the 1987 departures were cancelled on Orange Express⁴, which correspond to 0,6 percent of all departures. Three percent of the routes with bus 58 were cancelled during March 2010. The most common reason was lack of vehicles. (Göteborgs Spårvägar Buss, 2010). Two out of the cancelled departures on route 58 were in connection to when the on board study was performed.

⁴ Stefan Krafft (Traffic developer, Västtrafik) e-mail 16 April 2010.

3.2.4 Participation rate

The questionnaire survey was performed during 23 trips on board Orange Express and 32 trips on board route 58. Altogether, 301 useful questionnaires were collected from the passengers on board the local bus route 58. On board the regional bus Orange Express, 289 useful questionnaires were collected. The questionnaires that could not be used mainly consisted of surveys filled in by travellers under the age of 15. About nearly two thirds of the questionnaires were however not correctly filled in or lacked information about one or more of the questions. However, these questionnaires could still be used in the result for the questions that were correctly filled in.

The ambition was to ask everyone on board the bus to participate in the questionnaire survey. However, when the bus was too crowded it was not possible to ask all passengers. Also, since the questionnaire was designed to be filled in by the respondents themselves it was also more difficult to fill in for the standing travellers. Therefore the response rate is lower on trips when there were many passengers standing.

As seen in Table 3.1 the sample size from the trips with route 58 was almost twice as much than on Orange Express. In average, there were more passengers on route 58 than on Orange Express. However, the larger sample size is also due to that more trips were needed with route 58 since the response rate was lower on this route. The response rate is about 50 percent on Orange Express, while it only is about 30 percent on route 58. The response rate is calculated as the ratio between number of useful questionnaires and number of passengers during the studied trips.

Table 3.1. Sample size and response rate from the questionnaire survey.

Route	No. of studied trips	No. of passengers	No. of questionnaires	Response rate
Orange Express	23	562	289	51 %
58	32	940	301	33 %

The passengers were more willing to answer the questionnaire on Orange Express than on route 58. For both routes, the participation rate was higher in the afternoon than in the morning, and younger passengers were more willing to answer the questionnaire than older passengers. In total, ten envelopes were distributed on the routes. All of the six distributed envelopes on Orange Express were sent in and on route 58 three out of the four distributed questionnaires were mailed.

3.2.5 Participation distribution

The sample of respondents is almost identical between Orange Express (Table 3.2) and route 58 (Table 3.3) considering gender and age distribution. More women than men answered the questionnaire on both routes. The respondents were asked to fill in their age on the questionnaire and have now been divided into four age categories. As seen in Table 3.2 and Table 3.3, the respondents on both routes are dominated by

younger people between 15 and 24 years old. As described in Chapter 2.1.2, women and younger people are frequent users of public transport, which corresponds to the distribution in the on board study. Also, the share of men and women corresponds well to the distribution to the large route survey performed in Gothenburg 2006 (Chapter 2.1.2).

Table 3.2. Age and gender distribution among the respondents on Orange Express with the number of respondents in parenthesis.

Age interval Gender	15-24 years	25-44 years	45-59 years	60 < years	Unknown	Total
Men	39 % (n=42)	31% (n=33)	19 % (n=20)	11 % (n=12)	0 % (n=0)	37 % (n=107)
Women	41% (n=74)	26 % (n=47)	20 % (n=37)	12 % (n=22)	1 % (n=2)	63 % (n=182)
Unknown	0 % (n=0)	0 % (n=0)	0 % (n=0)	0 % (n=0)	0 % (n=0)	0 % (n=0)
Total	40 % (n=116)	27 % (n=80)	20 % (n=57)	12 % (n=34)	1 % (n=2)	100 % (n=289)

Table 3.3. Age and gender distribution among the respondents on route 58 with the number of respondents in parenthesis.

Age interval Gender	15-24 years	25-44 years	45-59 years	60 < years	Unknown	Total
Men	45 % (n=51)	33 % (n=37)	11 % (n=13)	11% (n=13)	0 % (n=0)	38% (n=114)
Women	42 % (n=78)	28 % (n=52)	17 % (n=31)	12 % (n=22)	1 % (n=2)	62% (n=185)
Unknown	0 % (n=0)	0 % (n=0)	0 % (n=1)	0 % (n=0)	0 % (n=1)	0 % (n=2)
Total	43 % (n=129)	30 % (n=89)	15 % (n=45)	11 % (n=35)	1 % (n=2)	100% (n=301)

As seen in Table 3.4, the questionnaire respondents have travelled for a longer time with Orange Express than with route 58. Most of the respondents are travelling for more than 30 minutes with Orange Express. The respondents on route 58, on the other hand, are mainly spending less than 30 minutes on board the bus. When it comes to travel frequency, both routes are dominated by respondents that are travelling daily or almost daily with public transport (Table 3.5). Worth noticing is that there is a lack of respondents that travel more seldom on both routes. As stated in Chapter 2.1.2, there are in average two thirds of all public transports users which have no option to use a car. In the on board study, the respondents' opportunity to go by car instead of by bus for the actual trip varies between the routes. Table 3.6 shows that there is a higher portion of respondents on Orange Express that could have chosen to go by car instead of by bus compared to the respondents on route 58. Worth noticing is also that 13 percent of the respondents on route 58 and 10 percent of the respondents on Orange Express have left this question without answering it.

Table 3.4. Distribution of travel time among the respondents on Orange Express and on route 58 with the number of respondents in parenthesis.

Route \ Travel time	0-14 minutes	15-29 minutes	30< minutes	Unknown	Total
Orange Express	6 % (n=18)	26 % (n=75)	67 % (n=193)	1 % (n=3)	100 % (n=289)
58	19 % (n=59)	50 % (n=150)	25 % (n=76)	6 % (n=16)	100 % (n=301)

Table 3.5. Distribution of travel frequency among the respondents on Orange Express and on route 58 with the number of respondents in parenthesis.

Route \ Travel frequency	Daily/ almost daily	A few times a week	A few times a month	More seldom	Unknown	Total
Orange Express	81 % (n=234)	10 % (n=28)	7 % (n=19)	2 % (n=7)	0 % (n=1)	100 % (n=289)
58	81 % (n=242)	12 % (n=37)	6 % (n=17)	1 % (n=4)	0 % (n=1)	100 % (n=301)

Table 3.6. Distribution of respondents who had the opportunity to go by car instead of by bus for their trip with the number of respondents in parenthesis.

Option to go by car Route	Option	No option	Unknown	Total
Orange Express	44 % (n=127)	46 % (n=133)	10 % (n=29)	100 % (n=289)
58	28 % (n=83)	59 % (n=179)	13 % (n=39)	100 % (n=301)

3.3 Qualitative interview

To get a deeper understanding about what passengers experience as distractions during their bus trip, qualitative interviews were performed. This was also made as a complement to the on board study to further investigate findings from the questionnaires. The qualitative interview participants were found among those who had filled in their name and telephone number on the questionnaires. Brundell-Freij et al. (2000, pp.28-29) mentions that qualitative interview participants that represent the population and its variations are to prefer rather than randomly picked participants. Eight people with varying age and gender were therefore interviewed.

3.3.1 Performance

The intention with the interviews was to follow the respondents through their most recent journey to be able to identify distractions along the trip. Therefore, a list of questions was prepared to be asked to each respondent. This interview guide only worked as a basis and further questions were asked when needed. The intention was to create a conversation around the subject. Quinn Patton (2002, p.343) points out the importance of having an interview guide to keep the interview within the decided timeframe. These qualitative interviews were constructed to last for about 10 to 20 minutes. A telephone with speakerphone was used in order for one person to take notes while the other person performed the interview.

The participants in the qualitative interviews were selected considering to several criteria. To receive information from people with different preferences, participants were chosen through the contact information from both route 58 and Orange Express. A selection of men and women at different ages that had participated in the on board study were asked to participate in a qualitative interview. The participants were selected because they had answered on their questionnaire that they would have had the opportunity to go by car instead of bus. These respondents were asked further questions about why they choose to go by bus instead of by car. The intention was also to find out whether the valuation of the comfort factor 'Storage possibilities' from the on board study has connections to the possibility to go by car instead of by bus.

The qualitative interviews were based on that the respondents' remembered their most recent bus trip. The interview started with a few questions concerning car possession and the respondents' most recent bus trip. The introduction questions were then followed by open-ended questions dealing with the respondents' most recent bus trip. These open ended questions dealt with safety and accessibility as well as the respondents' experiences during the most recent trip which was the main focus during the interview. As the purpose of the qualitative interviews was to identify distractions, all answers were fully investigated by attendant questions, for example; *Why was that good/bad? What is missing? How did you experience that?*. The interview was arranged to follow the respondent throughout the journey, from point A to point B. The different parts are described more thoroughly in Chapter 2. The questions dealt with following parts of the trip;

- Gathering of information
- Point A to the bus stop
- Wait at the bus stop
- Boarding
- On board
- Alighting
- The bus stop to point B
- (Interchange when it occurred)

At the end of a qualitative interview with open-ended questions, the respondent should get the opportunity to add if there is something else that he or she wants to say about the issue (Quinn Patton 2002, p.379). In this case, the final question was dealing with how the respondent experienced the whole trip to find out if there were some aspects that not had been asked about during the interview.

3.3.2 Participation rate and distribution

Eight qualitative interviews were performed, three among the participants' who had travelled with Orange Express and five who had travelled with 58. Out of these eight participants, five were women and three were men (Table 3.7). The men were between the age of 30 and 64 years and the women were between the age of 25 and 49 years old. Most of the respondents travel at least once a week, but two of the participants travel more seldom. All of the participants had filled in that they had the option to take the car instead of the bus on their questionnaire.

Table 3.7 Distribution of gender, age and travel frequency from the interview participants' questionnaires.

Gender	Age	Travel frequency
Male	30	Daily/almost daily
Male	34	Daily/almost daily
Male	67	A few times a week
Female	25	Daily/almost daily
Female	30	A few times a week
Female	35	A few times a month
Female	40	A few times a month
Female	49	Daily/almost daily

4 Results

The results are based on findings from the focus group discussion together with the on board study and the qualitative interviews. These findings are presented in the following chapters.

4.1 Output from focus group

The focus group consisted of participants with different travel behaviours. Four out of the six participants in the focus group commute daily with public transport. One of the participants used to travel more often with public transport but does nowadays travel more seldom, and another participant rarely travels with public transport.

Considering the question how they perceive the term comfort in public transport, the participants preferred to describe the term by associating it with substantial factors. The factors that came up directly were the availability of seats, a nice and clean vehicle, that the vehicle interior is intact as well as the temperature on board.

When discussing comfort on their most recent bus trip, the participants mentioned the importance of clear and correct information about departure of the routes. In specific, the digital time display at the bus stop. Crowd on board the vehicles was also discussed, especially the inconvenience when alighting the vehicle, as people have a tendency to enter before passengers on board have had the opportunity to exit. Furthermore, it was discussed that the travel experience becomes worse when other passengers have loud discussions, both with each other and in mobile phones.

The conversation quickly led to which comfort factors that is needed in order to make the bus trip more comfortable. A factor that was discussed then was the engagement from the drivers. The participant thought that the drivers often show a lack of knowledge about the route, and also that their way of driving is poor. Some of the participants mentioned that the later often leads to travel sickness, and that they because of this prefer to sit in the front part of the bus. Concerning the availability of seats, the acceptance is higher when it is not crowded on board. Bad smell on the vehicle was also discussed during the focus group meeting, especially when passengers are eating on board the vehicle. To sum up, the following factors came up during the meeting:

- Temperature
- Driver engagement
- Way of driving
- Crowd
- Availability of seat
- Information
- Noise
- Cleanliness

The eight factors above were rated by the participants. This was made by giving the three most important factors points from one to three, where three was most important. The result from the rating can be found in Figure 4.1. Temperature was

shown to be the most important factor among the focus group participants, and thereafter information and the chauffeurs' way of driving.

All of the participants were active during the session and they seemed to be comfortable with the situation. Noted was that they all referred to their own public transport experiences and they gave detailed descriptions about the factors that they brought up.

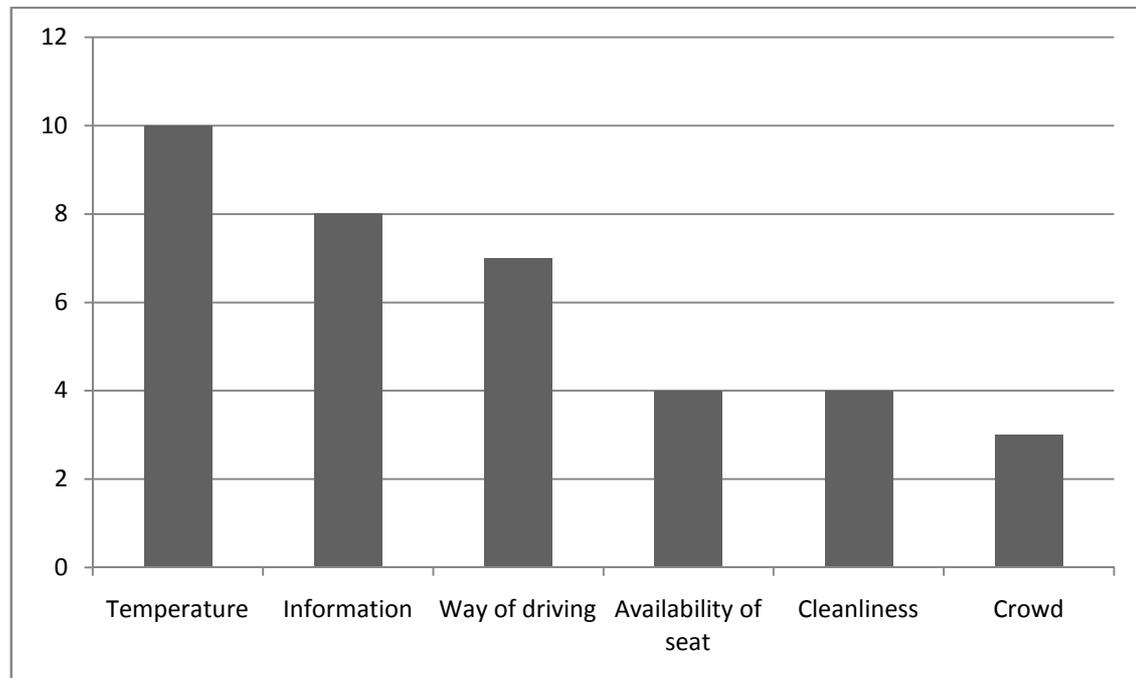


Figure 4.1. Result from the rating of the discussed factors in the focus group. Two factors received zero points and are therefore not shown in the figure ('Driver engagement' and 'Noise').

4.2 Output from on board study

In the questionnaire (Appendix 2), the importance of the ten comfort factors was evaluated (Chapter 3.2.2). This was made by using a four grade scale where the importance of each comfort factor was rated from unimportant to very important. Each level of importance was then converted to a value in order to visualise the results from the questionnaire survey.

Level of importance:

- Unimportant = 1
- Quite unimportant = 2
- Quite important = 3
- Very important = 4

In order to grade the current comfort standard on board, the respondents were asked to answer to what level they agreed with positive statements considering each of the ten comfort factors. These levels were then converted to grades, from one to four, where four means that the respondent is pleased with the current standard.

Level of agreement:

- Fully disagree = 1
- Partly disagree = 2
- Partly agree = 3
- Fully agree = 4

In addition to grade each comfort factor, the respondents were asked to answer how satisfied they are with the overall comfort on board. The mean value for the total experienced comfort was higher on Orange Express than on route 58. Orange Express received a mean value of 3,4 and the corresponding value for route 58 was 3,1. This means that the average of the questionnaire respondents' impressions of the comfort standard on board is about ten percent better on Orange Express than on route 58. Participation distribution for the questionnaire survey can be found in Chapter 3.2.5

4.2.1 Valuation of comfort factors

Mean values from the respondents' questionnaire answers concerning grade and importance have been calculated for each comfort factor (Appendix 4-9).

The mean values of importance for all factors vary between 2,7 and 3,7 on Orange Express (Figure 4.2) and between 2,5 and 3,5 on route 58 (Figure 4.3). However, most mean values are close to three on both routes, which corresponds to 'quite important' on the four grade scale from the questionnaire. Figure 4.1 in Appendix 4 shows that the mean values are higher on Orange Express than on route 58. The factor that received the highest mean value of importance is 'Availability of seat' on Orange Express while it is 'Smell' on route 58. 'Availability of seat' is also the factor where the largest difference in mean value between Orange Express and route 58 is found. The smallest difference concerning valuation of importance is found on 'Smooth driving' (Appendix 4, Figure 4.1). Figure 4.1 in Appendix 4 also shows that 'Storage possibilities' got the lowest mean value considering the importance on both routes. 'Illumination' also received a low mean value compared to the other factors.

The respondents were also asked to grade the ten comfort factors which then were converted to a value. All comfort factors on Orange Express have received mean grades between about 3,3 and 3,9 (Figure 4.2). The mean grades on route 58 vary between 2,9 and 3,7 (Figure 4.3). When comparing the comfort factors on both routes, it can be seen that they are all given higher grades on Orange Express than on route 58. On both routes, it is 'Availability of seat', 'Illumination' and 'Crowd' that have the highest mean grades. There are however several factors that have almost as high mean grades. It also has to be considered that there were very few passengers who were standing when answering the questionnaire which led to a high mean grade for 'Availability of seat'. Therefore, less attention is given to the mean grades for this factor. The mean grades for 'Availability of seat' can be found in Appendix 4 to Appendix 9 together with the mean grades for the other factors. On both routes,

'Smooth driving' has the lowest mean grade. On route 58, the factors 'Nice and clean' and 'Storage possibilities' also stands out by having a low mean grade. The largest differences in mean grade between the routes are found on the factors 'Nice and clean' and 'Smooth driving' (Appendix 4, Figure 4.2). 'Temperature' is the factor with the most similar mean grade.

As mentioned in Chapter 3.2.2, it is the factors that the passengers are unsatisfied with (lower grade) but which are important that should be prioritized when improving the comfort on board. However, it must be taken into account that Figure 4.2 and Figure 4.3 only shows mean values of grade and importance. These mean values have been combined in order to further evaluate the studied comfort factors. The combined evaluation is performed by plotting the mean grade for each factor against the corresponding mean value of importance. The mean grade for each of the ten studied comfort factors is plotted against its corresponding mean value of importance. The figures show an upscale of the second quadrant as this is where all comfort factors are situated. This means that in average, the respondents are pleased with the standard on board both routes and they consider the studied factors as quite important or important.

The evaluation figure for Orange Express can be found in Figure 4.2. The figure shows that most of the comfort factors have about the same mean grades as mean values of importance. There is a larger spread of the mean values of importance than the mean values of grade.

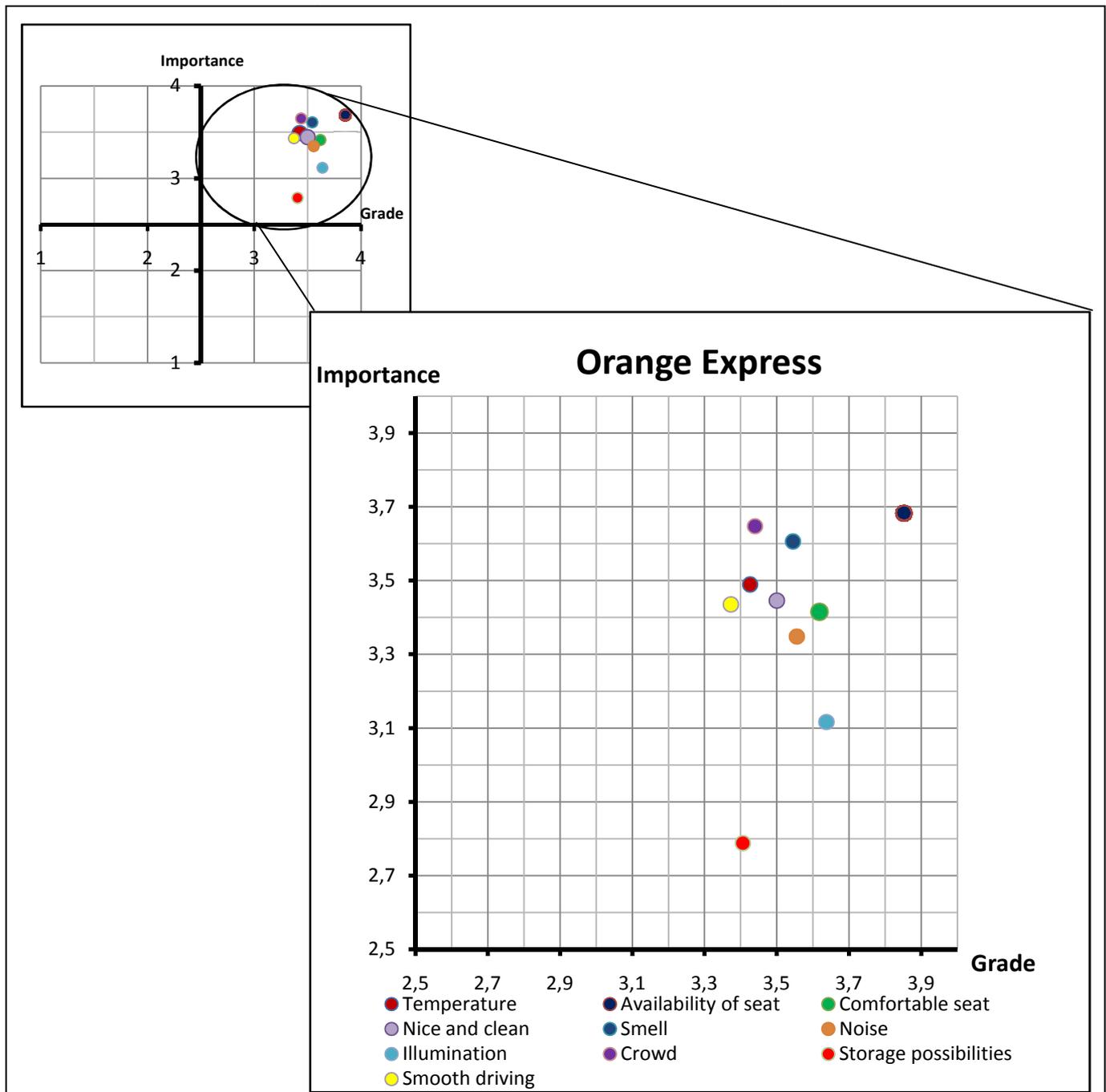


Figure 4.2. Evaluation of comfort factors on board Orange Express.

The evaluation figure for route 58 (Figure 4.3) shows a wider spread of the comfort factors compared to the figure for Orange Express (Figure 4.2), especially considering the mean grades.

Gap analyses visualize the difference between the mean values of grade and importance on both routes for each comfort factor. As can be seen in Appendix 3, most of the comfort factors have received a higher mean grade than its corresponding mean value of importance. On both routes, 'Storage possibilities' and 'Illumination' stands out as the factors that have a significant higher mean grade compared to how important the respondents think these factors are. Furthermore, three of the studied comfort factors have a lower mean grade than corresponding mean value of

importance. These factors are 'Nice and clean', 'Smell' and 'Smooth driving' on Orange Express. Considering route 58, it is the comfort factors 'Temperature', 'Smell' and 'Smooth driving' that have mean grades that are lower than their mean values of importance.

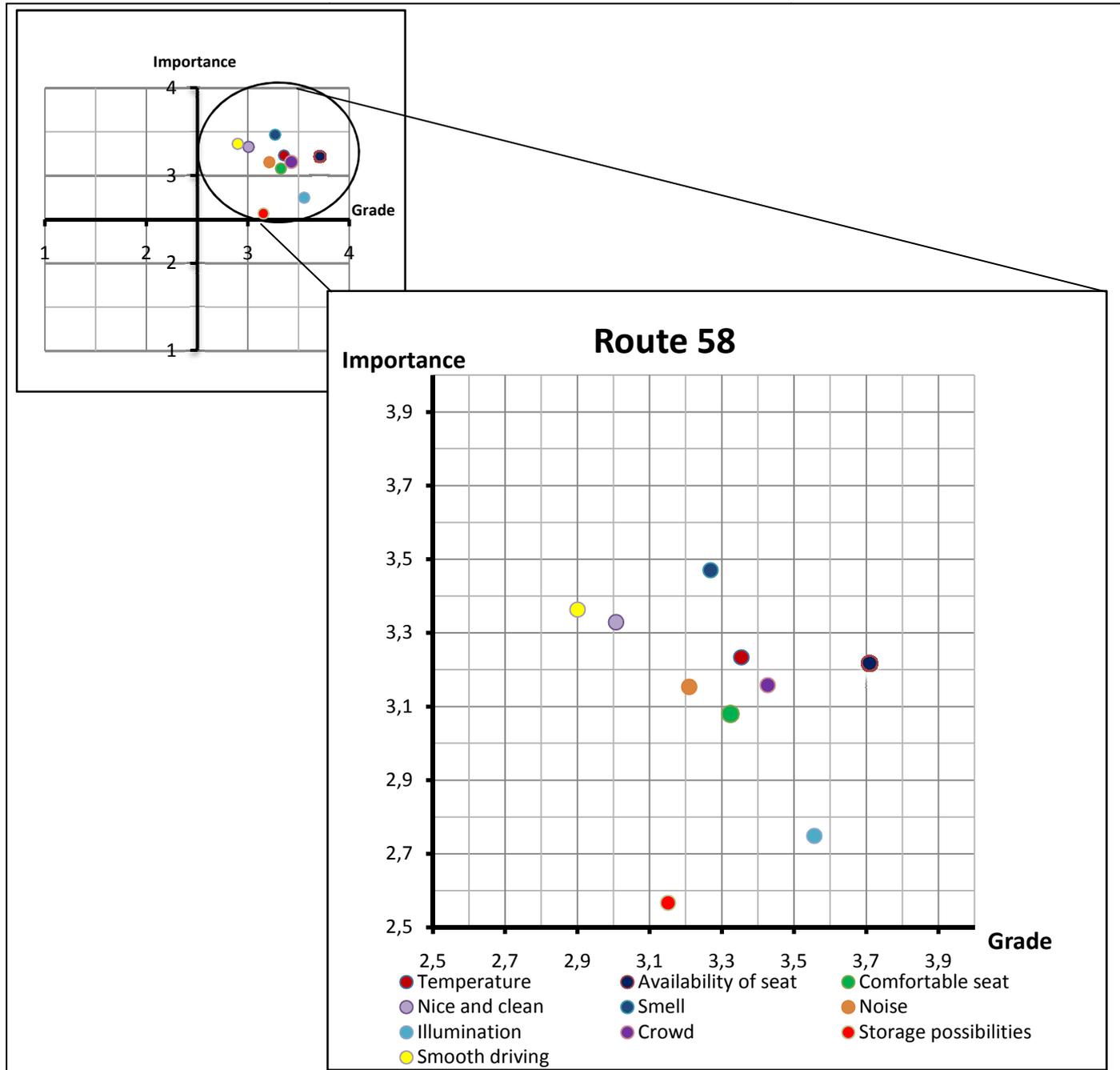


Figure 4.3 Evaluation of comfort factors on board route 58.

4.2.2 Valuation of comfort factors depending on travel time

The factor being least important regardless of travel time is 'Storage possibilities' (Appendix 5, Figure 5.1 & Figure 5.2). The most important factor differs both between the routes and the respondents travel times (Figure 4.4 & Figure 4.5).

Respondents who travel more than 15 minutes on Orange Express consider 'Availability of seat' as the most important comfort factor (Figure 4.4). For the participants that travel shorter time is, on the other hand, 'Smell' valued the highest (Appendix 5, Figure 5.1). This is also where the smallest difference in valuation considering travel time is found. Furthermore, all factors are shown to be more important if the travel time is more than 30 minutes. Considering most of the comfort factors, the lowest mean values of importance are found among the respondents who travel between 15 and 29 minutes. There are however very few passengers on Orange Express that travels less than 15 minutes. In Table 3.4, the distribution of the respondents travel time shows that there are less than ten percent of the respondents in this group. The difference of valuation between the time intervals is very small for the factors, except from; 'Temperature', 'Availability of seat', 'Comfortable seat', 'Illumination' and 'Smooth driving'. These factors are visualized in Figure 4.4. Out of these factors, 'Availability of seat' and 'Comfortable seat' show a trend of becoming more important when the travel time increases on Orange Express.

The importance of the comfort factors concerning the respondents travel time differs more on route 58 than on Orange Express (Appendix 5, Figure 5.1 & Figure 5.2). It can also be seen that the importance increases with the length of the trip for most of the factors on route 58. 'Smell' is considered as the most important factor among the respondents on route 58, for all time intervals (Appendix 5, Figure 5.2). The factors that are showing a trend of becoming more important when the travel time increases are 'Availability of seat', 'Comfortable seat', 'Illumination', 'Crowd' and 'Storage possibilities' (Figure 4.5).

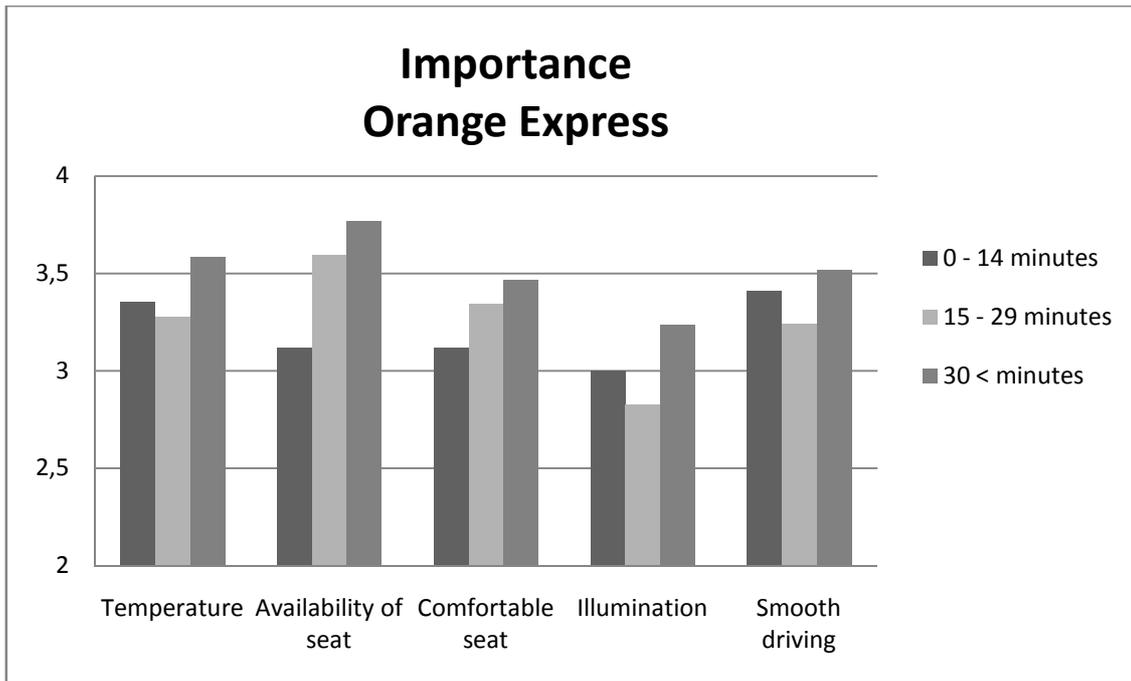


Figure 4.4. Importance of comfort factors with highest difference concerning mean value for travel time on Orange Express. Note that the scale begins at two. Figure showing the result for all factors can be found in Appendix 5 (Figure 5.1).

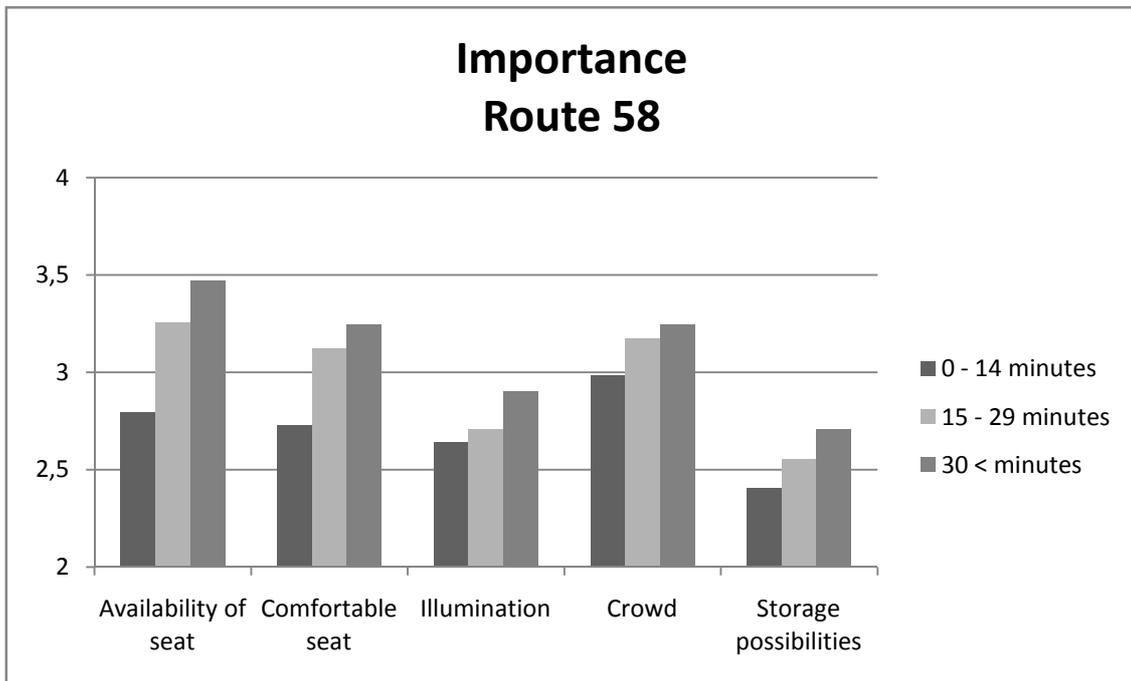


Figure 4.5. Importance of comfort factors with highest difference concerning mean value for travel time on route 58. Note that the scale begins at two. Figure showing the result for all factors can be found in Appendix 5 (Figure 5.2).

Similar to the mean values of importance, the mean values of grade also differ when it comes to the respondents' travel time (Appendix 5, Figure 5.3 & Figure 5.4). The difference between the mean values of grade is larger on route 58 than on Orange Express. Equal for both routes is that 'Availability of seat' received the highest mean grade among the respondents that had travelled for more than 15 minutes. On Orange Express, respondents who travel for less than 15 minutes are most satisfied with the standard of 'Nice and clean' and 'Availability of seat'. Except from that, it is quite even between the mean grades for Orange Express.

Respondents who have travelled for less than 15 minutes on route 58 are more satisfied with almost all factors than those who travelled for a longer time (Appendix 5, Figure 5.3 & Figure 5.4). 'Illumination' and 'Crowd' stands out by having received high mean grades among the respondents who travelled for less than 15 minutes with 'Availability of seat' not far behind. Among those who travelled for more than 15 minutes with route 58, 'Illumination' and 'Availability of seat' received the highest mean grades.

4.2.3 Valuation of comfort factors depending on gender

A clear trend for both studied routes is that women consider comfort as more important than men (Figure 4.6 & Figure 4.7). The factor which differ the most between the genders concerning the mean values of importance is, for both routes, 'Storage possibilities'. The only factor which men consider as more important is 'Comfortable seat' on route 58 (Figure 4.7). This is also the factor where the mean values of importance differ the least between the genders on route 58. The factor that is least dependent on gender considering the mean value of importance on board Orange Express is 'Availability of seat' (Figure 4.6).

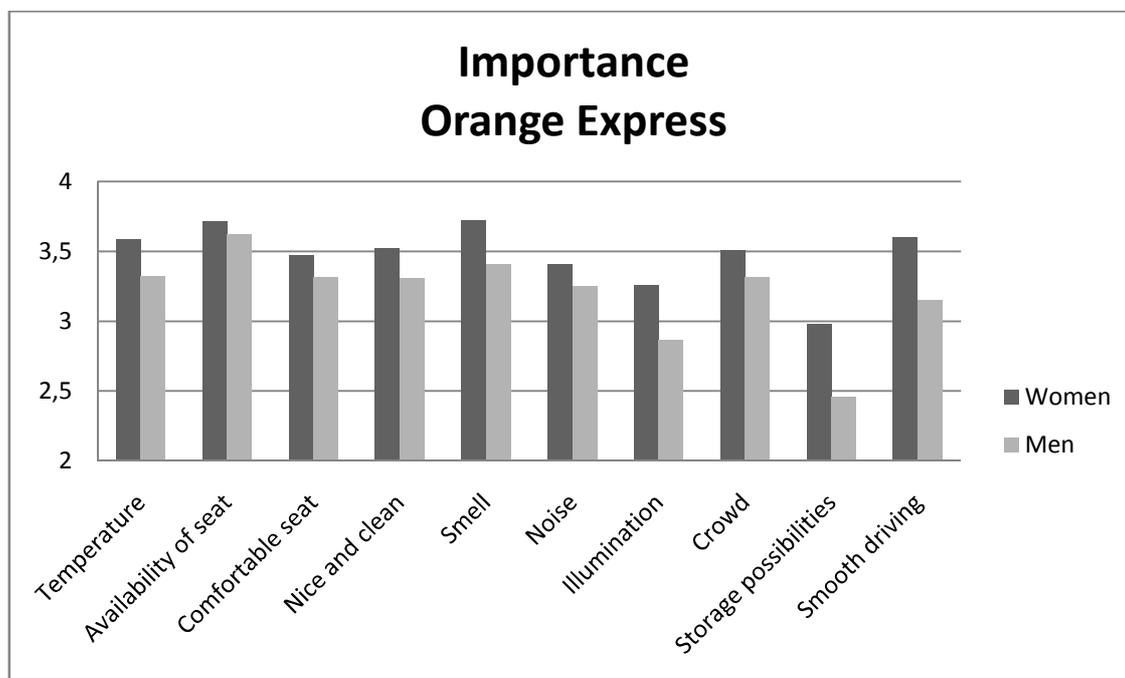


Figure 4.6. Mean values of importance for the comfort factors depending on gender on Orange Express. Note that the scale begins at two.

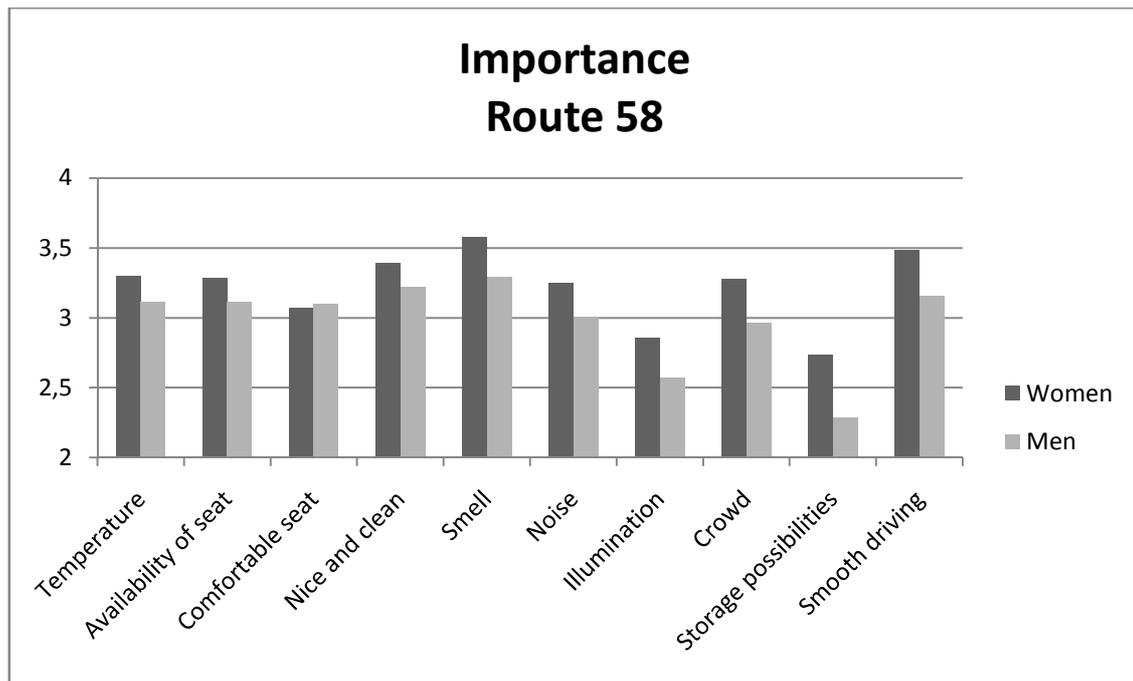


Figure 4.7. Mean values of importance for the comfort factors depending on gender on route 58. Note that the scale begins at two.

The highest difference concerning the mean grades between women and men is found on ‘Illumination’ on Orange Express and ‘Smooth driving’ on route 58 (Appendix 6). As for the importance, women generally have graded the standard of the comfort factors higher than men, with exception from ‘Storage possibilities’ and ‘Nice and clean’ on route 58 (Appendix 6, Figure 6.2). In fact, ‘Nice and clean’ has received almost exactly the same mean grade on route 58.

4.2.4 Valuation of comfort factors depending on age

The relation between the mean values of importance depending on age varies among the factors on both routes (Appendix 7, Figure. 7.1 & Figure. 7.2). The two factors that have the least difference in valuation considering the age groups are ‘Smell’ and ‘Temperature’. Another factor where the difference is small is ‘Crowd’.

On Orange Express, respondents between the age of 15 and 24 years old think that the most important factor is ‘Smell’ (Figure 4.8). Furthermore, ‘Smell’ is also the only factor which this group values higher than the older respondents. Concerning the rest of the factors, the on board study showed that the respondents between the age of 15 and 24 years are the age group which consider comfort to be least important. Respondents older than 24 years consider ‘Availability of seat’ to be the most important comfort factor. Respondents older than 45 years consider comfort to be more important than those under the age of 45, with exception from ‘Temperature’ and ‘Smell’ (Figure 4.8). ‘Storage possibilities’ and ‘Illumination’ are the factors on board Orange Express where the largest difference between the age categories is found (Figure 4.8).

Considering route 58, the result from the on board study shows that respondents older than 60 years value comfort as more important than the younger respondents with exception from 'Temperature' and 'Smell' (Figure 4.9). Respondents between the age of 15 and 24 years old and between the age of 45 and 59 years old value the comfort factors quite similar. For 'Illumination' and 'Availability of seat', the difference between the two youngest age categories and the two oldest age categories is high (Figure 4.9). The factor which received the highest mean value from the respondents on board route 58 that are older than 60 years old, as well as among the respondents between the age of 45 and 59 years old, is 'Smooth driving' (Appendix 7, Figure 7.2). For the two youngest age categories, the highest mean value is found on 'Smell' (Figure 4.9). When it comes to the least important factors, 'Storage possibilities' is the one that turned out to be least important on both routes, especially for people between the age of 25 and 44 years old on route 58 (Figure 4.8 & Figure 4.9).

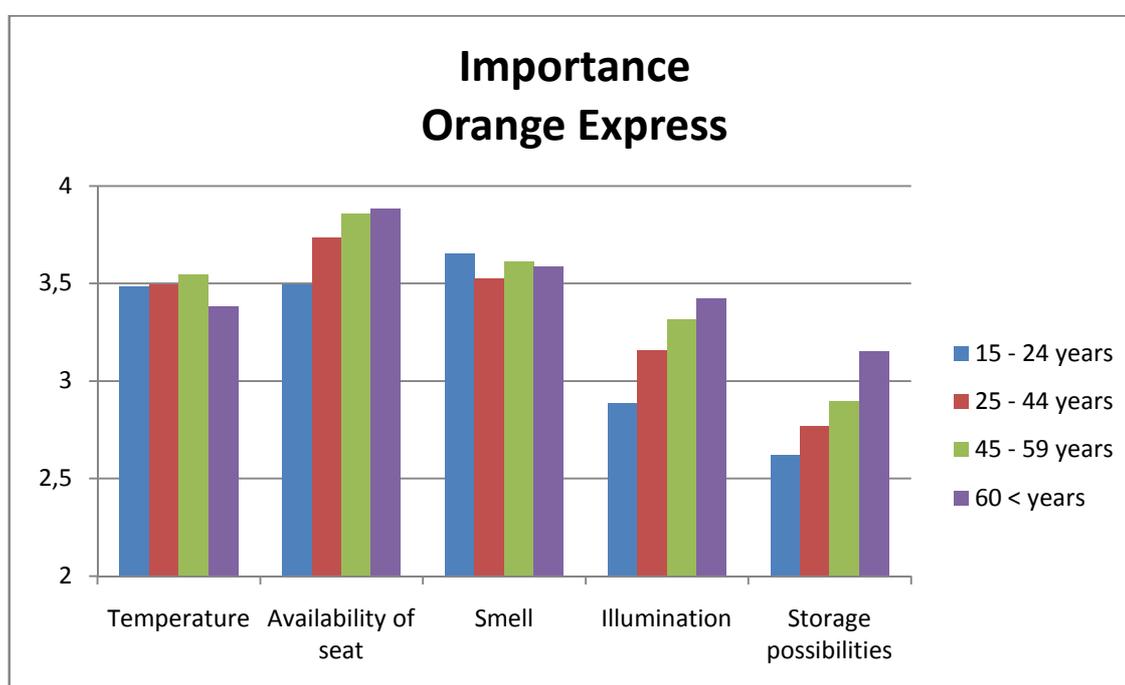


Figure 4.8. Mean values of importance for comfort factors depending on age on Orange Express. Note that the scale begins at two. This graph shows a selection of the studied comfort factors, result for all factors can be found in Appendix 7 (Figure 7.1).

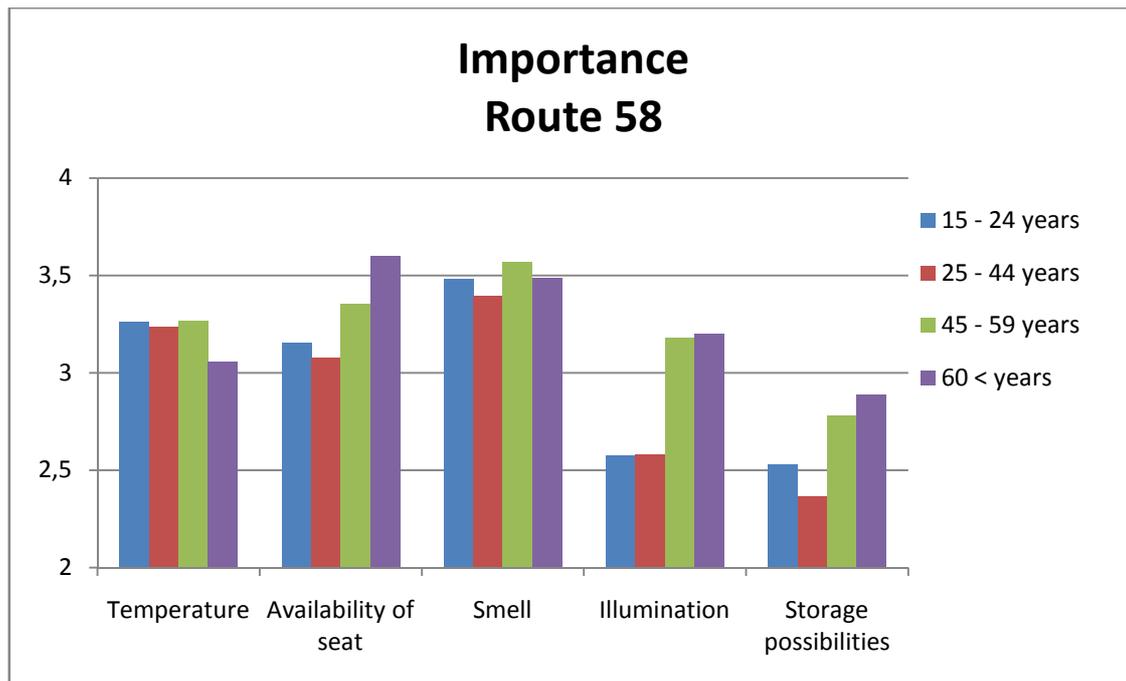


Figure 4.9 Mean values of importance for comfort factors depending on age on route 58. Note that the scale begins at two. This graph shows a selection of the studied comfort factors, result for all factors can be found in Appendix 7 (Figure 7.2).

For almost all comfort factors on both routes, respondents between the age of 15 and 24 are less satisfied with the standard on board than the older respondents (Appendix 7, Figure 7.3 & Figure 7.4). Otherwise, there is no clear trend between the relations of mean grades among the other age groups. An interesting remark for both routes is that passengers between the age of 15 and 24 years old and between the age of 45 and 59 years old have graded 'Temperature' almost the same. Furthermore, passengers between the age of 25 and 44 years old as well as those older than 60 years have graded this factor the same. 'Availability of seat' has received the highest mean grade among all age groups on both routes. The factor with the lowest grade differs among the age groups.

4.2.5 Valuation of comfort factors depending on travel frequency

In the questionnaire, the respondents were asked to answer how often they travel with the public transport system. The respondents could choose from four alternatives, but as seen in Table 3.5, the sample size is very small in the group that travels more seldom than once a month. The result of the valuation from this category was therefore combined with the respondents that travel once a month. The result from the questionnaire survey shows no clear trend of either the mean values of importance or the mean values of grade concerning travel frequency on either of the routes (Appendix 8).

The mean values of importance vary much more on route 58 than on Orange Express concerning travel frequency (Appendix 8, Figure 8.1 & Figure 8.2). On board Orange Express, passengers that travel a few times a week have given the most of the factors higher values of importance than the other two groups of respondents (Appendix 8, Figure 8.1). The passengers that travel daily or almost daily with public transport have

given the factors ‘Temperature’ and ‘Smell’ higher value of importance than passengers that do not travel as often (Figure 4.10). The two factors that received a higher mean value of importance considering the respondents that travels more seldom are ‘Availability of seat’ and ‘Crowd’ (Figure 4.10). ‘Availability of seat’ is the factor on board Orange Express with the lowest impact of the travel frequency (Figure 4.10). On route 58, on the other hand, this is one of the factors where the largest difference concerning travel frequency is found (Figure 4.11). The other factors which have the largest difference concerning travel frequency on route 58 are ‘Comfortable seat’ and ‘Crowd’ (Figure 4.11). For all these three factors, respondents travelling daily or almost daily consider them to be much more important than the other two groups of respondents does. On route 58, ‘Smell’ has the smallest difference between mean values of importance concerning travel frequency (Figure 4.11). It is respondents that travel daily or almost daily that considers most of the factors to be more important than the other two groups of respondents. The lowest mean value of importance considering most of the comfort factors is found among the respondents in the category more seldom.

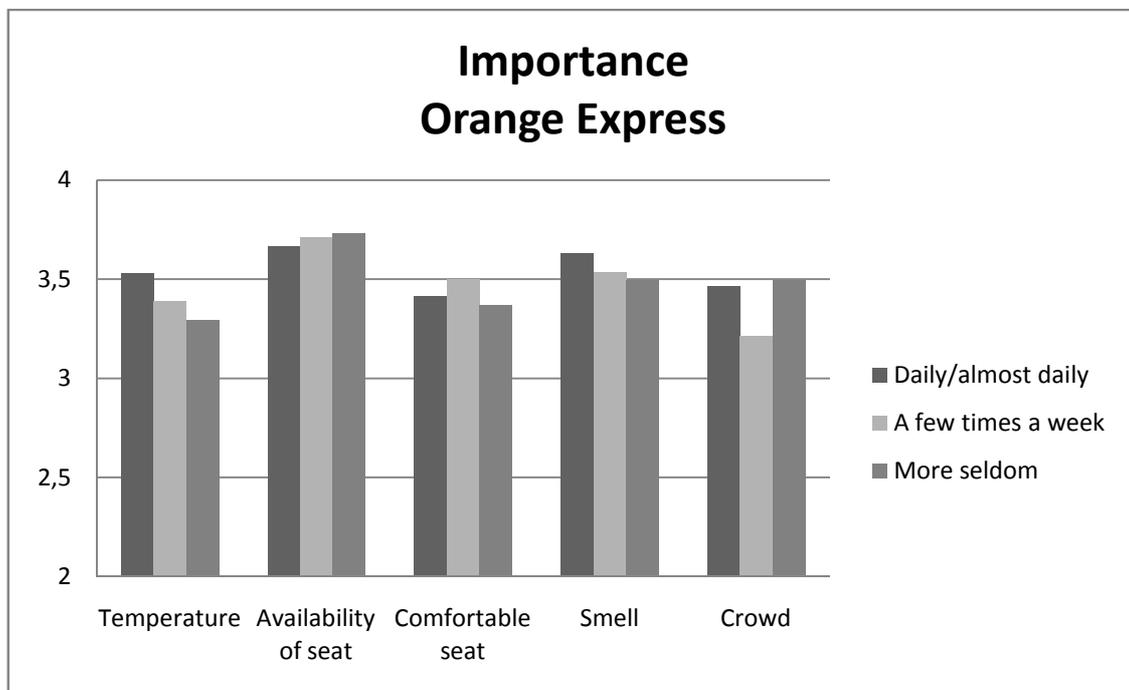


Figure 4.10. Mean values of importance for comfort factors depending on travel frequency on board Orange Express. Note that the scale begins at two. This graph shows a selection of the studied comfort factors, result for all factors can be found in Appendix 8 (Figure 8.1).

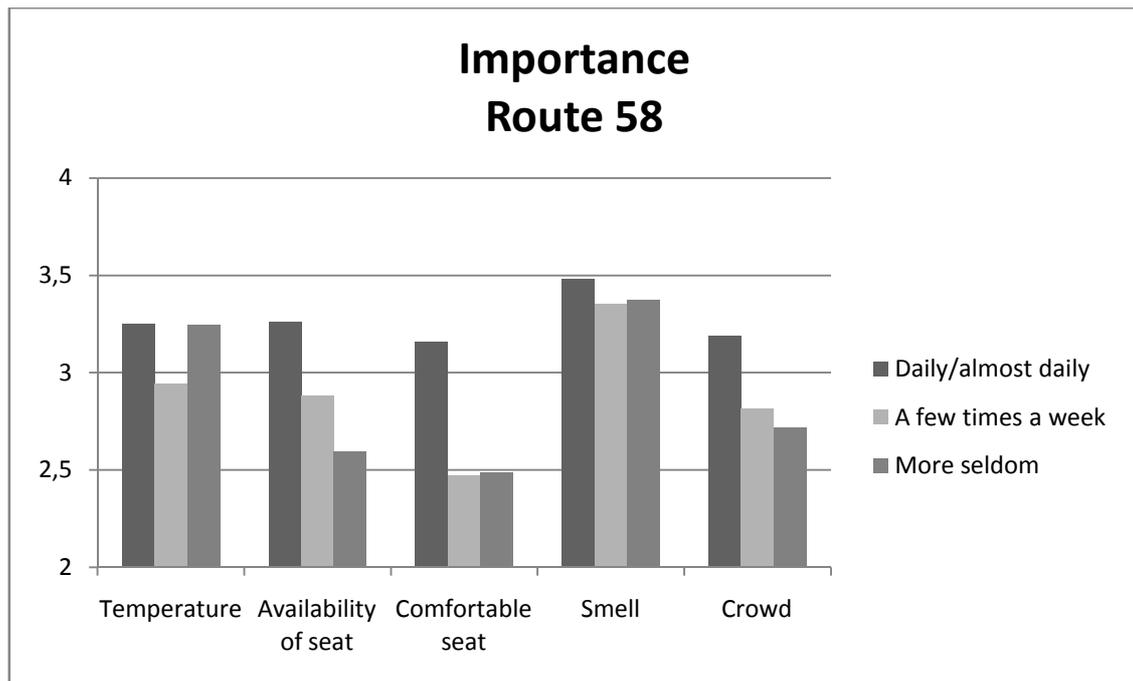


Figure 4.11. Mean values of importance for comfort factors depending on travel frequency on board route 58. Note that the scale begins at two. This graph shows a selection of the studied comfort factors, result for all factors can be found in Appendix 8 (Figure 8.2).

The distribution of grade is more even than the distribution of importance concerning the respondents travel frequency (Appendix 8). All respondents that travel more seldom on board Orange Express have given 'Availability of seat' the grade four (Appendix 8, Figure 8.3). Respondents travelling more often have given this factor a slightly lower grade. Furthermore, travel frequency has almost no impact on how satisfied the respondents are with the factors 'Comfortable seat', 'Smell' and 'Smooth driving' on board Orange Express and 'Illumination on board route 58' (Appendix 8, Figure 8.3 & Figure 8.4).

4.2.6 Valuation of comfort factors depending on car option

The respondents were asked to fill in whether they have had the opportunity to go by car instead of by bus for their trip when they answered the questionnaire. The mean values of importance are overall slightly higher among the respondents who had the opportunity to go by car instead of by bus which can be seen in Appendix 9 (Figure 9.1 & Figure 9.2). The only exception is 'Temperature' and 'Smell' on board Orange Express, and 'Temperature' on board route 58. Furthermore, the relation between the mean values for both grade and importance is the same no matter if the respondents had an option or not. Among the respondents on board Orange Express, it was 'Availability of seat' that received the highest mean value of importance. The largest difference in mean value of importance was found on 'Smooth driving' (Figure 4.12).

Considering the respondents on route 58, there are two comfort factors that stands out by having mean values of importance that differs somewhat more than the others considering whether the respondents had an option or not. These factors are 'Nice and clean' and 'Storage possibilities' (Figure 4.13). Other factors that respondents who

had an option value high are 'Smooth driving', 'Crowd' and 'Availability of seat'. Furthermore, Figure 4.13 shows that the difference between the mean values for 'Temperature' is close to none on route 58.

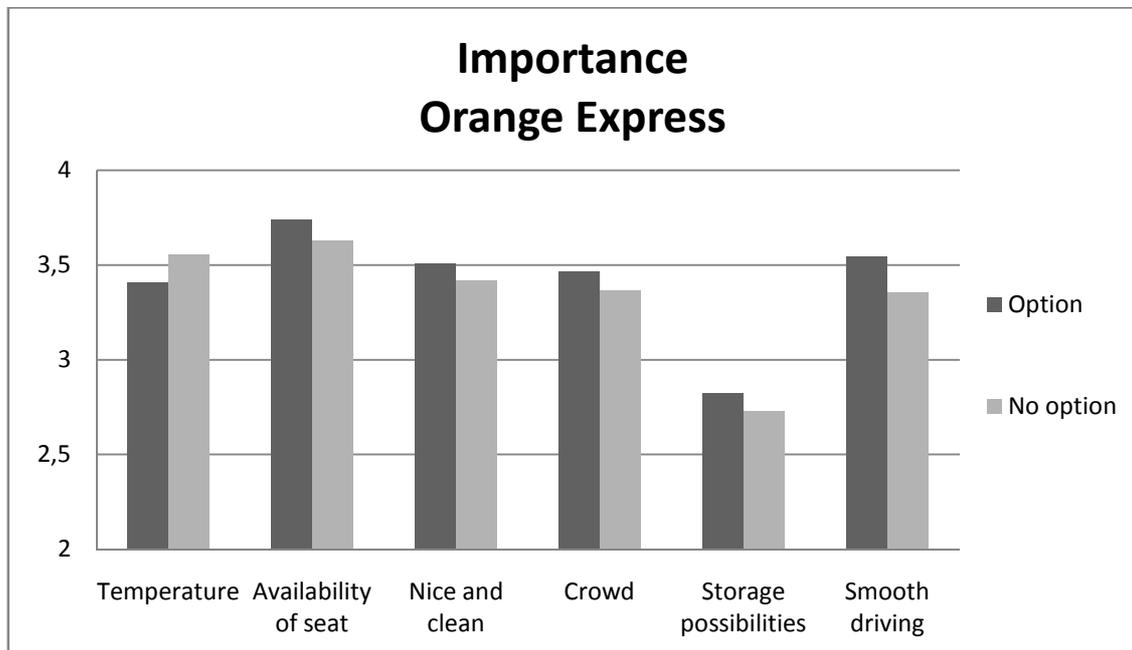


Figure 4.12. Mean values of importance for comfort factors on Orange Express depending on if the respondents had the opportunity to go by car for their trip or not. Note that the scale begins at two. Figure showing the result for all factors can be found in Appendix 9 (Figure 9.1).

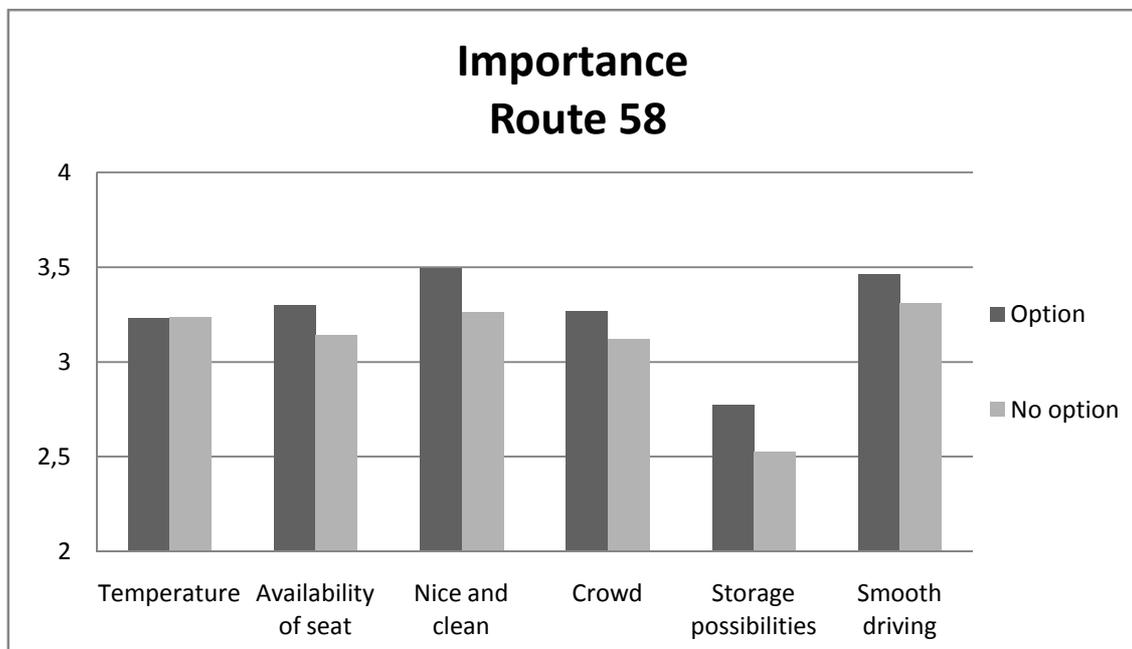


Figure 4.13. Mean values of importance for comfort factors on route 58 depending on if the respondents had the opportunity to go by car for their trip or not. Note that the scale begins at two. Figure showing the result for all factors can be found in Appendix 9 (Figure 9.2).

When it comes to the mean grades on Orange Express, it can be seen in Appendix 9 (Figure 9.3) that the mean grades for the respondents who had an option is slightly higher than for those who did not have an option. 'Temperature' is the only factor that has a higher mean grade among the respondents who did not have an option, even though the difference is small (Appendix 9, Figure 9.3).

Considering route 58, respondents who not had an option are more satisfied with the comfort standard on board than those who had an option (Appendix 9, Figure 9.4). The comfort factor 'Storage possibilities' stands out as having the largest difference in mean grade on route 58 which indicates that respondents who not had an option are more pleased with the 'Storage possibilities' than those who had an option for their trip. There are also several factors where there is almost no difference in mean value of grade considering the option to go by car instead of by bus. These comfort factors are 'Smooth driving', 'Nice and clean' and 'Temperature' (Appendix 9, Figure 9.4).

4.2.7 Willingness to pay for increased comfort

Close to ten percent of the respondents on both Orange Express and route 58 answered that they were willing to pay more for their bus trip in order to get higher comfort on board (Figure 4.14 & Figure 4.15). By studying the respondents' comments at the end of the questionnaires (Appendix 12 & Appendix 13), it was found that many thought that public transport already is too expensive. Several respondents commented that they thought that good comfort should be included in the current ticket price.

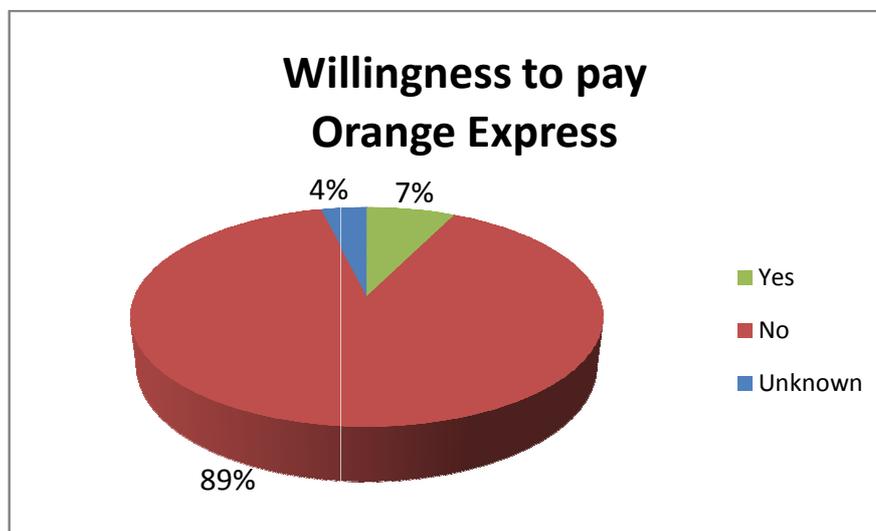


Figure 4.14. Willingness to pay for increased comfort on board Orange Express.

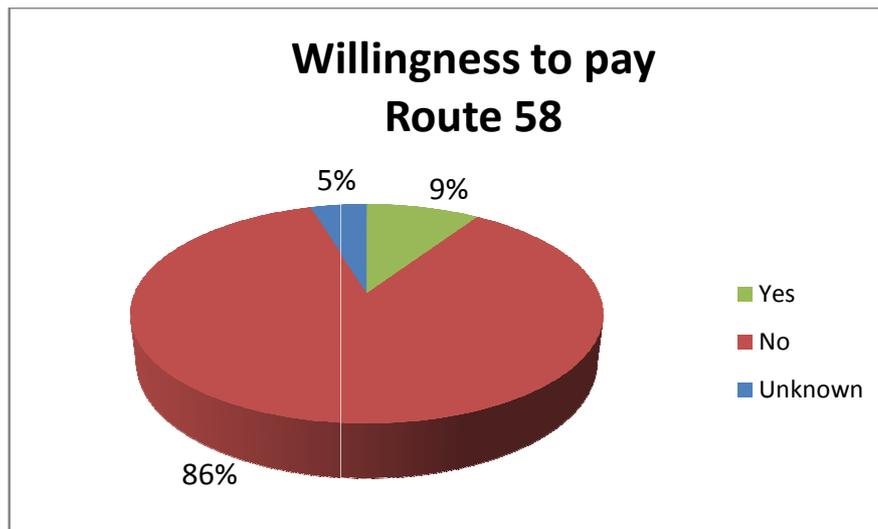


Figure 4.15. Willingness to pay for increased comfort on board route 58.

4.2.8 Comparison with the national evaluation of customer satisfaction

As mentioned in Chapter 2.3.2, a survey performed by the Swedish Public Transport Association named *Kollektivtrafikbarometern* has investigated the customer satisfaction of two comfort factors; 'Comfortable seat' and 'Nice and clean'. Questions about the standard of these two factors are asked in the on board study as well (Chapter 3.2). The questions in *Kollektivtrafikbarometern* are asked to passengers between the age of 15 and 75 years old that travels at least once a month with public transport. The respondents who travel by bus in the City of Gothenburg were selected than selected from *Kollektivtrafikbarometern*. In order to compare the data from *Kollektivtrafikbarometern* with the on board study, the results for the respondents with these features was selected from the questionnaire survey as well. However, the answers in *Kollektivtrafikbarometern* are based on a five grade scale, where the amount of satisfied customers is based on the share of respondents that selected the two highest grades, grade four and five. In the on board study, a four grade scale was used, and hence the customer satisfaction is based on the share of respondents that answered grade three and four. This difference should be kept in mind when comparing the results of the customer satisfaction between the two surveys.

When comparing the importance of the two comfort factors investigated in *Kollektivtrafikbarometern* from year 2009 with the rest of the comfort factors in the on board study, it shows that these two factors have not received the highest mean value of importance. On Orange Express, 'Comfortable seat' is the fourth least important comfort factor and it is graded as third best. 'Nice and clean' is the fifth most important, and has the fourth worst value when it comes to grade (Figure 4.2). On route 58, 'Comfortable seat' is seen as the third least important of the comfort factors, and the standard of the factor is graded as the fifth best. The factor 'Nice and clean' is the third most important of the comfort factors, but the second worst when it comes to grade (Figure 4.3).

When comparing the results of the two comfort factors in Kollektivtrafikbarometern with the result for these factors in the on board study one can clearly see that the satisfaction of the two factors is lowest in Kollektivtrafikbarometern. In the on board study, the customer satisfaction of 'Comfortable seat' and 'Nice and clean' is above 80 percent, while it in Kollektivtrafikbarometern is about 50 percent. (Figure 4.16 & Figure 4.17).



Figure 4.16. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern of the factor 'Comfortable seat'. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.



Figure 4.17. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern of the factor 'Nice and clean'. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.

It can be concluded that women are more satisfied with the current standard of 'Comfortable seat' and 'Nice and clean' than men in both Kollektivtrafikbarometern as well as in the on board study (Appendix 10, Figure 10.1 & Figure 10.2). The result from Kollektivtrafikbarometern is also similar to the on board study concerning the distribution between the age categories considering the factor 'Nice and clean' (Appendix 10, Figure 10.4). Furthermore, the relation is not the same for 'Comfortable seat' concerning age (Appendix 10, Figure 10.3). In Kollektivtrafikbarometern, the most satisfied respondents are between the age of 15 and 24 years old while in the on board study, passengers older than 60 years are the most satisfied group. In fact, the customer satisfaction for Orange Express in this age group is 100 percent. The customer satisfaction in this age group is 100 percent for 'Nice and clean' as well. In both Kollektivtrafikbarometern and the on board study the respondents were asked to answer how often they travel with public transport. All of the respondents that travel with public transport sometimes a month and answered the questionnaire on board route 58 are satisfied with 'Comfortable seat'. The relationship between the travel frequency and the customer satisfaction on route 58 is more similar to Kollektivtrafikbarometern than Orange Express (Appendix 10, Figure 10.5 & Figure 10.6).

4.2.9 Distribution of answers

The distribution between the four answer alternatives considering the degree of importance is illustrated in Figure 4.18 and Figure 4.19 respectively. It can clearly be seen that more respondents value comfort as less important on route 58 than on Orange Express. For route 58, the distribution is more equal between the two lower values ('Unimportant' and 'Quite unimportant') and the two higher values ('Quite important' and 'Very important'). The factor that received the highest value ('Very important') the most times on Orange Express is 'Availability of seat'. On route 58, the factor with the highest mean value of importance, 'Smell', also received the highest value ('Very important') the most times. As described in Chapter 4.2.1, 'Storage possibilities' was the factor which received the lowest mean value of importance on both routes. On Orange Express, more respondents voted this factor as unimportant compared to the other factors (Figure 4.18). On route 58, 'Storage possibilities' together with 'Illumination' received more votes on the two lower values ('Unimportant' and 'Quite unimportant') than the other factors (Figure 4.19).

The distribution between the four answer alternatives considering the current comfort standard (grade) has also been compared and can be found in Appendix 11. The relationship between the grades for the two routes is quite similar. The two higher grades ('Partly agree' and 'Fully agree') received more votes than the two lower grades ('Partly disagree' and 'Fully disagree').

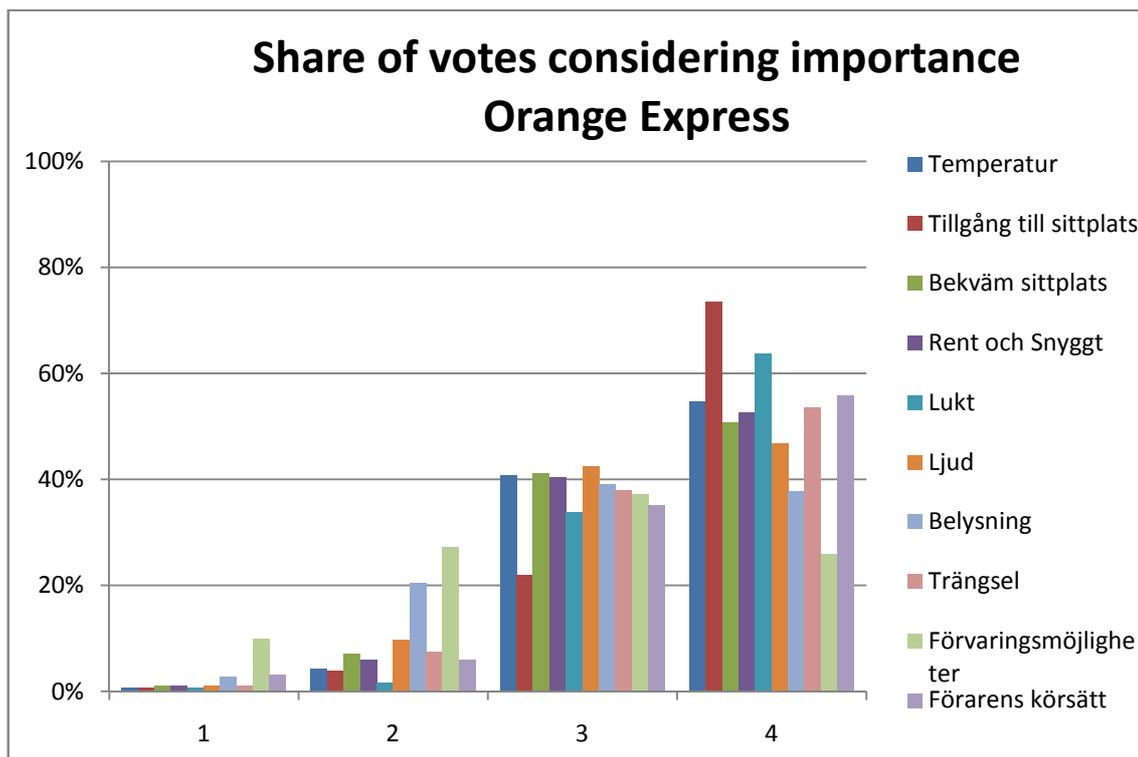


Figure 4.18. Distribution of the share of votes on each level of importance for the comfort factors on Orange Express.

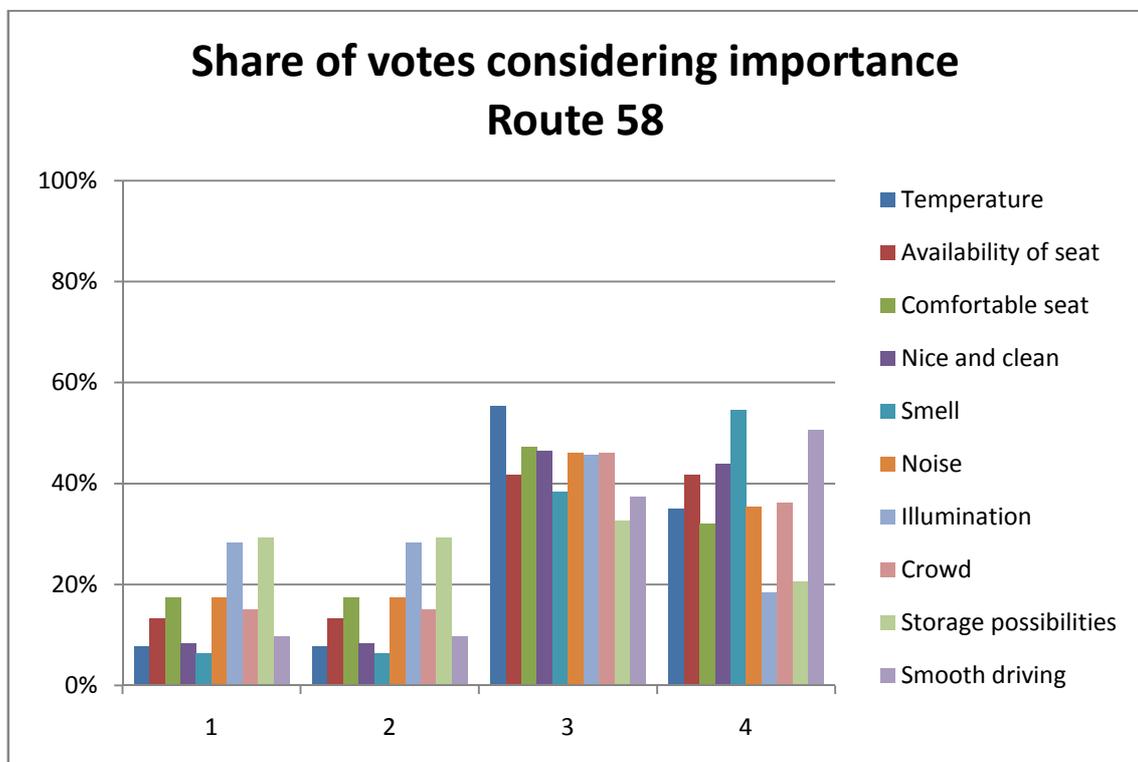


Figure 4.19. Distribution of the share of votes on each level of importance for the comfort factors on route 58.

4.3 Output from qualitative interview

As mentioned earlier in Chapter Performance 3.3.1, the qualitative interview participants were selected because they had answered in their questionnaire that they would have had the opportunity to go by car instead of by bus. In the interviews, the participants were asked the same question considering their most recent bus trip. Five of the eight participants answered that they would have had the opportunity to go by car for their most recent bus trip. The reason why they chose to go by bus instead of by car varied among the participants. The most common reason was that it is convenient. Other mentioned reasons were that it is cheap and environmentally friendly. One of the participants answered following;

“It is easier to go by public transport. I often get stuck in traffic jam when going by car. Public transport is both practical and fast.”

- Woman, 35 years

All of the participants related to a trip performed during a morning or an afternoon, with exception from one interview participant who related to a bus trip made during the evening. Further information about the participation distribution can be found in Chapter 3.3.2. Additional findings from the interviews are presented below. The presentation follows the different parts of the trip described in Chapter 3.3.1.

Gathering of information

Most of the participants had planned their trip the day before by using Västtrafiks' travel planner online and they all received the information that they needed. A few had used a traditional printed timetable. One of the participants that used the timetable described that she used it to find information about when the bus was leaving and which bus stops she would travel between. There was also one participant who did not plan the trip before travelling since she usually travels that route.

Point A to the bus stop

One participant described that he drove the car between his home and the bus stop last time he travelled by bus. The distance between his home and the bus stop was about two kilometres. He parked the car on a park and ride location and mentioned that the parking lot is too small and that there often are no available parking spaces.

The other participants walked to the bus stop and most of them had to walk for about 10 minutes. One man commented his 10 minute walk by saying that it is convenient and close to walk to the bus stop. They did all feel safe when walking to the bus stop but one woman comments that it is often slippery during winter time.

Wait at the bus stop

The waiting time at the bus stop varied between three and six minutes for the interview participants. All of them were pleased with their waiting time.

Boarding

One of the participants said that the bus stop was crowded and that there were many people boarding and alighting the bus at the same time. The other participants did not experience difficulties when boarding the bus even though there were other passengers boarding and alighting the bus at the same time.

On board

Overall, the participants were satisfied with the time spent on board during their most recent bus trip. They felt safe during the trip and participants who had travelled on board a bus equipped with safety belts answered that they had used them. A few participants answered that the bus driver drove too fast. On the other hand, there was one woman who said that the bus drove slowly, but she commented it by saying that the bus probably kept the speed limit. Several interview participants said that they were pleased with their trip because it went fast and the bus followed the timetable.

When travelling by bus for a longer time, availability of seat was most important according to the interview participants. One participant described what she thinks is important when spending long time on board like this;

“It is important to get a good seat, and by that I mean to sit high where I can see what happens on board. I also prefer to have a seat where I am facing the driving direction.”

- Woman, 40 years

Other things that came up during the interviews considering what is important when travelling for a longer time were the importance of good air quality, which one participant describes as not too hot together with good air conditioning. One woman answered;

“When travelling for a longer time, I don’t want it to be too hot on board. I get nauseous when it is too hot. I also get nauseous when the windows are dirty and when they are damaged by moisture.”

-Woman, 25 years

When it comes to travelling by bus when carrying a larger luggage, several participants said that they preferred to travel with the modern trams in the City of Gothenburg instead of by bus. One participant thought that the difficulty by carrying larger luggage when travelling by public transport is to bring it to the bus stop. Two participants said that they chose to go by car when they have larger luggage.

Alighting

Most of the participants could leave the vehicle without difficulties. Participants who travelled on board crowded buses had trouble getting off the bus. One man who travelled with Orange Express during his most recent bus trip experienced difficulties when leaving the bus;

“I have no problems boarding the bus, but the stairs are too steep when I am leaving the bus. The handles are weird and give me no support.”

-Man, 67 years

The bus stop to point B

The participants were overall pleased with their experience considering the stretch between the bus stop and the end point for their trip. The remarks that came up were concerning safety. One participant had to cross a road that was missing a proper pedestrian crossing. Another participant feels unsafe when walking home in the dark. A third participants said the following;

“The walking path is not very pleasant. It is dirty and I have to pass some stairs where it is unpleasant. I would not walk there alone when it is dark.”

-Woman, 40 years

Interchange

Three of the participants had to change transportation mean in connection to their most recent bus trip. Two participants changed from bus to tram and they thought that the interchange functioned well. They received the information that they needed and none of them had to wait long before the tram arrived. However, one of the participants had to run over the tram tracks to catch the tram in time. The third participant arrived to the Gothenburg Central Station by train and then changed to route 58. She thought that it was acceptable to wait 20 minutes that time because if the train would have been late, the waiting time was okay.

5 Analysis and discussion

In the following chapter, the results and performances from the three methods will be analyzed and discussed. However, the main focus in this chapter is on the on board study.

5.1 Focus group

Most of the factors that came up during the focus group meeting were included in the questionnaire survey as well. Air quality was discussed during the meeting but as it can be associated to other subjective means, such as smell and temperature, it was left out of the questionnaire. Furthermore, ventilation is also well connected to air quality. However, the standard of the ventilation on board can be investigated by asking the bus operator about how the bus is ventilated, instead of by studying the passengers' perception of the ventilation.

If more than one focus group had been conducted, more input to the questionnaire would have been received, and hence the questionnaire could have been improved. Another remark is that the participants probably were influenced by the previous discussions during the focus group meeting when ranking the factors.

5.2 On board study

The respondents on board Orange Express gave the comfort factors a higher grade and considered them as more important compared to the questionnaire respondents on route 58. The respondents on Orange Express are generally spending more time on board which can be a reason to why they think that the comfort factors are more important (Table 3.4). However, this fact does not explain why the comfort factors received higher mean grades on Orange Express than on route 58.

The largest difference between the routes considering mean grades is found for the comfort factors 'Nice and clean' and 'Smooth driving' (Appendix 3, Figure 4.1). Considering the difference in mean grade for 'Nice and clean', it has to be remembered that route 58, in average, has more passengers on each departure which might lead to a less clean vehicle (Chapter 3.2.1). Route 58 has shorter distances between the bus stops and is also driving in the city centre while Orange Express is mainly driving on more straight roads on the countryside and on larger roads into the city centre. This might explain why 'Smooth driving' received higher mean grade on Orange Express than on route 58. It also has to be remembered that route 58 is an articulated bus. The difference might also depend on which bus company that operates the route, since the studied routes not have the same operator (Chapter 3.2.1).

It has to be taken into account that the respondents were asked to consider the actual route as a whole when valuating the importance of the comfort factors. Considering the grades, on the other hand, the respondents were asked to consider the standard on board the vehicle that they were travelling with when answering the questionnaire. This means that the respondents probably considered earlier experiences to a larger extent when valuating the importance than when putting grades on the current standard. Furthermore, when answering the questionnaire, the respondents had in most cases not travelled their whole stretch with the route. If the respondents would have been asked at the end of their journey instead, the result might have been different.

Passenger satisfaction

The on board study was performed in March 2010, right after a cold winter with a long period of heavy snow fall. There was an extent dissatisfaction considering how the public transport system had functioned in general in the region during the past winter. However, many respondents commented that both route 58 and Orange Express were functioning much better at the time when the on board study was performed compared to the past winter months. Several respondents on route 58 commented that there had been cancelled departures (Appendix 13). The large number of cancelled departures (Chapter 3.2.3), especially on route 58, might also have influenced the respondents' attitude towards public transport, and thereby also their valuation of comfort on board.

Valuation depending on age and travel time

The on board study showed that the older respondents in general value the comfort factors as more important than the younger respondents (Appendix 7, Figure 7.1 & Figure 7.2). People have different needs at different times in life which probably explains why older respondents tend to value comfort higher. Two of the factors that received a higher mean value of importance from the older respondents are 'Illumination' and 'Availability of seat'. A factor like 'Illumination' can also be related to age as many peoples' eyesight gets reduced when getting older and they are therefore in need of increased lightning on board when for example reading. Furthermore, 'Illumination' received a quite wide spread considering the distribution of votes on importance on route 58 (Figure 4.18). Orange Express received more votes on the higher values of importance (Figure 4.19). The reason why passengers on board Orange Express think that 'Illumination' is important could be because many of the passengers travel during a longer time than the passengers on route 58 (Figure 4.4 & Figure 4.5). One probable reason to the distribution considering the degree of importance could be that passengers that travel for a longer time want to use their time well. Activities that were observed during the on board study were for example sleeping and reading. A few questionnaire respondents commented that they would like the bus driver to turn off the light during departures early in the morning (Appendix 12). It is however difficult to meet the different demands from the users considering 'Illumination'.

The on board study showed that the importance of 'Availability of seat' increases with age on both routes (Appendix 7, Figure 7.1 & Figure 7.2). It is likely to believe that younger people, in general, have easier to stand during a trip because they have better physique than older people. The factor which received the highest mean value of importance among the youngest group of respondents (between 15 and 24 years old) was 'Smell'. Furthermore, 'Smell' received a lower mean value of grade than 'Availability of seat' among the youngest group of respondents (Appendix 7, Figure 7.3 & Figure 7.4). In order to get the young people to continue travelling by public transport when they get older as well, it is important to meet their needs and be aware of that the needs vary through life.

Valuation of the seats on board

'Availability of seat' was given the highest mean value considering importance among the passengers on board Orange Express. This could be because they generally travel during a longer time (Table 3.4). 'Availability of seat' is more important on longer trips on both routes (Figure 4.4 & Figure 4.5). It also has to be considered that the bus types used on Orange Express differs from the ones used at route 58. The buses on route 58 have room for more passengers than Orange Express and are built to have more people standing in the aisle as well (Chapter 3.2.1). The bus types described in Chapter 3.2.1 are the average types operating on the routes. However, a few of the studied departures were operated by other bus types. As this only happened a few times, the impact on the result is insignificant.

When performing the questionnaire survey, it was noticed that almost all passengers that answered the questionnaire had a seat. This does however not represent the actual situation concerning 'Availability of seat'. It is therefore not possible to draw any conclusions about the availability of seats on board. This is also the reason why the grade of the factor 'Availability of seat' is not given much attention in the result. Since almost all respondents had a seat, one could have assumed that the mean grade for the factor 'Availability of seat' would be four or close to four on both routes. However, all respondents have not answered grade four on this question. Only among respondents in the category that travel more seldom than a few times a week, the mean value of grade is four. This can indicate that previous experiences have an impact on the perception.

There is a significant difference in both mean value of importance and grade between the routes considering 'Comfortable seat'. As seen in Appendix 4 (Figure 4.1 & Figure 4.2), the mean values are higher on Orange Express than on route 58. The vehicles are equipped with different types of seats which probably is the reason. Orange Express has softer seats with adjustable backrests (Chapter 3.2.1). It might also have an impact that a few seats on board route 58 are turned backwards which is experienced as unpleasant by some people. This problem was mentioned in the questionnaire comments (Appendix 13) and by one of the qualitative interview participants as well (Chapter 4.3).

Valuation of the storage possibilities

The valuation of 'Storage possibilities' is interesting as it is the comfort factor that received the lowest mean value of importance among the respondents on both routes. By looking at the distribution of votes, one can conclude that 'Storage possibilities' is the factor that received the widest spread of votes considering importance (Figure 4.18 & Figure 4.19). This is a factor that is very important to some of the passengers while it is not important to others. Furthermore, there are more passengers that gave it a lower grade on board route 58 than on board Orange Express (Appendix 4, Figure 4.2). Orange Express is equipped with shelves on which passengers can put their belongings. Route 58, on the other hand, has more space for strollers. Perhaps there are more passengers that want to bring different things on board when travelling with the local bus route than when travelling with the regional bus route. Another aspect is that route 58 in general is more crowded than Orange Express as it allows more people standing during the trip. It might be experienced as more inconvenient to bring luggage on board when the bus is crowded.

Valuation depending on gender

Considering the valuation between the genders, it was found that women considered all of the studied comfort factors as more important than men did on both routes (Figure 4.6 & Figure 4.7). The largest difference between the genders concerning mean values of importance on both routes was found on 'Storage possibilities'. An interesting remark is that 'Storage possibilities' on route 58 was the only factor that received a lower mean grade from the female respondents than from the male respondents (Figure 4.7). It might be the case that women tend to bring more luggage on board and therefore think that it is more important with 'Storage possibilities'. Orange Express received a relatively high mean grade by women concerning 'Storage possibilities'. Men and women probably have different demands concerning comfort as women in this study tend to think that comfort is more important and at the same time gave it higher grades than men did. Another reason could be that women have a more positive attitude towards public transport and therefore gave it higher grades. It is probably not comfort on board that is the crucial factor considering men's tendency to travel with public transport.

Valuation depending on car option

The results from the on board study do not show as significant difference in valuation between respondents who had the opportunity to go by car instead of by bus as one could have expected. One interesting remark is that the mean grades are slightly higher among the respondents who travelled with route 58 and did not have an option for their trip (Appendix 9, Figure 9.4). 'Storage possibilities' is the factor where the largest difference is found considering car option on route 58. One reason to this could be because bus passengers that have an option probably relates to the possibilities to store luggage and other objects in their car. However, people who need more space to store their luggage and have an option probably choose to go by car instead and have therefore not participated in this study. On Orange Express, on the other hand, the highest mean grades are received by the respondents that had an opportunity to go by car instead for their trip on almost all factors. The difference is however significant. As mentioned in Chapter (2.1.2), about two thirds of the public transport users have no opportunity to go by car. The share of questionnaire respondents who had no option to go by car for their trip on route 58 is more similar to the general share of public transport users than the respondents on Orange Express. Orange Express has a higher portion than the average share considering passengers who had an option for their trip (Table 3.6). The reason to this might be that the car possession often is larger on the country side and people that live in the city centre use public transport to a larger extent. However, the result from the on board study did not show any significant difference of the valuation whether the passengers had the option to go by car or not. That the distribution of respondents differ from the general distribution does therefore not have any significant impact. Furthermore, the question about whether the respondents have had the opportunity to use a car had a low response rate. The reason to this could be that they missed it or that they did not understand the question.

The willingness to pay for increased comfort on board

By reading the comments in the questionnaires, the question about willingness to pay for increased comfort was found to be the question that engaged and raised the most feelings among the participants. However, this question was placed right above the field for additional comments. Except from the price, many respondents commented that the most important factor is that the bus follows the timetable (Appendix 12 & Appendix 13). Over eighty percent of the respondents were not willing to pay more for increased comfort on board public transport. On the other hand, about ten percent were in fact willing to pay more (Chapter 4.2.7). This is an indication that on board comfort matters for these public transport passengers. However, it cannot be concluded how much more these respondents are willing to pay for comfort, since no figure were specified in the question. As no price was specified, the respondents might also have interpreted the question different. There is always a risk when asking about increasing the price since the respondents might be afraid that if they answer yes, the price will be increased. The intention with this question was to give an indication of how high comfort is valued. The high share of respondents that were not willing to pay more does hence not say that the respondents would be highly unsatisfied or stop travelling with public transport if the price were to be increased. Almost as many passengers were willing to pay more for increased comfort on Orange Express as on route 58. It has to be kept in mind that the respondents relate to different trips with different standard. Shown from the on board study, the comfort standard is lower on route 58 than on Orange Express. The passengers are also relating to different fares as it is more expensive to travel with regional buses than with local buses.

Valuation depending on travel frequency

As described in Chapter 2.1.2, lack of experience can lead to lower valuation since it could be difficult to value something that one do not have experience of. This does not correspond to the result from valuation of importance depending on travel frequency on Orange Express or route 58. The result from the on board study shows no trend concerning valuation and travel frequency.

The sample of respondents

It is necessary to know how well the sample of respondents represents the sample of all public transport users. When it comes to gender, the distribution is similar to the public transport users in general (Chapter 3.2.5). The large amount of younger questionnaire respondents corresponds to the general distribution of public transport users (Chapter 3.2.5). It is also known that elderly people are frequent public transport users (Chapter 3.2.5). However, the sample size of this group is small in the on board study. In order to get a fully representative sample of the public transport users it would have been preferred to have a larger share of this group. The respondents over the age of 60 years have graded almost all factors more important than the younger respondents. It is therefore likely to believe that if the share of elderly was increased the mean value of importance of the comfort factors would be increased.

Comparison to the national survey of customer satisfaction

As mentioned in Chapter 2.3.2, there are only two comfort factors investigated in the national survey Kollektivtrafikbarometern; 'Comfortable seat' and 'Nice and clean'. This two factors are however not the comfort factors that received the highest mean value of importance in the on board study. Especially 'Comfortable seat' received a low value. Instead, it might be of more interest to investigate how satisfied the public transport users are with the factors that received higher mean value of importance, such has 'Availability of seat', 'Smooth driving', 'Smell' or 'Temperature'. 'Availability of seat' is a factor that quite easily can be evaluated by looking at statistics of number of seats in the vehicle and the number of passengers on board. The factor 'Smooth driving', received significant lower grade than both 'Comfortable seat' and 'Nice and clean' on route 58, and the value is also lower on Orange Express. The customer satisfaction of 'Smooth driving' could be increased by for example educating the bus drivers. It also has to be considered that the way of driving can be a result of a too tight time schedule. Another measure could be to give the bus own lanes in order to decrease the impact from the other traffic. The experience of 'Smell' on board is likely to influence the experience of 'Nice and clean'. 'Smell' is given an even higher mean value of importance than 'Smooth driving', and it could therefore be a good idea to ask about this factor as well in the national survey. Furthermore, 'Temperature' is a factor which can be difficult to adjust in order to make all passengers satisfied.

When it comes to the comparison between the on board study and Kollektivtrafikbarometern (Chapter 4.2.8), it has to be considered that Kollektivtrafikbarometern is a national survey while the on board study is limited to the Gothenburg region. As the on board standard probably varies throughout the country, the passengers might have different valuations considering comfort.

The questions in the on board study were asked on board about the current trip, while the questions in Kollektivtrafikbarometern were asked afterwards by phone about the general impression of public transport. This has to be considered when comparing the on board study and Kollektivtrafikbarometern. Furthermore, it is important to keep in mind that the scale in Kollektivtrafikbarometern is from one to five, and in the on board study, the scale is from one to four. The respondents are forced to take a stand in the on board study, while they can choose an alternative in the middle in Kollektivtrafikbarometern.

Improvements to increase the comfort standard

It is difficult to point out which factors to improve in order to increase the comfort standard on board Orange Express as all mean grades are quite similar (Figure 4.2). It could be a good idea by starting to improve 'Temperature', 'Smooth driving' and 'Crowd'. However, to make the passengers on route 58 more pleased, it is primary the factors 'Smooth driving' and 'Nice and clean' that should be improved. As mentioned earlier in the discussion, the customer satisfaction of the factor 'Smooth driving' could be increased by for example educating the bus drivers. Since 'Smooth driving' is considered as important, it should be kept in mind that the time schedule not should affect the driving behavior. On the other hand, there was one qualitative interview participant who mentioned that the bus driver drove too slow (Chapter 4.3). To

improve the satisfaction with 'Nice and clean', it is a good idea to clean the vehicle more often. This will at the same time improve the 'Smell' on board. One solution could be to make a small stop during the operating hours and make a quick refreshment on board the vehicle. The question is whether this is a reasonable action. Another aspect is the presence of scrawl. The presence of scrawl seemed to be more common on board route 58 than on Orange Express, but both routes appeared to have been quite spared from scrawl when performing the on board study. The intention of the study was to investigate the most important comfort factors. The selection of the factors is based on the literature study together with the focus group. Even though effort has been put into selecting the most interesting comfort factors, there might be other factors that are more important to the passengers.

5.3 Qualitative interview

The qualitative interviews were based on that the participants remembered their most recent bus trip. This did not cause any problems as the participants seemed to remember it. Several interesting distractions that the participants had experienced were identified during the interviews. The importance of the availability of seats, especially on longer trips, could be concluded from the on board study and is strengthened by several of the qualitative interviews. It came up during one interview that the main problem when bringing a large luggage on board a bus is to carry the luggage to the bus stop, not to store the luggage on board. Nearby bus stops are therefore to prefer in order to make people who usually travel with public transport to do that when they are carrying a luggage as well.

The interchange appeared from the qualitative interviews to be the most dangerous part of the trip. One interview participant described an interchange where she put herself in a dangerous situation by running over tram tracks in order to catch a tram. However, she did not seem to be aware of the danger she put herself in. Walk alone in the dark did however appear as a situation that several interview participants avoided.

Some of the interview participants mentioned that they get nauseous when travelling by bus. This especially occurs when the temperature on board is high, if it is not clean on board, when the way of driving is poor as well as when it smells bad on board.

There were more women participating in the qualitative interviews as they were more willing to participate. Therefore, it would have been desirable to have more male participants in order to receive a wider range of experiences. If more people would have been participating in the qualitative interview, more user experiences would have been gathered. Another factor that needs to be considered is that the respondents might have been influenced by the questions in the on board study. As for the on board study, the participants thereby already are users of the public transport system.

Several distractions were identified during the interviews and the most of them could be related to the time spent on board the bus. However, none of the qualitative interview participants had experienced something extraordinary during their most recent bus trip. This might be a reason why the other parts were quite spared from distractions in this study. There are probably more quality related problems that a bus passenger can encounter during a bus trip. It also has to be considered that the interviews were held a while after the most recent bus trip had been performed. The respondents might therefore have forgotten interesting events that occurred during their trip. The quality of a trip from door to door could therefore be investigated

further. One way could be to let users take notes in connection to their trips in order to catch all eventual distractions. Altogether, it can be concluded that bus passengers consider comfort on board buses as important.

6 Conclusions

The project showed that there are several aspects that influence the total travel experience when travelling by bus. When passengers identified distractions during their trip, the main part was related to the time spent on board the bus.

People have different opinions which make it difficult to please everyone. However, this project has shown that most of the respondents are quite satisfied with the current comfort standard on board. It can also be concluded that the main part of the respondents consider all of the ten studied comfort factors as quite important or important on both routes. About ten percent of the respondents in the on board study were willing to pay more for increased comfort on board.

Furthermore, the on board study showed that both the mean value of importance and grade are higher on board the regional bus route (Orange Express) than on board the local bus route (route 58). Considering the degree of importance, the distribution of votes has a wider spread on route 58 than on Orange Express. Which comfort factor that respondents think is most important differs between the two routes. On board Orange Express, the availability of seats was shown to be the most important factor out of the ten studied factors. The passengers on board route 58 think that the most important comfort factor is that the smell on board is pleasant. Concerning the current standard of comfort on board, the respondents on both routes are most satisfied with the availability of seats, the illumination and that it is not too crowded on board. The factor which the respondents are least satisfied with is the chauffeurs' way of driving, especially on route 58.

The passengers' travel time appeared to have an increased impact on how important it is to have a seat and that the seats are comfortable. There is also a clear trend showing that women consider comfort as more important than men. It can also be concluded that women are more satisfied with the current comfort standard on board the routes. Furthermore, the result showed that the importance of comfort increases with age. No trend was found considering how frequent the passengers travel with public transport. Finally, the on board study did not show a significant difference in valuation depending on whether the passengers had an option to go by car instead of by public transport for their trip.

Recommendations

Even though the respondents were quite satisfied with the comfort standard on board both routes, there are measures in order to further improve the comfort standard on board. To improve the comfort standard on board Orange Express, the bus should drive more smoothly. The temperature on board also has to be adjusted in order to satisfy the users, as well as having larger buses and a more frequent timetable in order to drive with less crowded buses. The measures to prioritize on route 58 are to clean the vehicles properly and more often as well as to drive more smoothly. To attract younger passengers, the smell on board should be prioritized. The most important aspect considering comfort among the older passengers is the possibility to sit during the trip. The two questions in Kollektivtrafikbarometern that can be related to on board comfort are not the factors that the bus passengers considered as most important in this project. The recommendation is instead to investigate the user satisfaction considering the temperature on board, the availability of seats, the smell on board or whether the bus drives smoothly.

Further investigations

This project has shown that passengers think that comfort on board buses is important. What could be further investigated is how important comfort on board buses is in relation to other quality factors. There might as well be other comfort related factors that are important to the bus passengers that have not been investigated in this project. It is also of interest to investigate if comfort is valued differently on board other public transport means. Furthermore, this project has not dealt with the economical issues which are crucial when deciding which measures to put in to improve the standard on board.

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APPENDICES

- Appendix 1 - Results from the national survey of customer satisfaction
- Appendix 2 - Questionnaire from the on board study
- Appendix 3 - Gap analysis
- Appendix 4 - Valuation of importance and grade
- Appendix 5 - Valuation depending on travel time
- Appendix 6 - Grade depending on gender
- Appendix 7 - Valuation depending on age
- Appendix 8 - Valuation depending on travel frequency
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- Appendix 12 - Comments from the questionnaires on board Orange Express
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Appendix 1 – Result of national survey of customer satisfaction

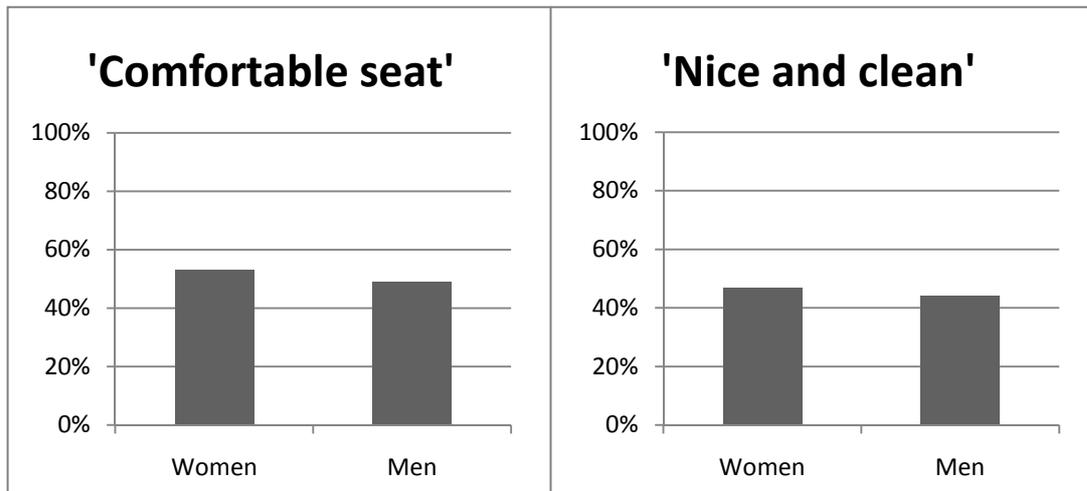


Figure 1.1. Customer satisfaction from Kollektivtrafikbarometern 2009, distributed between genders. Error margin: $\pm 5-7\%$ (Svensk kollektivtrafik, 2010c).

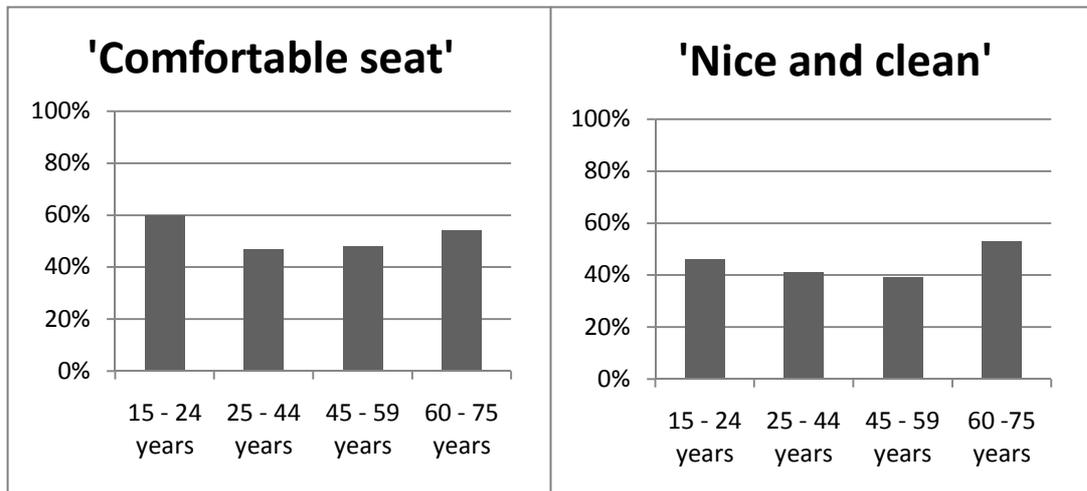


Figure 1.2. Customer satisfaction from Kollektivtrafikbarometern 2009, distributed between ages. Error margins: 15-24 years $\pm 10-14\%$, 25 years $< \pm 7-10\%$ (Svensk kollektivtrafik, 2010c).

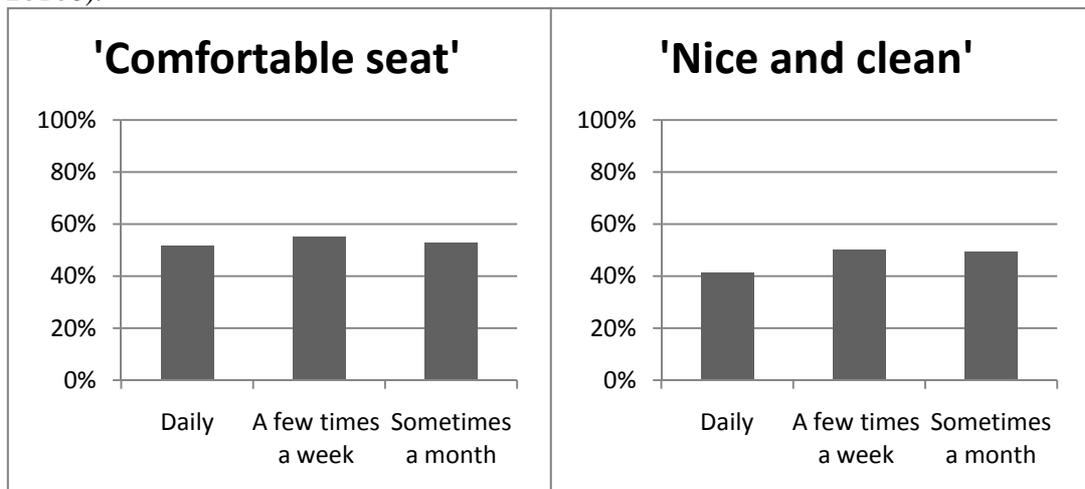


Figure 1.3. Customer satisfaction from Kollektivtrafikbarometern 2009, distributed between travel frequency. Error margins: 15-24 years $\pm 10-14\%$, 25 years $< \pm 7-10\%$ (Svensk kollektivtrafik, 2010c).

Appendix 2- Questionnaire from the on board study

Bäste resenär!

Vi undersöker hur bussresenärer värderar komfort ombord på fordonet. Vi behöver därför din hjälp för att kunna utföra denna undersökning! Fyll i enkäten under färden och lämna den till oss när du går av. Enkäten är en del av vårt examensarbete på Chalmers tekniska högskola och är ett samarbete med Trafikkontoret, Vägverket och Västtrafik.

Tack för din medverkan!

1. **Kön** Kvinna Man

2. **Ålder** år

3a. **På vilken hållplats steg du på bussen?**

3b. **På vilken hållplats planerar du att stiga av bussen?**

4. **Hur ofta reser du med kollektivtrafiken?**

Dagligen/nästan dagligen Någon/några gånger i månaden
 Några gånger i veckan Mer sällan

5. **Skulle du haft möjlighet att använda bil för den här resan?** Ja Nej

6. Om du enbart tänker på DEN HÄR BUSSLINJEN, hur VIKTIGT är det för dig att...	Oviktigt	Ganska oviktigt	Ganska viktigt	Mycket viktigt
...temperaturen är behaglig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...få sittplats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...sitta bekvämt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...det är rent och snyggt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...lukten är behaglig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...ljudnivån är behaglig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...belysningen är behaglig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...slippa trängsel ombord på fordonet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...det finns utrymme för bagage, barnvagn eller dylikt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...föraren kör mjukt och behagligt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

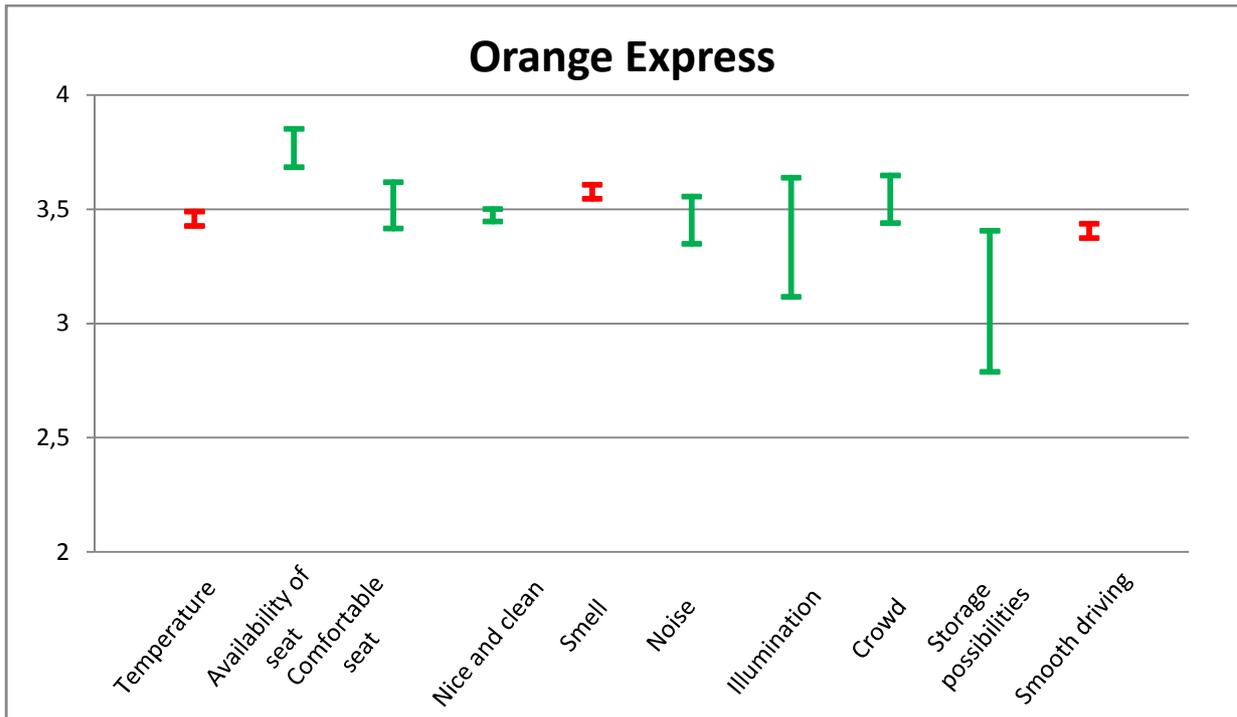


Figure 3.1. A gap analysis showing the differences between mean values of grade and importance considering each comfort factor on Orange Express. A green coloured gap means that the factor has received a higher mean grade than mean importance value. A red gap means the opposite; the factor has received a higher importance value than mean grade.

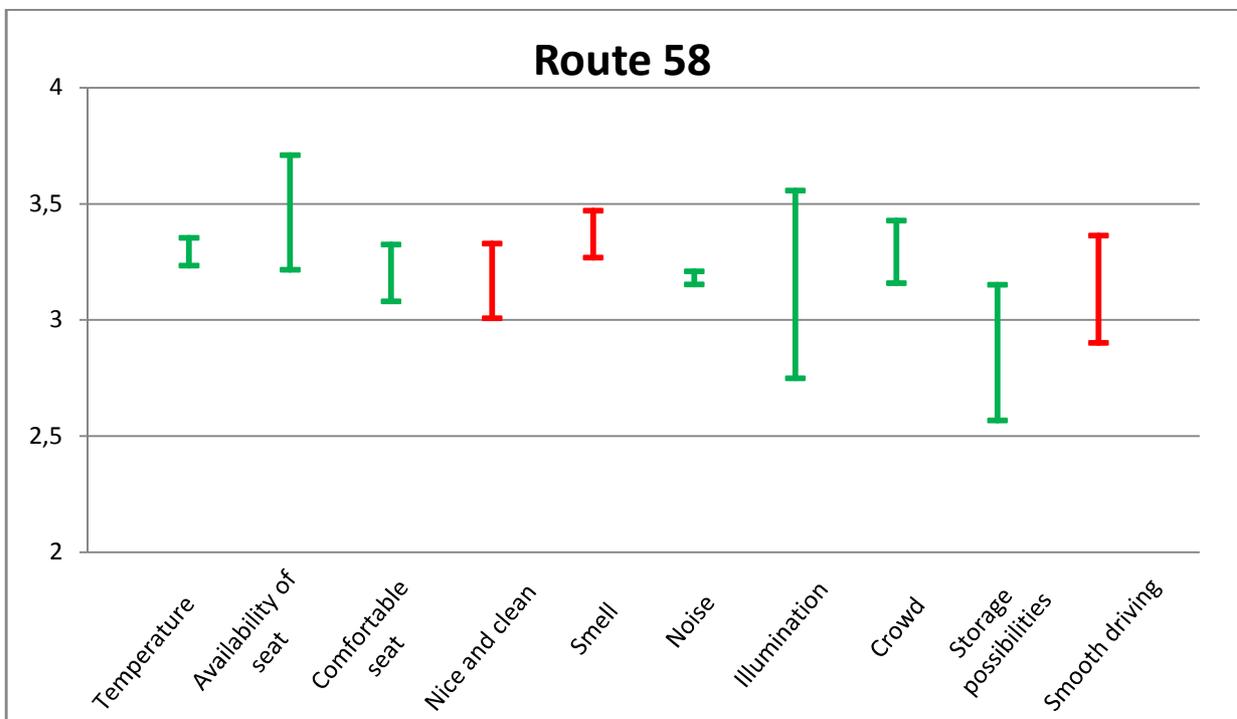


Figure 3.2. A gap analysis showing the differences between mean values of grade and importance considering each comfort factor on route 58. A green coloured gap means that the factor has received a higher mean grade than mean importance value. A red gap means the opposite; the factor has received a higher importance value than mean grade.

Appendix 4 – Valuation of importance and grade

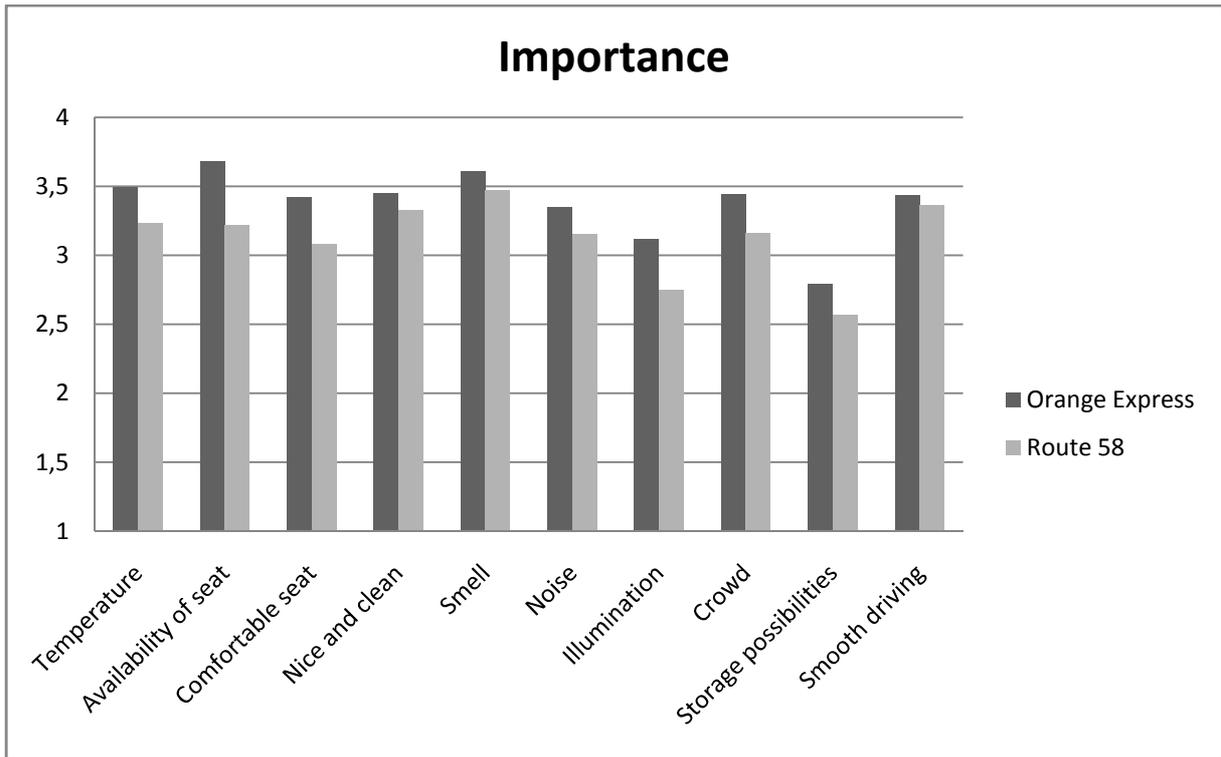


Figure 4.1. Mean values of importance for all comfort factors on Orange Express and route 58.

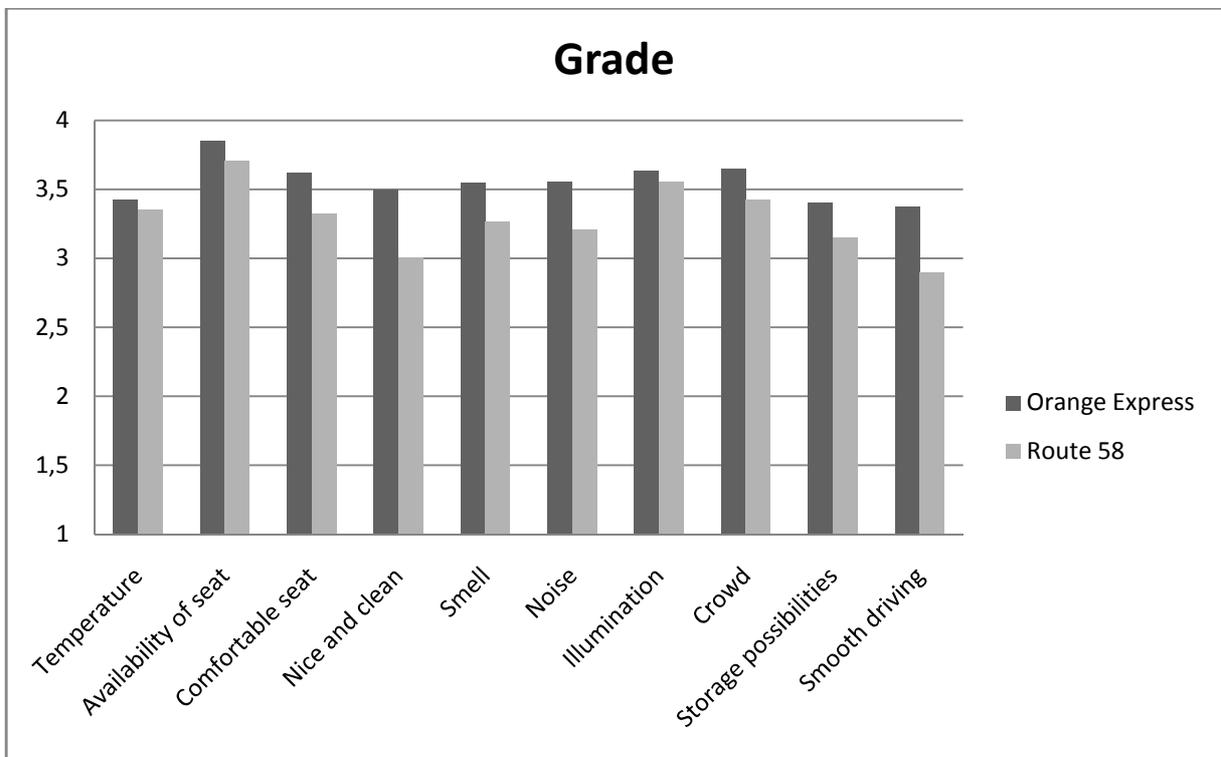


Figure 4.2. Mean values of grade for all comfort factors on Orange Express and route 58.

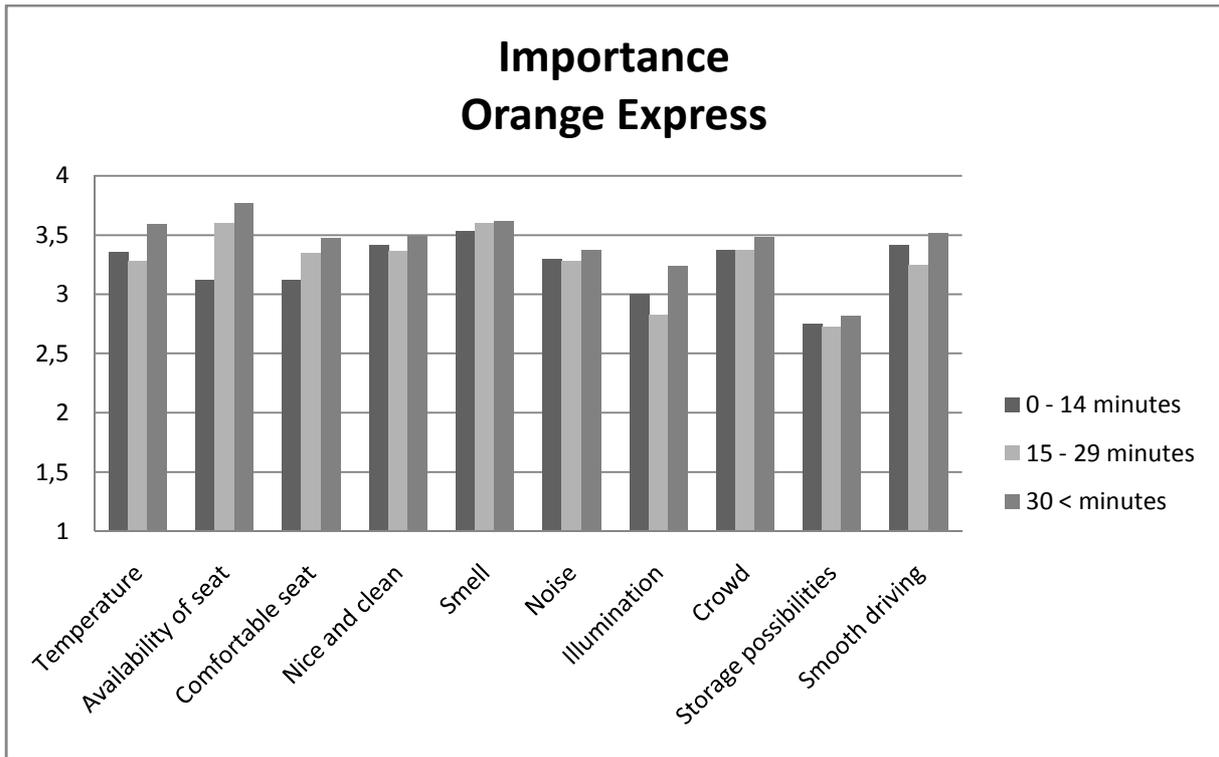


Figure 5.1 Mean values of importance for all comfort factors depending on travel time on Orange Express.

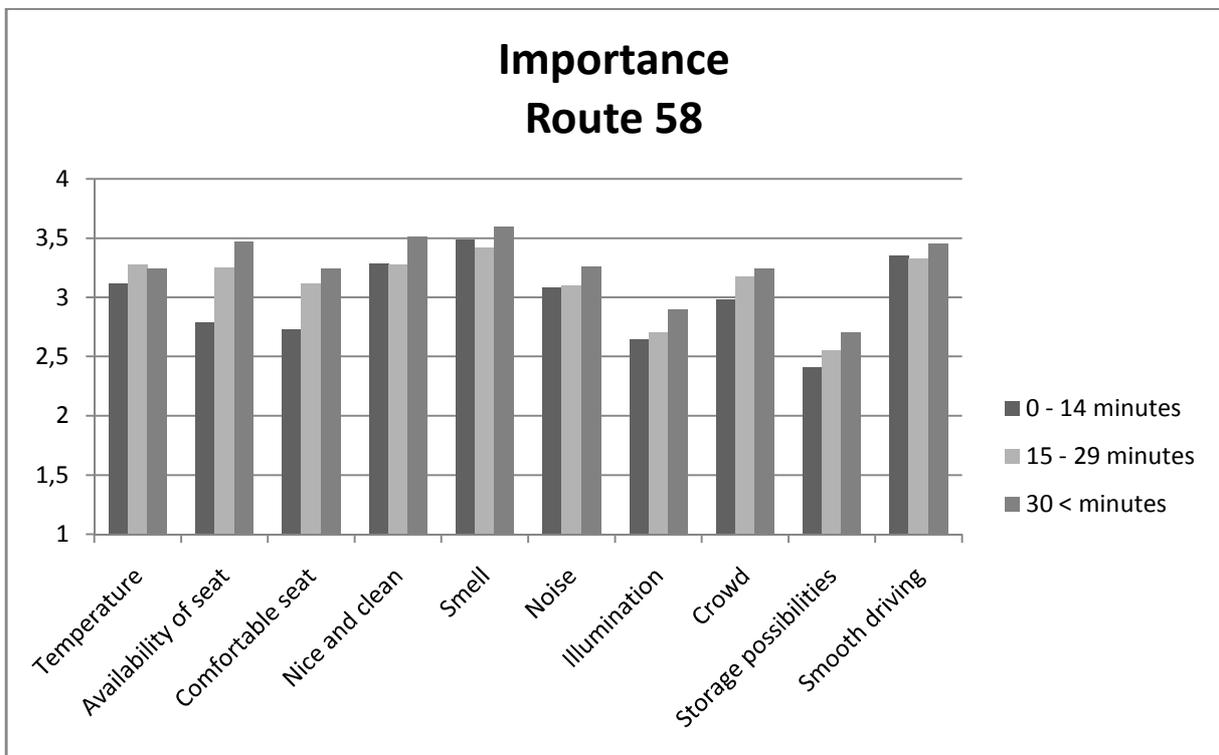


Figure 5.2 Mean values of importance for all comfort factors depending on travel time on route 58.

Appendix 5 – Valuation depending on travel time

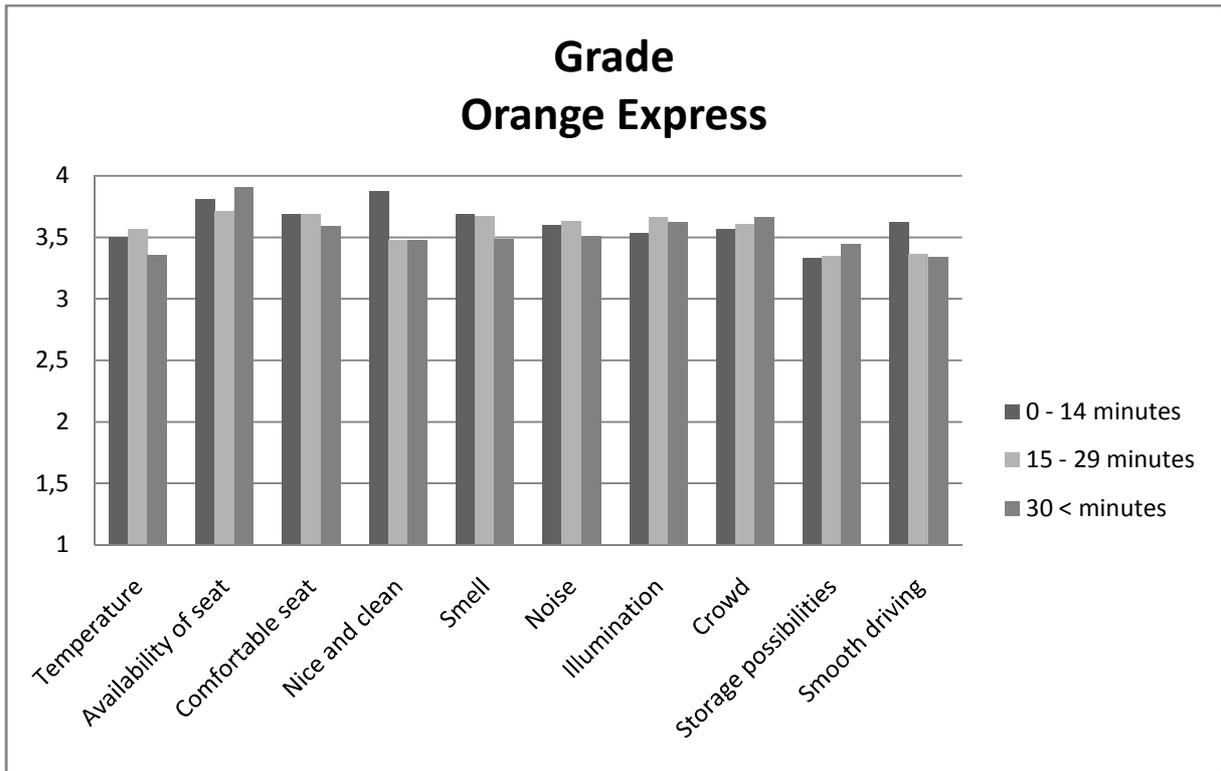


Figure 5.3 Mean values of grade for all comfort factors depending on travel time on Orange Express.

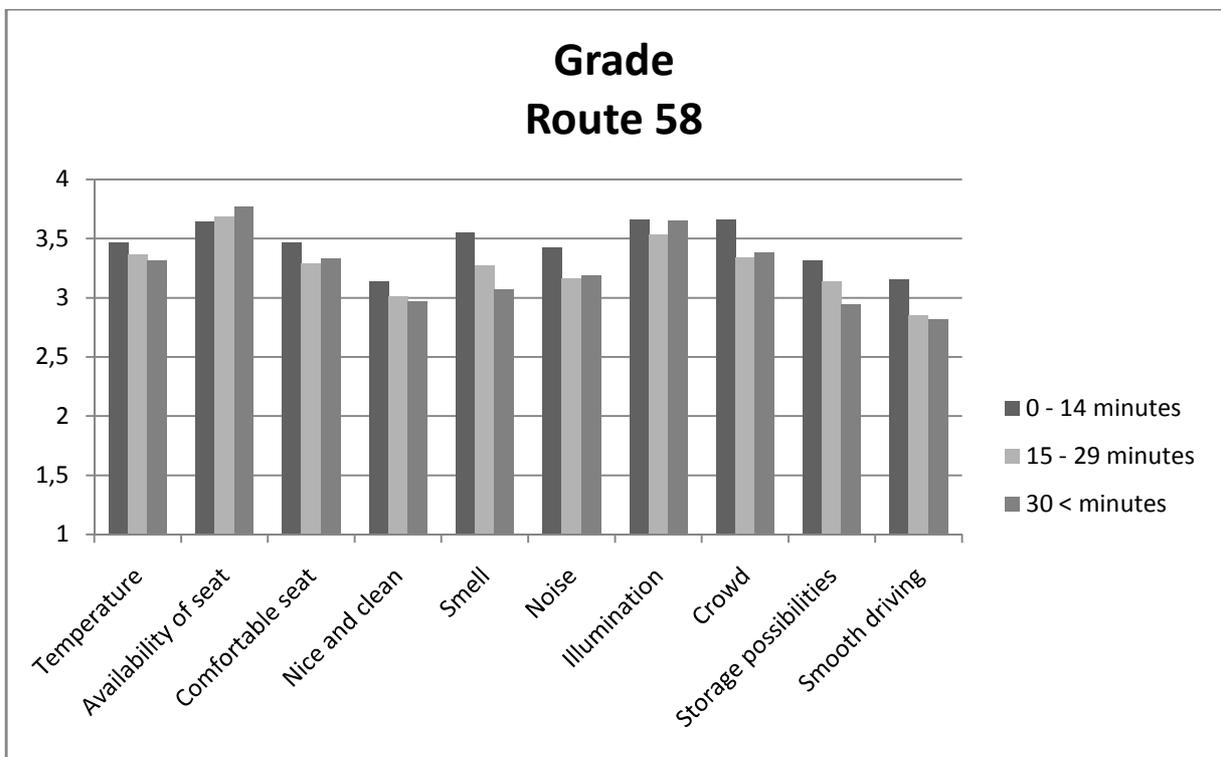


Figure 5.4. Mean values of grade for all comfort factors depending on travel time on route 58.

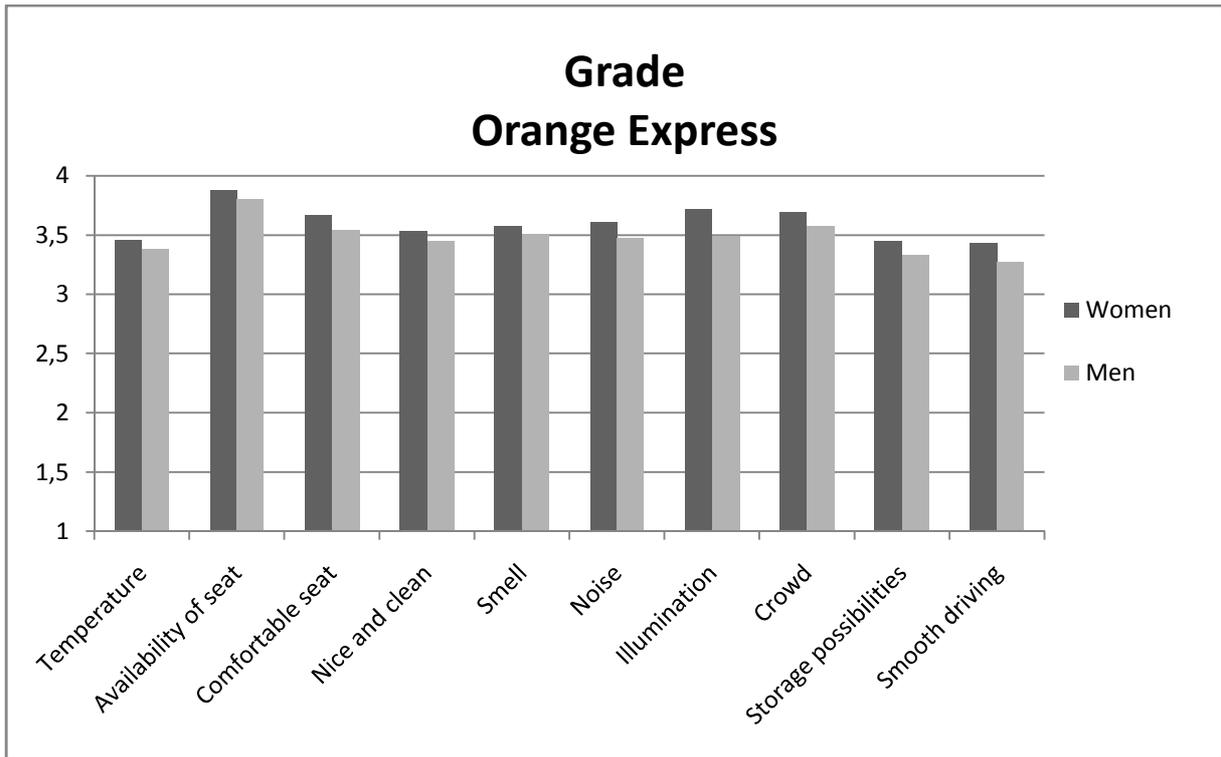


Figure 6.1 Mean values of grade for all comfort factors depending on gender on Orange Express.

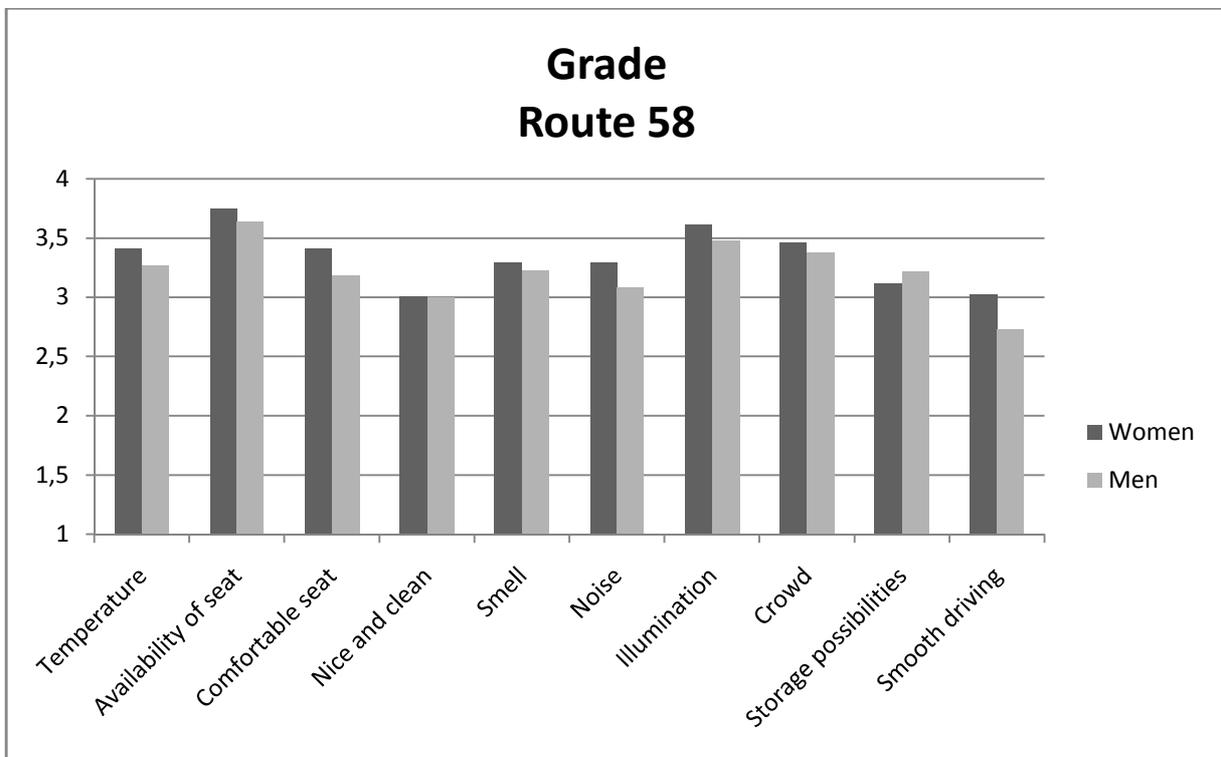


Figure 6.2. Mean values of grade for all comfort factors depending on gender on route 58.

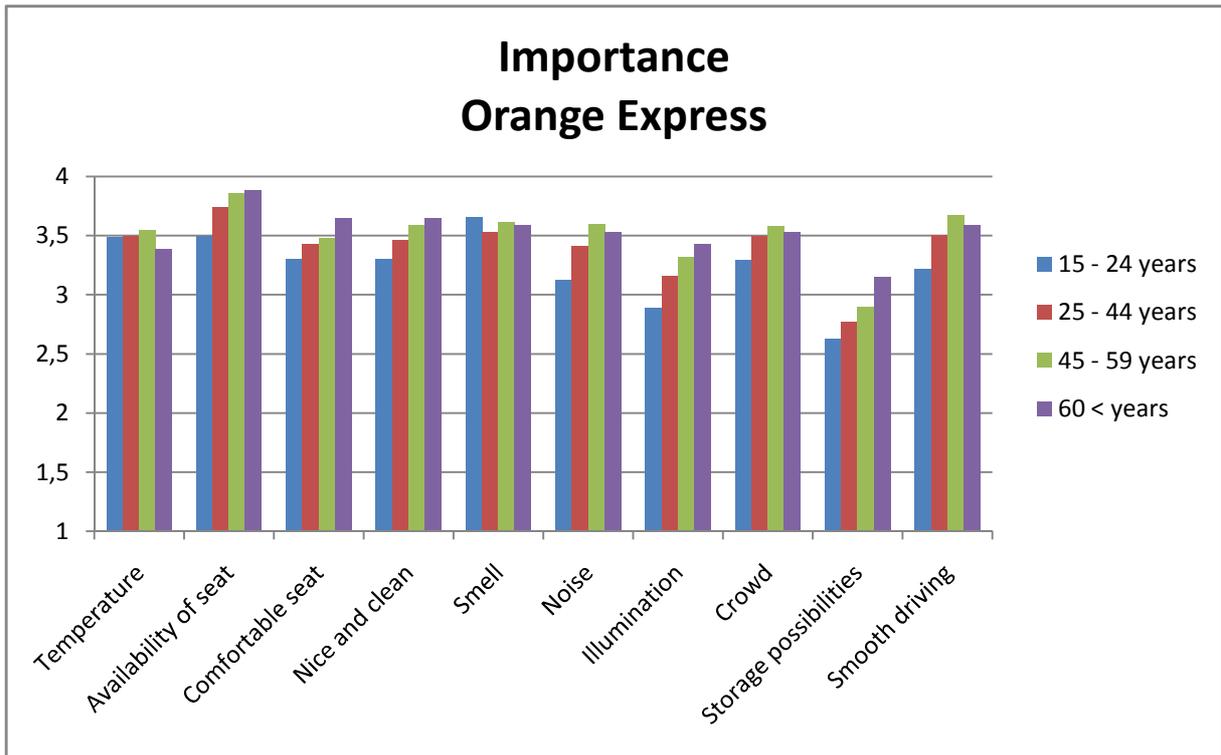


Figure 7.1. Mean values of importance for all comfort factors depending on age on Orange Express.

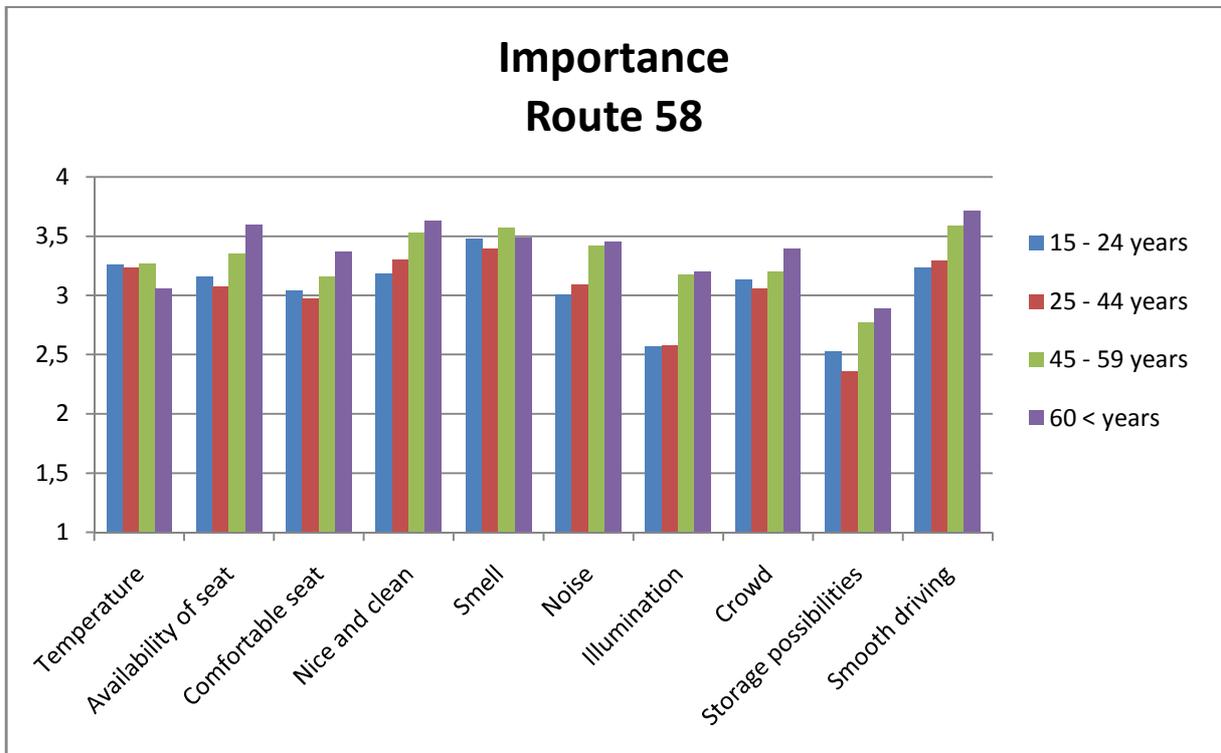


Figure 7.2. Mean values of importance for all comfort factors depending on age on route 58.

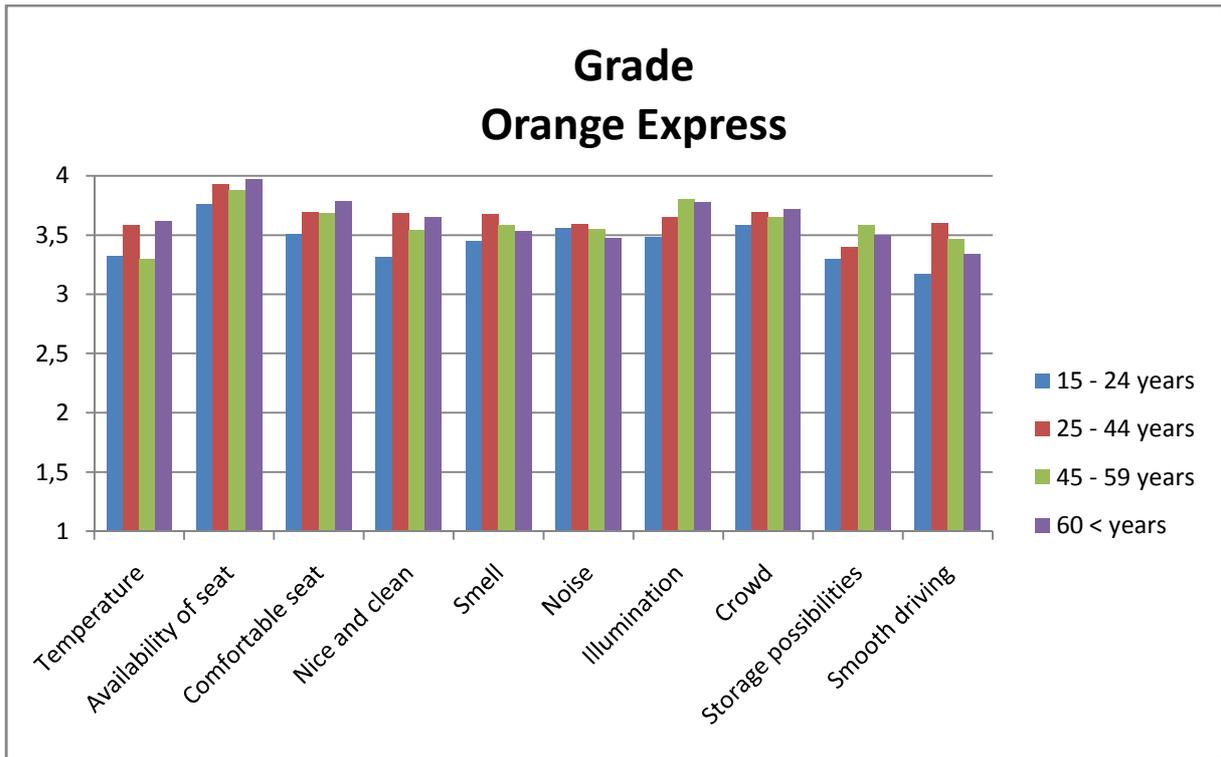


Figure 7.3. Mean values of grade for all comfort factors depending on age on Orange Express.

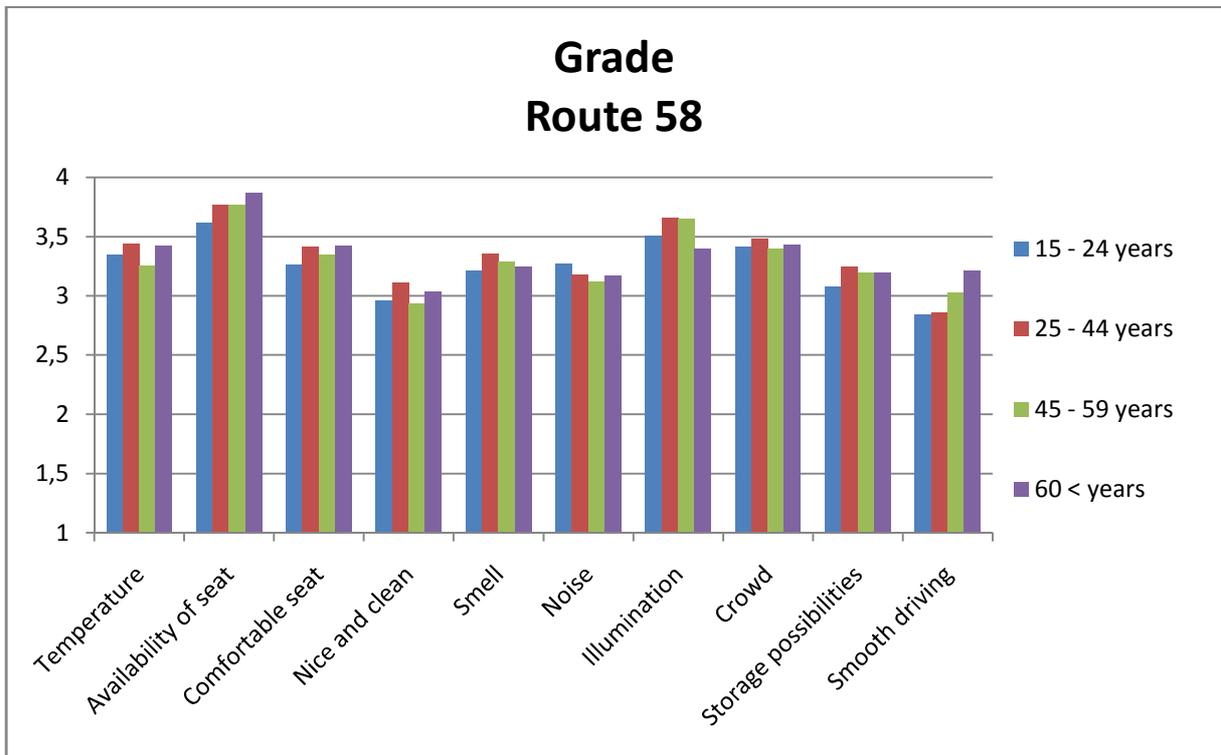


Figure 7.4. Mean values of grade for all comfort factors depending on age on route 58.

Appendix 8 – Valuation depending on travel frequency

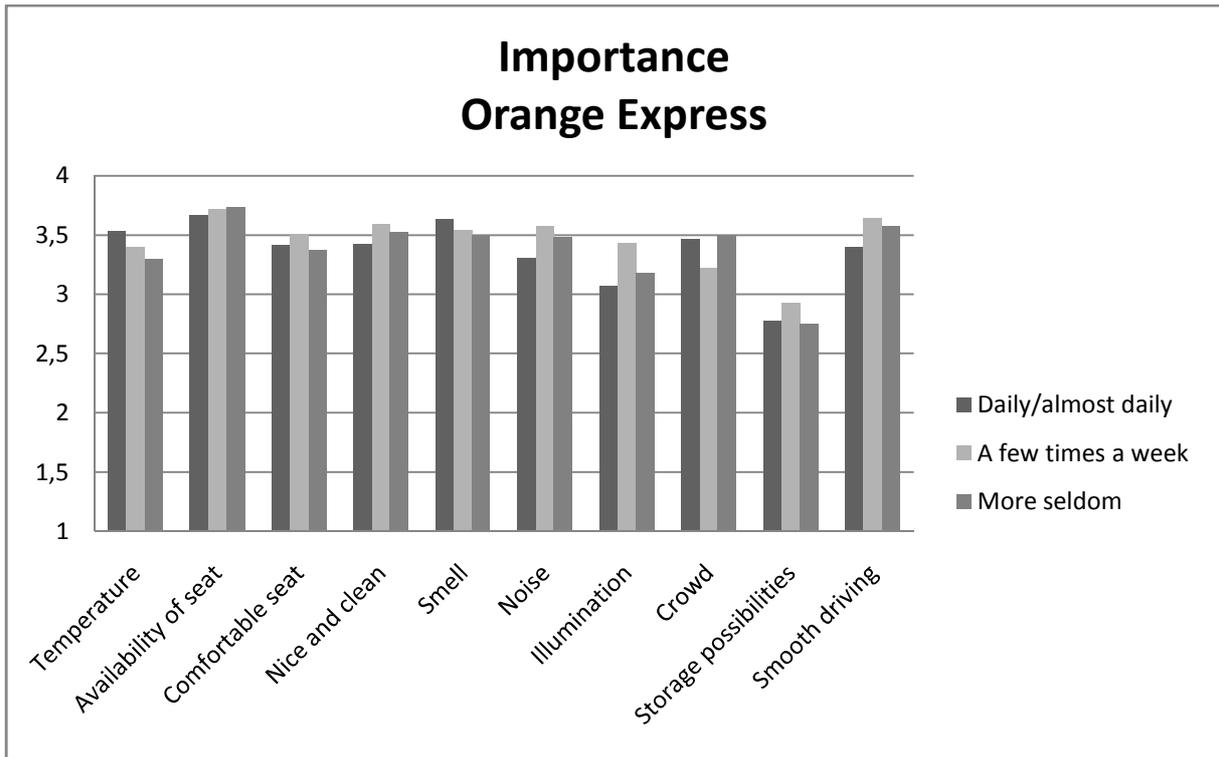


Figure 8.1. Mean values of importance for all comfort factors depending on travel frequency on Orange Express.

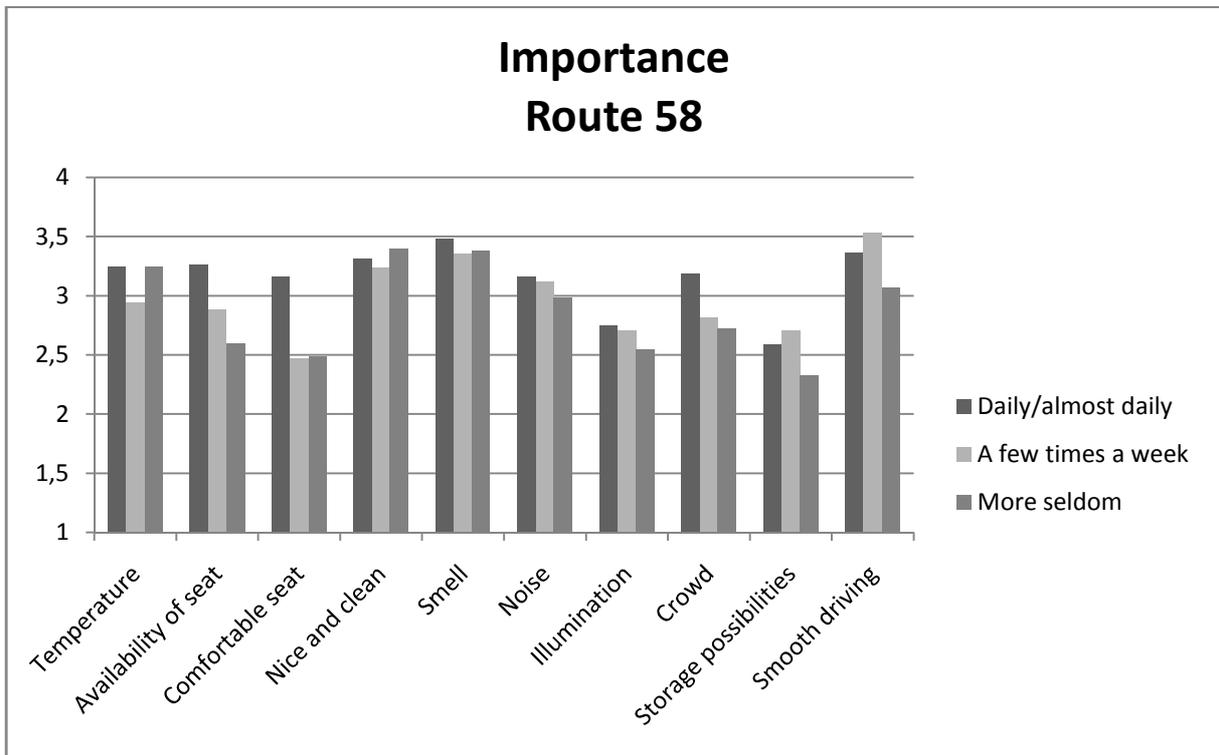


Figure 8.2. Mean values of importance for all comfort factors depending on travel frequency on route 58.

Appendix 8 – Valuation depending on travel frequency

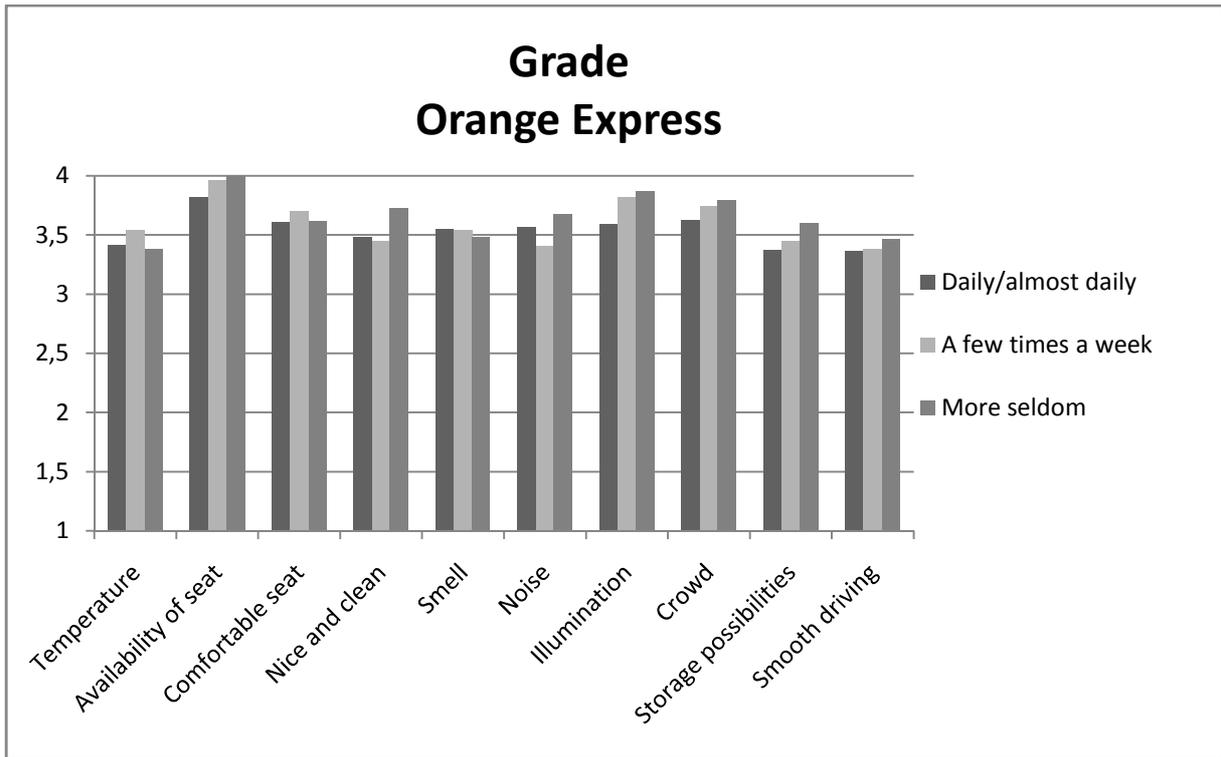


Figure 8.3 Mean values of importance for all comfort factors depending on travel frequency on Orange Express.

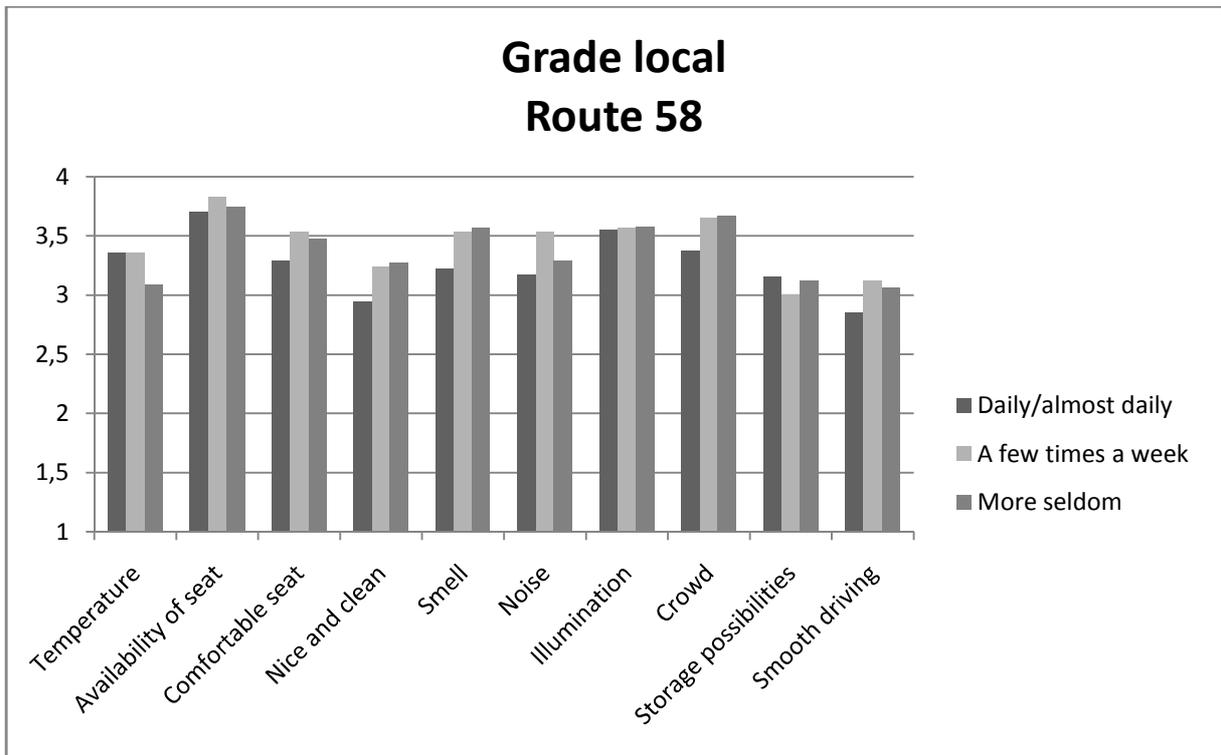


Figure 8.4. Mean values of importance for all comfort factors depending on travel frequency on route 58.

Appendix 9 – Valuation depending on car option

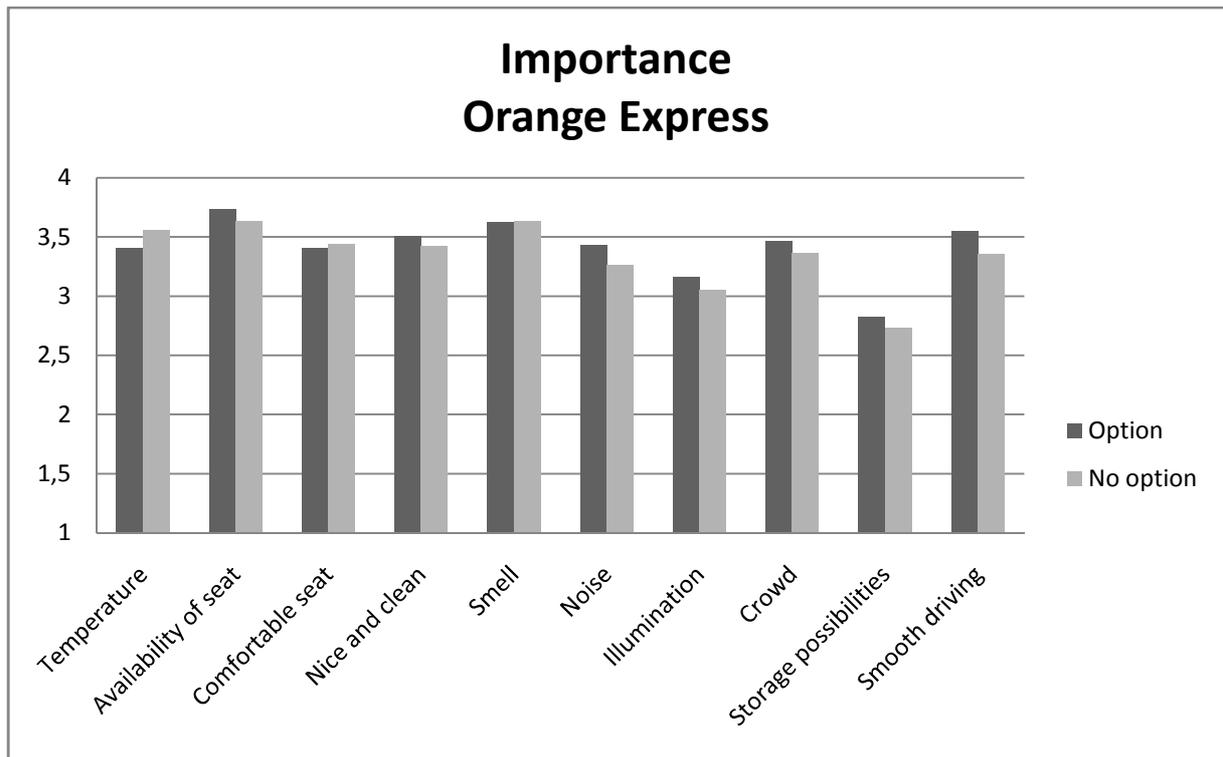


Figure 9.1 Mean values of importance for all comfort factors depending on option to use car on Orange Express.

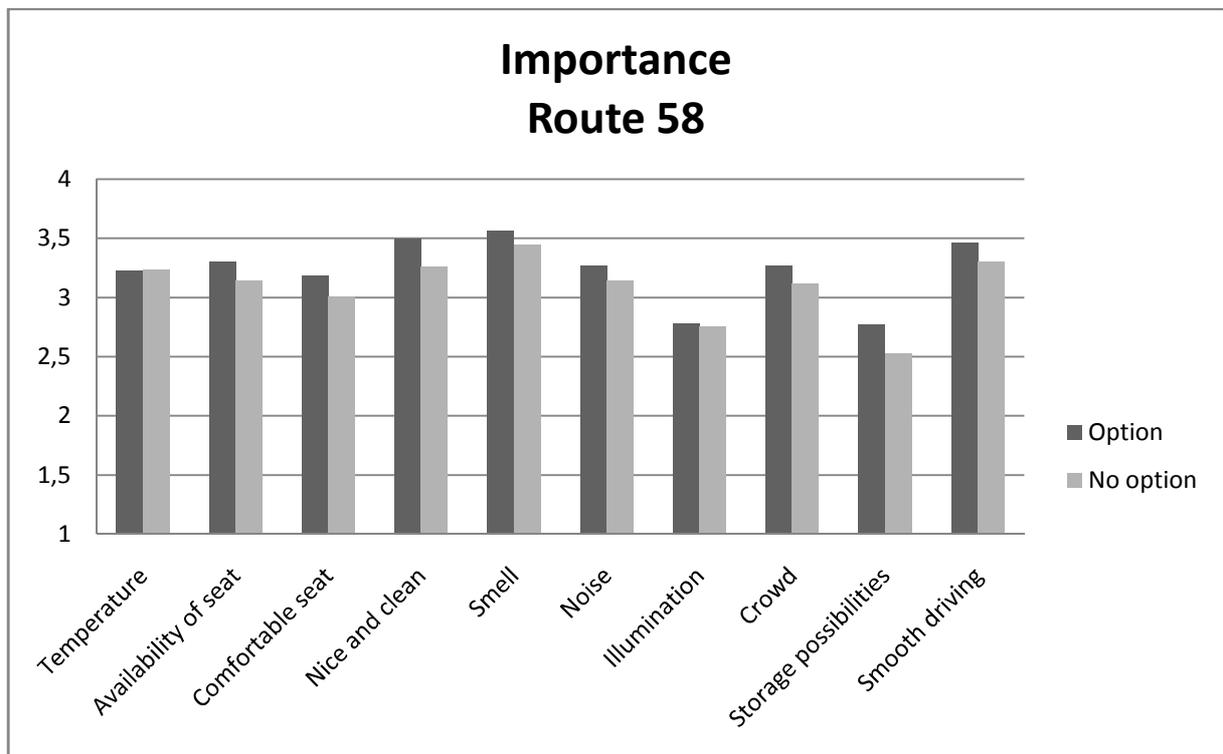


Figure 9.2 Mean values of importance for all comfort factors depending on option to use car on route 58.

Appendix 9 – Valuation depending on car option

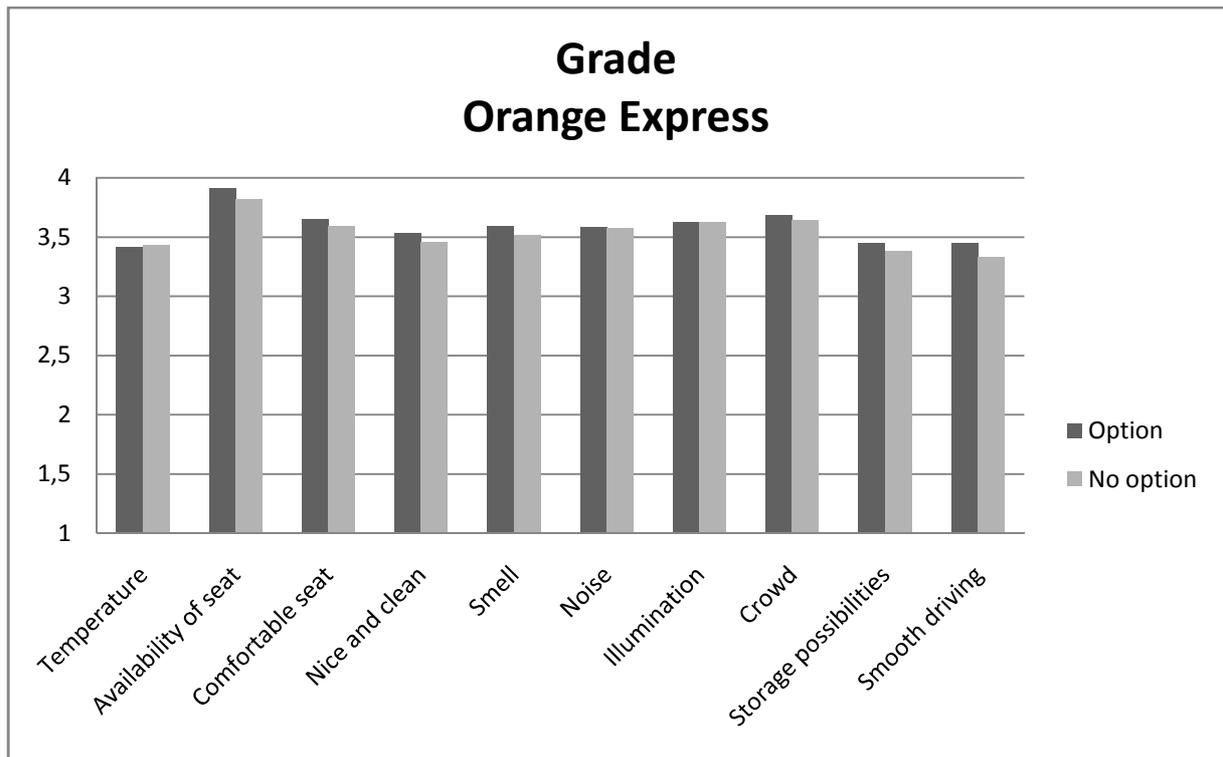


Figure 9.3 Mean values of grade for all comfort factors depending on option to use car on Orange Express.

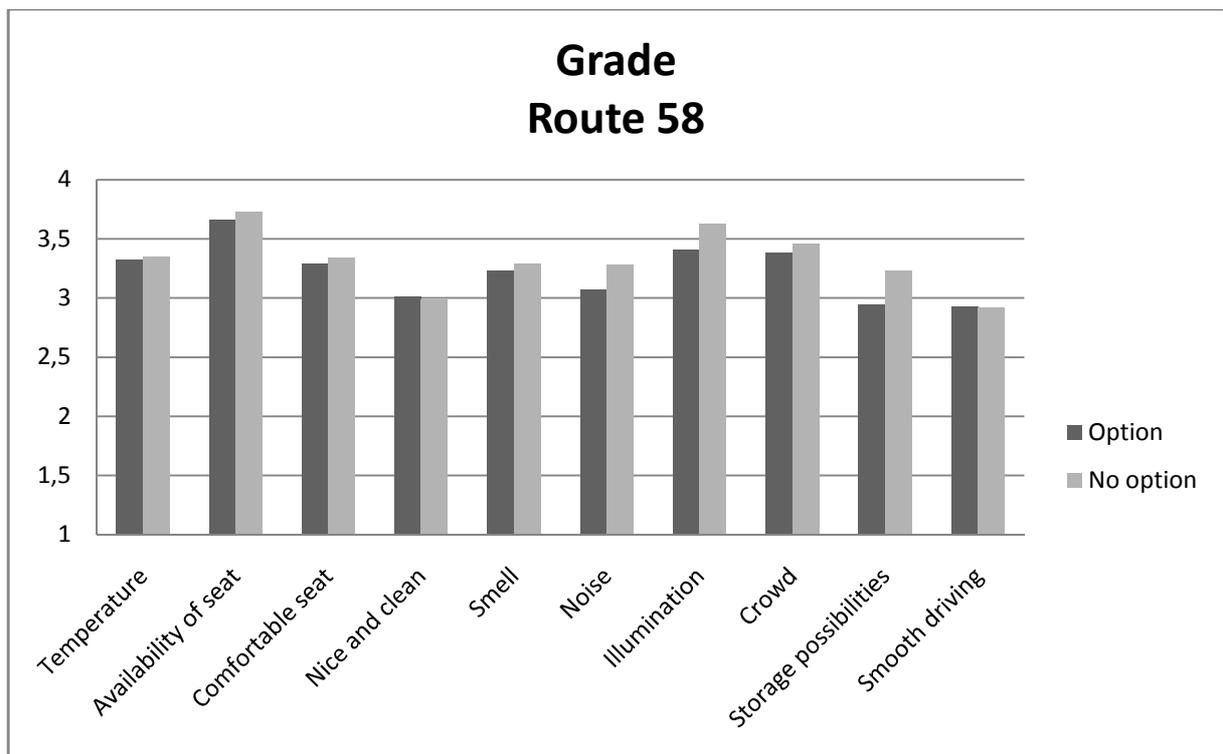


Figure 9.4. Mean values of grade for all comfort factors depending on option to use car on route 58.

Appendix 10 – Comparison with the national survey of customer satisfaction

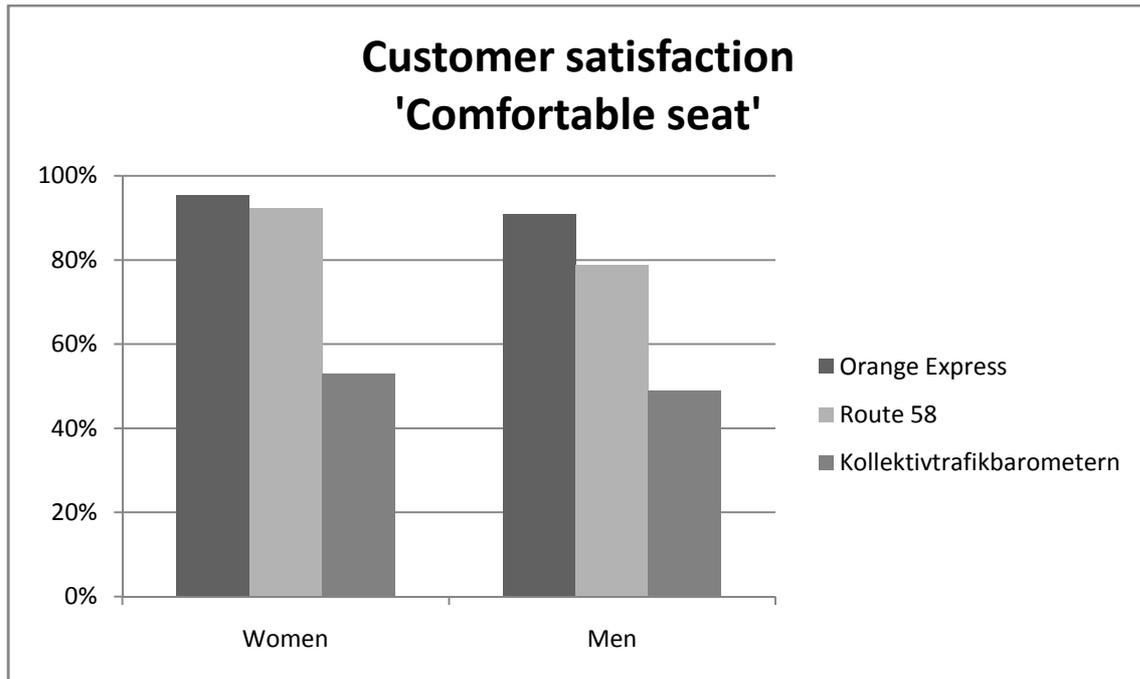


Figure 10.1. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern for the factor 'Comfortable seat' depending on gender. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.



Figure 10.2. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern for the factor 'Nice and clean' depending on gender. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.

Appendix 10 – Comparison with the national survey of customer satisfaction

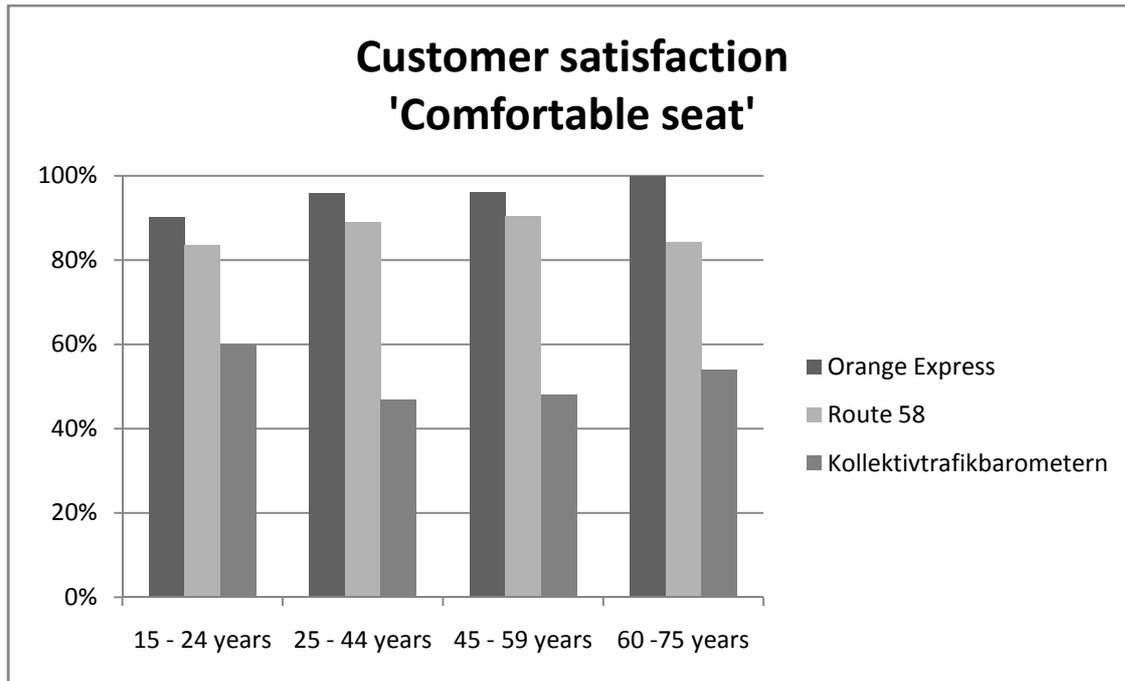


Figure 10.3. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern for the factor 'Comfortable seat' depending on age. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.



Figure 10.4. A comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern for the factor 'Nice and clean' depending on age. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.

Appendix 10 – Comparison with the national survey of customer satisfaction

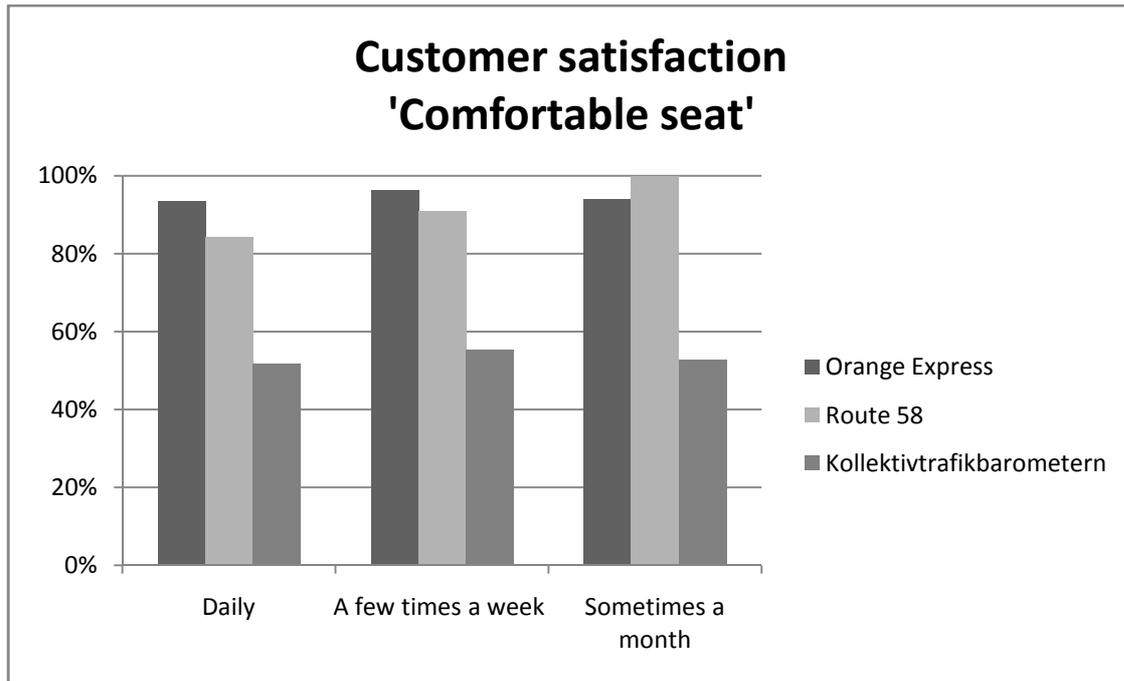


Figure 10.5. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern for the factor 'Comfortable seat' depending on travel frequency. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.



Figure 10.6. Comparison between the customer satisfaction from the on board study and Kollektivtrafikbarometern for the factor 'Nice and clean' depending on travel frequency. The customer satisfaction corresponds to the share of respondents that answered that they are satisfied with the factor.

Appendix 11 – Distribution of votes considering grade

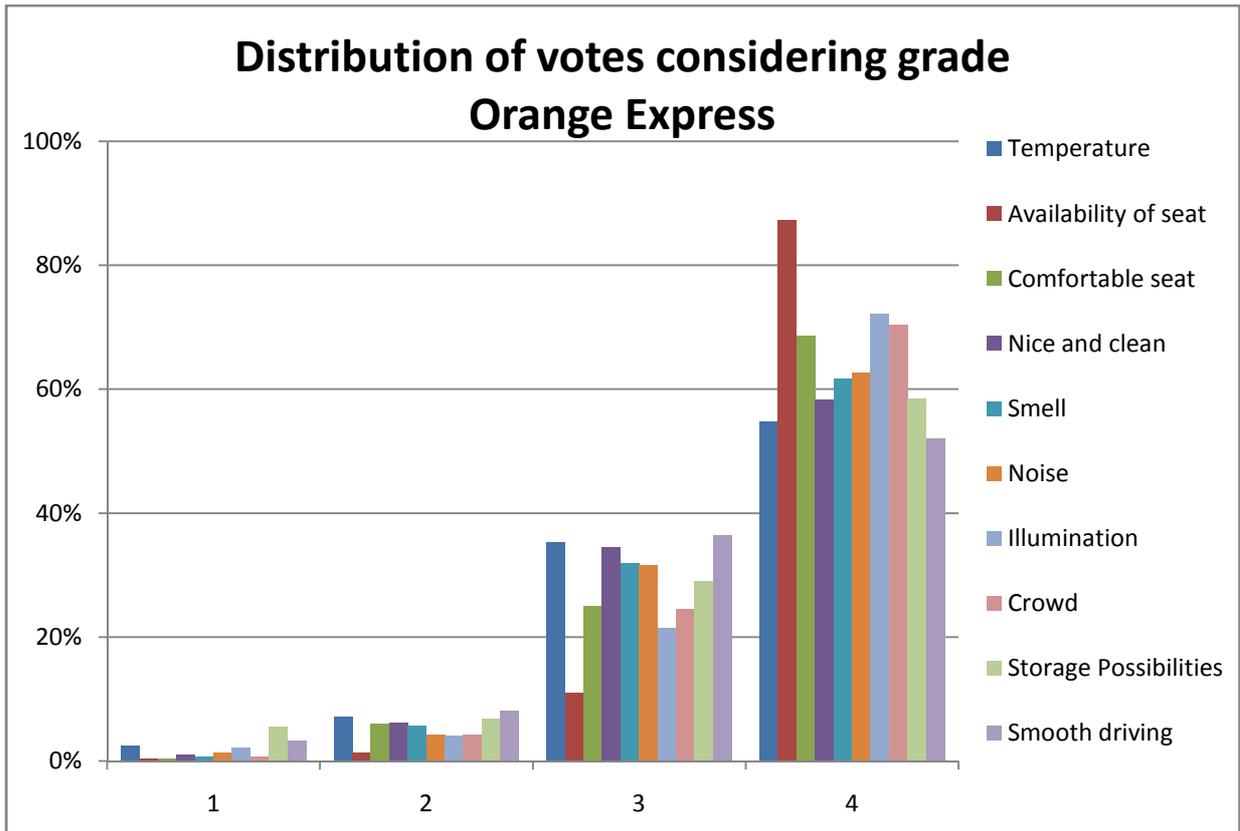


Figure 11.1. Distribution of the share of votes on each level of agreement for the comfort factor on Orange Express.

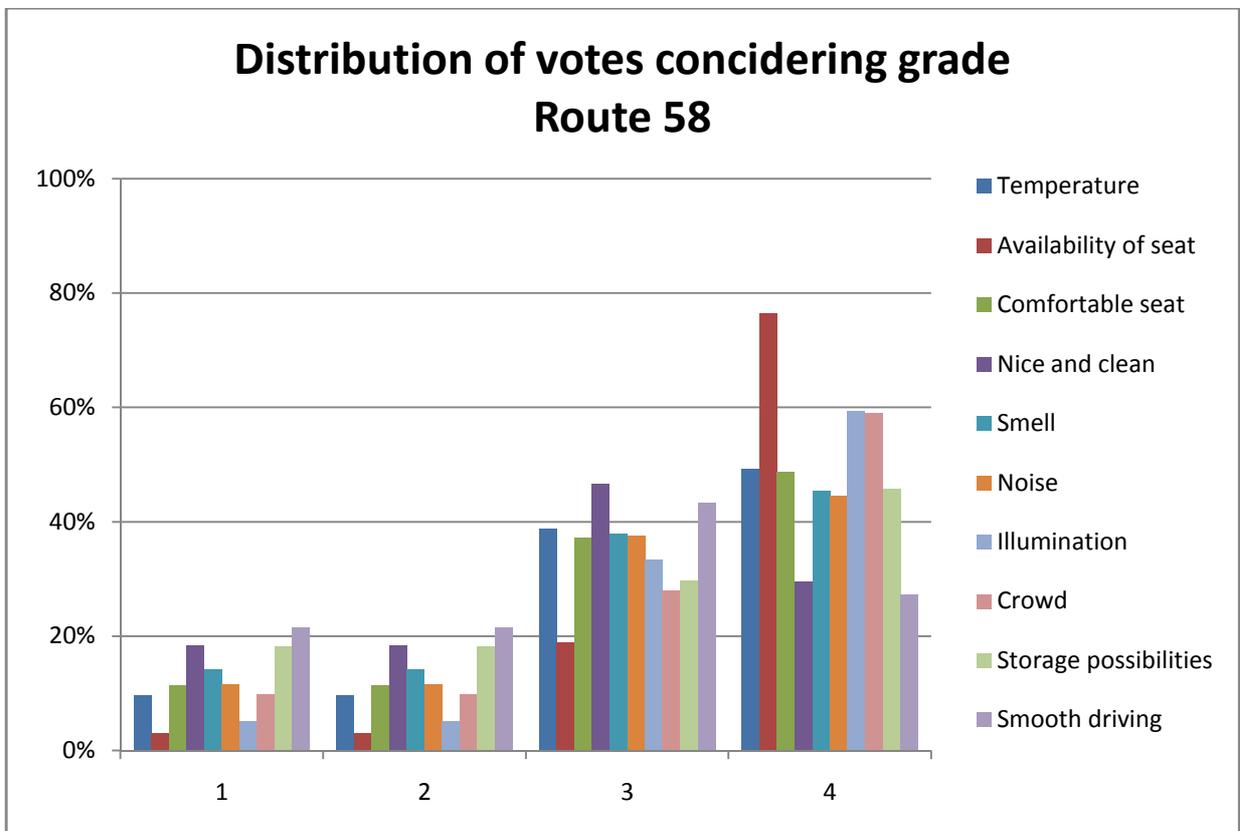


Figure 11.2. Distribution of the share of votes on each level of agreement for the comfort factor on route 58.

Appendix 12 - Comments from the questionnaires on board Orange Express

Det beror på vilken tid på dygnet man åker buss ifall det är bra ljudnivå, ingen trängsel osv. De borde ha fler bussar på morgonen och på eftermiddagen när alla åker hem från skolan/jobbet.

Tycker det är för dyrt att åka buss nu för tiden ifall man har kontoladdning fram och tillbaka till stan 2 gånger typ sen är pengarna slut.

Det skulle behövas fler avgångar mot Gråbo, främst på morgonen. Jag reser över 2 timmar med buss varje dag, så jag vet ganska väl.

Kollektivtrafik borde hålla bra nivå utan högre priser, speciellt eftersom priserna nu är höga för tex studenter, då de oftast har låg inkomst.

Alltid sena.

Fler bussturer vid vissa tidpunkter då bussen är väldigt full, detta orsakar förseningar.

De höjer priser på fritidskort m.m. men i alla fall jag märker ingen förbättring. Varför då betala mer?

För då kommer säkert kostnaderna för bussbiljetterna och liknande höjas. De har redan höjts för mycket.

Bord så man kan studera på bussen.

Bord på bussen.

På morgonen när man åker buss så är ljuset för starkt.

Kollektivtrafik är för dyrt.

Ibland på orange express tidigt på morgonen brukar belysningen vara väldigt ljus och jobbig, man kan ju släcka ner.

Att de ska ha det släckt på bussen på kvällar så man kan sova.

Vid den här tiden är det alltid bra men en timma senare är det trångt och svårt att få sittplats.

Billigare kollektivtrafik!

Bussj*veln är alltid nästan sen!

Det är för dyrt att resa med Västtrafik.

Västtrafik är väldigt dåliga på att hålla tiden o bussen är alltid full efter kl 16.

Använder ofta bälte ifall bussen är utrustad med det.

Borde finnas mer än en papperskorg.

De kör väldigt fort, över angiven hastighet.

Appendix 12 - Comments from the questionnaires on board Orange Express

Enligt min mening så är det i stort sett bara spårvagnstrafiken som funkar i Västtrafik. Allt annat är under all kritik. Speciellt att hålla tiderna.

Jobbigt när alla lampor är tända när man åker buss på kvällen, ibland går det inte att släcka dem.

Busskortet håller på att bli för dyra.

Höjer ni priserna mer så åt h*lvete med att köpa kort då åker jag svart. Just det olagligt!
Hahahahaha

Fråga 9 är en fråga som inte bör finnas. Västtrafiks åtagande bör sikta på att i alla lägen oavsett pris på resa, erbjuda hundra procentig komfort.

Ni kanske kunde haft mer kring själva fordonet; smutsiga fönsterrutor, bussens väghållning etc.

Punkt 9. Via skatter, inte enskilt.

Det är ovanligt att komforten är så bra som den gången.

Jag tycker det är dumt med öppna hyllor ovanför sätena. Saker som ligger där kan ramla ner och på så vis vara farliga för resenärerna. Tack och lov används de väldigt sällan på den här linjen. De borde tas bort alternativt förses med luckor av något slag.

Svindyrt att åka kollektivt! Spårlöst försvunna bussar under vintertid! Har bussen dött?
Ansvar västtrafik, ansvar!

Överlag är orange express bekvämare än andra bussar/linjer.

I andra fall kan jag vara beredd på att betala lite mer för att få bättre komfort. Men inte här då det redan är så bra.

Lycka till =>

Förarna på denna linje kör OFTA väldigt fort och obekvämt.

Problemet är att resan tar 1 h och 23 min. Tar jag bilen är det halva tiden.

Tätare turer hade ökat komforten avsevärt. Trängseln är det största problemet.

Prio 1 är alltid punktlighet och turtäthet. Därefter kostnaden.

Orange fungerar generellt sett mycket bra.

Väldigt dyrt att åka buss idag. Beräknar jag bilresa och bussresa blir det samma pris för mig. Anledning: jag tar buss för miljön.

Jag skulle inte ha något emot nerfällbara bord på vissa platser. Under lång resa som den här brukar jag göra skolarbete och de vore praktiskt med skrivyta.

Viktigaste är att avgången är i tid samt att det går bussar på linjen.

Appendix 12 - Comments from the questionnaires on board Orange Express

Tycker att priset är för högt och vid "nya" chaufförer har de ingen kunskap om betalningssystemet. Annars tycker jag att orange chaufförerna är riktigt bra!! =)

Idag 42 kr för resa på ca 10 min.

"Skärmen" bakom föraren brukar vara lös så att den skramlar.

Under vintern har det inte varit plogat på övergångställen och ibland inte ens på hållplatsen. Det är viktigare än komforten på fordonet.

Biljettsystemet är under all kritik.

Föraren pratar i mobil.

På eftermiddagen mellan 16-17 är det alltid fullt på bussen och många måste stå upp.

Mycket viktigt att tidtabellen hålls.

Det är dyrt som f*n att åka buss!

Vissa chaufförer har under vintern kört bussen i minusgrader med is på insidan fönstret. Några röker utanför öppen bussdörr, några kör vårdslöst. Bältet är kort när man är gravid.

Har mycket ont i ryggen. Hade önskat att det fanns kuddar som man kunde ha bakom ryggen.

Nya kortsystemet är urkasst.

Alla tidiga bussar (05.00-06.30) borde ha släckt belysning då det är många pendlare som gärna sover på bussen.

Ofta trängsel för att få sittplats vissa tider 16-17.

Lerums kommun borde subventionera mer så att invånarna åker mer kollektivt. Det är de långväga resenärerna som skall ha billigast km pris på resan för att fler ska åka kollektivt.

Emot allt man läser i tidningarna, tycker jag om Västrafik! :)

Utöka pendelparkeringen i Hjällbo.

Under mina senaste resor (då med linje 520 & 78) har föraren pratat långa stunder i mobiltelefon samtidigt om han kört. Detta varit mycket obehagligt.

Viktigast att tidtabellen hålls.

Brukar åka hem tidigare. Ovanligt att det är tyst på bussen och att svalt. Svårt få plats med benen när den framför faller bak ryggstödet.

Trevliga förare är det för det mesta, vilket gör resan ännu mer behaglig. Tidernas intervall har jag synpunkter på däremot.

Fruktansvärt dåligt av jättemånga förare att ej tända dom små läslamporna under kvällar och mörkare årstid (åker så ofta, ska inte behöva gå fram och säga till).

Appendix 12 - Comments from the questionnaires on board Orange Express

Tycker att det skulle vara billigare att åka buss. Är man två som samåker i bil så blir det billigare än 2 bussbiljetter det tycker jag är fel. Tror att många fler hade åkt buss om priset var lägre.

Vill få papperskvitto på hur mycket pengar man har kvar på sitt kontoladdade kort.

För dyrt.

Trådlöst nätverk skulle göra att jag kan fortsätta att jobba under resan och kunna gå tidigare från jobbet

Viktigt med benutrymme. Önskvärt att man kunde komma till arbetet i tid!!! Byte av förare vid terminalen tar för lång tid. Har sedan augusti 08 kommit i tid ca 10 gånger. Reser 6 dagar per vecka irriterande är bara förnamnet.

Fler sittplatser eller fler turer vid högtrafik.

Vad f*n skulle jag betala för mer än vad jag redan gör. Om ni bråkar om betalning så tar jag bilen. Det borde vara billigare för då skulle fler åka kollektivt för miljön.

Åker 07.05 från Gråbo mån-fre. Av någon konstig anledning har bussen på den turen väldigt ofta någon typ av tekniskt fel.

Helt hopplös chaufför kör helt galet ryckigt, varje gång Lana-NE. Ny chaufför NE - Gråbo =ok.

Störande mobilsamtal.

Billigare resa.

1. Oftast, dock ej denna tur är temperaturen mycket hög. Mycket folk med ytterplagg kräver inte det. 2. Ibland spelaren hög musik, för vem?

Viktigt att bussen håller tider. Förstår att det kan vara svårt på eftermiddagen med mycket trafik men att den är försenad 5-6 på morgonen, nästan första turen är märkligt.

Att de skyltar om på Nils Ericson terminalen innan föregående buss åkt. Rätt info om rätt buss mycket viktigt. Hände mig igår. Blev fel buss, gick ej till slutstationen.

Tar bil till pendelparkering. Snabbussen stannar inte vid Dockeredsvägen där jag bor.

Viktigt att bussen följer tidtabellen och att inte turer ställs in.

Ofta förseningar på morgonen.

Alla bussar på linje orange borde gå till Sjövik.

Ofta försenad. För det mesta trevliga chaufförer.

Priset är i högsta laget om man är fler än 1 som reser. Vid 2 pers eller fler är det billigare med bil.

Appendix 12 - Comments from the questionnaires on board Orange Express

Det vore önskvärt med senare turer då skulle jag åka oftare. De flesta dagarna tar jag bilen för att komma hem. (en buss kl. 01.00 vore bra)

Sommartid är det viktigt att luftkonditionering finns och att den fungerar.

Önskar att buss 78 väntar in Orange Express i Olofstorp Västra.

Skrammel och resonansljud förekommer. Vissa förare håller inte fartbegränsningen och pratar konstant i mobiltelefon.

Här är alldeles för varmt. Kokhett på bussen. Olidligt. Låt buss 78 vänta in Orange Express på hållplats Solängen.

Bussen är ofta för kall vinter och för varm sommartiden (kommentar till fråga 8: annars för varmt i bussen)

Det viktigaste är att bussen kommer och helst i tid.

Tycker det inte skulle behövas att man checkar ut vid avstigande.

Förenkla betalningssystemet.

Busstrafiken fungerar för det mesta bra. Skönt att kunna läsa och tom arbeta på bussen

För det mesta brukar elementen vara väldigt varma, ibland heta. Det är inte vidare behagligt.

Att det inte är bastu-värme på sommaren. Använd AC.

På vissa platser och i vissa bussar kan bältena vara för korta för att man ska kunna spärra fast sig.

Det nya betalningssystemet är dåligt. Jag vill veta vad resan kostar. Hur långt uppehåll kan jag göra? Vad gör jag när inte biljettautomaten fungerar vid byte. Många tveksamheter är det. Att fråga på tidpunkten går ej, där är ofta kaos. Långa köer. Är man två personer är det billigare att åka bil Gråbo-Gbg.

Mycket viktigt att bussen kommer i tid. Hållplatsen ser för "j*vlig" ut ibland. Dålig snöröjning. Alla skyller ifrån sig.

Väntskjulen är mycket skräpiga och luktar illa. Snöröjningen vid hållplatsen urusel.

De nya korten skapar OSÄKERHET då jag inte kan se saldot lätt. Ofta är det kö och man vill inte stå och trycka?

Säkerhetsbälte större (längre).

Allt för krångligt taxasystemet.

Det är lerigt och grisigt vid hållplatsen Ekåsa. Det är svårt för chaufförerna att se att man väntar på bussen på kvällen.

Appendix 13 - Comments from the questionnaires on board route 58

58an är ofta sen. Linje från Kobbegården 8.11 ofta inställd.

Bussen kommer ofta för tidigt, det orsakar problem!

Jag åker 58an varje dag och det är oftast bra komfort! Ibland har busschauffören väldigt bråttom, men jag brukar inte tänka på komforten när jag åker buss.

Skönare/mjukare säten.

58an borde gå oftare. Måste ofta vänta i minst en kvart!

Utöka kollektivtrafiken i Askimsområdet.

:) Jag brukar vanligtvis inte åka buss. Spårvagn är min grej xD.

Fritidskortpriserna höjs ständigt, sänk dem istället Västtrafik!

Att bussarna kommer i tid är viktigast.

Kom i tid.

Kostar redan för mkt!

Busskort kostar mycket, sänk priserna.

Bussen var sen!

Komma i tid, trängseln.

58an är alltid skakig men man är ju van.

Den här linjen kommer ofta inte och får då vänta på nästa buss. Särskilt bussen som går 8.40 från Ringestensvägen.

Fri konkurrens är bra för konkurrensen. Avskaffa Västtrafiks monopol.

Avskaffa transportmonopolet och inför fri konkurrens och snälla ta bort tullarna.

Händer ofta att bussen aldrig kommer. Särskilt bussen på torsdagar 8.40

Oftast sena ankomster av bussar.

Värdelöst.

Bussar uteblir för ofta.

Jag är student och det är dyrt som det är att köpa månadskort, så höj inte priserna är ni snälla!

58an borde åka oftare! Och längre inpå kvällarna!

158:ans linje från Snipen till stan är alltid sen. För övrigt tycker jag att västtrafik är urkassa på att hålla tiden. Bara denna månad har de hoppat över ca 4 bussar utan att man fått förklaring.

Appendix 13 - Comments from the questionnaires on board route 58

Busschaufförerna kan inte köra buss...

Håll tiden. Kommer ofta tidigt eller sent. Svårt att planera.

Håll tider bättre 58 kommer inte alls vissa morgonar och det är industrifolk som ska med den.

Kollektivtrafiken borde vara gratis med tanke på att den till största delen betalas med skattepengar.

Komfort är skit samma om bussen är sen till Marklandsgatan (58:an).

Den här bussen är mycket bra gällande komfort jämfört med hur de brukar vara på den här linjen.

Kommer ofta försent till jobbet pga att de sätter in flera turer. Detta är ett stort minus.

Det är dyrt med 3 mån kort.

Ha en kall buss på sommaren.

Skaffa normala busschaufförer.

Chaufförerna kör överlag som dårar. För få bussar 8-10 (förutom linje 16).

Håll tiderna.

För varm buss.

58ans buss uteblir ibland. Händer mer ofta än sällan.

Varför ska jag betala mer när det inte pratas med förarna på buss 58 om hur j*vla kasst dom kör . Sen får ni se till att serva bussarna och inte köpa nya bussar.

Viktigt att bussen kommer i tid eller kommer överhuvudtaget, vilket händer att den inte gör!

Det vore bra med en dator där man kommer åt västtrafiks hemsida för att kunna själv kolla resvägar vid tidpunkten

Vissa linjer ofta överfulla. Överlag trevliga chaufförer.

Denna resa var förvånansvärt bra i jämförelse. Är annars relativt missnöjd med Västtrafik. Förarna är ofta otrevliga och kör som galningar. Märks extra väl denna vinter.

Hetsig/ryckig körning av vissa chaufförer är jobbigt. Är tidtabellen för snäv då det är mycket trafik? Mycket jobbigt att information inte finns tillgänglig i förväg om inställda turer. Under flera veckor i februari upplevde jag det som att varannan tur var inställd. Med 15 min trafik & kyla stör det mkt.

58an ofta sen, 772 och 58 går nästan samtidigt- onödigt! Bra med bättre spridning.

Buss 58 är sällan i tid, bussen kommer ofta inte vid kvart över sex vid Frölunda smedja när man ska in till stan.

Appendix 13 - Comments from the questionnaires on board route 58

58an kör ej efter tidtabellen eller tavla, vad skall jag tro på?

Betalar hellre mer för ökning av antal bussar.

Håll tider. Skulle kunna åka taxi 3 dagar i veckan pga av förseningar och inställda bussar.

Gör Västtrafik kommunalt.

Kall buss på sommaren. Att 58an kommer i tid och att inga turer hoppas över.

Buss 58 är oftast försenad. Busskur till hållplats Amalia jönssons gata tack!! Brukar vara smutsigt på bussen, dock ej idag.

Bus is never on time which is frustrating since it is not that regular.

En av få resor där man fått sittplats. Behövs fler turer + att bussen faktiskt dyker upp då den ska. Förarna brukar dessutom köra så att man flyger som en vante.

Buss 58 lider kroniskt av förseningar i morgontrafiken!

58an ofta sen. Linje från Kobbegården 8.11 ofta inställd.

Bra skit!

I just want to point that some of the drivers aren't experts!! They just drive very fast and out of rules! I have seen some of them on this line! But totally everything is going better and better every single day i think. Tack så mycket västtrafik :) The web site of västtrafik is excellent too! It completely cover all information that we need.

Busschaufförerna behöver överlag köra mycket lugnare ibland kan man tro att de är kamikaze piloter! Säkerheten är viktigast tycker jag.

Sittplatser som är ställda emot varandra är dåliga och även platser ställda mot färdriktningen.

Dom drar ofta in turer, utan att meddela. Förarna är ofta otrevliga . Kör fel, kör för fort, tvärbromsar, missar hållplatser och ibland mot rött ljus.

Jag tycker inte man ska behöva betala mer än man redan gör. Komforten tycker jag är självklar.

Förarnas sätt att köra varierar stort! Ibland väldigt ryckigt och okontrollerat. Ibland jättebra. Många ggr kommer inte bussen på utsatt tid.

Någon enklare form av rabattkort typ 100 kronors kort hade varit önskvärt.

Viktigt att bussen kommer i tid dvs ej försenad så att man hinner ta spårvagnen till jobbet och kommer i tid dit (På morgonen dvs) Det händer.

All kollektivtrafik borde vara gratis för att få fler att ställa bilen.

Använder endast buss när jag ska ut och roa mig/på match. Aldrig till/från jobb.

Appendix 13 - Comments from the questionnaires on board route 58

Imorse kom ej buss 58 från hållplatsen Skintebo 05.58. Blev försenad till jobbet. Ej acceptabelt att en buss uteblir.

Denna tur var bra men 58an har varit bedrövlig. Kommit för sent till jobbet flera gånger . Hela vintern bedrövlig.

Cyklar mars - oktober för att slippa Västtrafik. Leverans precisionen är helt enkelt dålig.

Det är redan mycket dyrt tycker jag och många andra.

Detta gäller när den kommer. Linje 58 uteblir ofta.

Viktigt att bussen inte uteblir.

Vanligen för hett.

Beteendet av vissa förare är undermåligt. De ska inte "uppfostra" ungdomar genom att köra framför näsan på dem. Särskilt inte i minus 15 grader. T.ex. körstilen kan vara livsfarlig ibland.

Uppskattar buss 58 sträckning, bra att komma in till stan.

Vissa bussar på linje 78 har konstiga format på sätena (för små för 2, stora för 1)

Är nöjd med det mesta och är tacksam för kollektivtrafiken. Dock ser jag ibland förare åka trots folk sprungit och är framme vid dörren, inte bra! (Men visst, jag inser också, att ungdomarna måste hålla tiderna)

58ans tidtabell är sedan några veckor ej att lita på, då det förekommit åtskilliga inställda turer.

Chauffören sitter ofta och pratar i mobil under färd. Chauffören spelar ofta hög musik på radion.

Bussen kommer ej i tid. Ibland uteblir några turer på linje 58 på morgonen utan förklaring.

Ni borde mer hålla er till frågor rörande om bussens tillgänglighet, busstider etc. 58:an är i princip aldrig i tid, inte idag heller.

Ofta ngt fel på bussen. Dörrarna stängs ej= bussbyte. Indragna turer, förseningar.

Att föraren är mer hjälpsam om hållplatser för personer som behöver hjälp.

58an är en kanonbra förbindelse för mig! Lycka till med ex.arbetet!

Kallt ombord. 58 an har "små säten", raka obekväma ryggstöd. Säten när det är fyra platser sitter för tätt; trångt. Inga armstöd vid vissa platser som är sårbara, lätt att ramla av vid bussens svängningar.

Betalar redan ett högt pris för kollektivtrafiken, borde därför vara bättre komfort.

Viktigt att man meddelar när bussar ställs in som skett med buss 58 avgång 706 v.4-11.

Se till att passa tiderna. Skippa som där fascisterna till kontrollörer.

Appendix 13 - Comments from the questionnaires on board route 58

Håller ej tidtabellen!

Se till att bussarna kommer när dom skall till hållplatserna. Varken för tidigt eller sent o definitivt inte inställda turer.

Bussturen 700 från centralstationen är ibland försenad eller inställd. Skulle vilja få information så man kan gå till spårvagnshållplatsen istället.

Tråkigt med att en del sätter sina skor på sätena

Utrymme för cykel

Viktigt att bussarna håller tider!!!!

Att bussarna håller tid!!!

Ta bort bulorna?

Idag 15/3 buss 17.13 ca 6 min försenad

Har flera gånger i vinter förgäves väntat på buss 58...