

Summary:

# The importance of travel information for use of public transport

## The effect of the services of Trafikanten

### Background to the project

Trafikanten is an information service for public transport in Oslo and Akershus and is operated by Oslo og Akershus Trafikkservice AS (OATS). The company is owned by AS Oslo Sporveier, Stor-Oslo Lokaltrafikk a.s. (SL) and Norges Statsbaner AS (NSB). Trafikanten began operating in 1986 and now offers travel information and travel card sales through five main channels:

- ❑ Information desks at Jernbanetorget and Gardermoen
- ❑ Travel information telephone service (177)
- ❑ The Internet ([www.trafikanten.no](http://www.trafikanten.no))
- ❑ WAP
- ❑ SMS

The purpose of this project has been to evaluate the information services of Trafikanten. The effects of running this information service can be measured by its impact on travel behaviour, i.e. by identifying how many journeys by public transport can be attributed to the information service.

We can then calculate the financial value of Trafikanten's services in terms of ticket sales associated with these journeys. This value is computed on the basis of income from "new public transport journeys", i.e. public transport journeys that would not have been conducted if the customer had not received assistance from Trafikanten.

The value of Trafikanten's services was calculated in 1999 on the basis of surveys amongst those using the 177 telephone service carried out in 1998 and 1999 (Feedback 1999a and 1999b). The two surveys showed that 17 per cent and 12 per cent respectively of all contacts made to Trafikanten generated a "new public transport journey" and the value of these journeys was calculated at around NOK 30 million per year (Feedback 1999b).

There were two main reasons why Trafikanten now wanted a new evaluation:

1. In the last 4-5 years there has been a strong increase in the number of contacts made to Trafikanten (from 1.2 million in 1998 to ca 5,85 million in 2003)
2. The majority of the increase has been for the automated services, particularly the Internet service. Today about  $\frac{3}{4}$  of all enquiries are made via the Internet, WAP and SMS

The increase in the number of customer enquiries should indicate that the number of journeys generated by Trafikanten is even higher today than it was 5 years ago. The strong increase in the proportion of customers using the Internet service makes it necessary to also study whether automated services generate an equally large proportion of "new public transport journeys" as manual services do.

### The purpose of the project

The main purpose of the project has been to provide answers to the following questions:

- ❑ *What proportion of enquiries to Trafikanten lead to journeys by public transport being undertaken which would not otherwise have been undertaken?*
- ❑ *What is the value of these "new journeys" in the form of ticket sales?*

The project is also designed to provide answers about whether utilisation and profitability of Trafikanten's services are dependent on the type of information channel used. The survey also covers people's knowledge and use of Trafikanten's services, how they use them and for which type of journey and, not least, the significance of Trafikanten's services for the choice of transport mode. We will also look at satisfaction with Trafikanten and preferences for information channels.

## Method

In order to establish the extent to which Trafikanten contributes to more journeys being undertaken by public transport, we need to ask those who use Trafikanten about the significance the information has for their choice of transport mode. Thus we carried out interviews with Trafikanten's customers.

In order to obtain a representative sample of Trafikanten's customers, a telephone survey was carried out with a representative sample of the population in Oslo and Akershus. The sample comprises a total of 4000 people over the age of 15, whereof 20 per cent were in our target group (i.e. they had used Trafikanten in the previous month). The sample comprises equal numbers from each of the two counties.

The sample was reduced in steps to the sub-samples (target groups) we have selected to use in the analyses:

- ❑ **The population:**  
Both users and non users of Trafikanten
- ❑ **The target group:**  
People who have used Trafikanten in the previous month
- ❑ **The sub-target group** which consists of people from the target group who state that they would not have used public transport, or not have undertaken the journey at all, if they had not obtained assistance from Trafikanten, i.e. those who generate new public transport journeys.

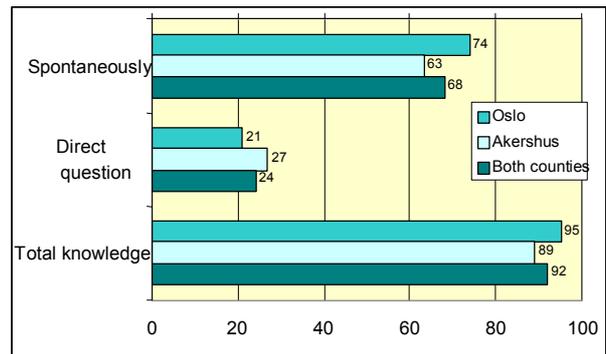
We should emphasise that the sub target group is also a part of the target group but consists of those who have generated "new journeys". In many contexts these two groups are merged to form one group: the target group. The rest of the population are those who have not used Trafikanten in the previous month.

The reason why we have defined the target group as covering those who had used Trafikanten in the previous month is so that the respondents would be able to remember the details connected with their most recent enquiry.

## The population is well aware of Trafikanten

The majority of people in Oslo and Akershus know about or have heard of Trafikanten. When asked where they would go for information about public

transport, 68 per cent stated Trafikanten spontaneously, Figure S.1.

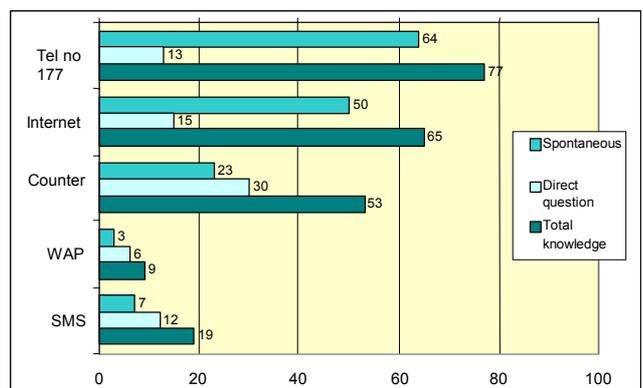


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Figure S.1: Knowledge of Trafikanten – spontaneous (unassisted) and with direct questions (assisted). Trafikanten survey, 2003. N = 4000. Per cent

With regard to the direct question about knowledge of Trafikanten, a further 24 per cent stated that they knew about or had heard of Trafikanten. A total of 92 per cent of the population of Oslo and Akershus have heard about or know about Trafikanten, Figure S.1. In Oslo the proportion which knows about Trafikanten is slightly higher than in Akershus.

The 177 telephone service is the most well known of Trafikanten's information channels, but knowledge of the web page has steadily increased in recent years. The results from the survey show that a total of 77 per cent have heard of the 177 telephone service and a total of 65 per cent have heard about Trafikanten's web page. Half the population has heard about the information counter/desk at Jernbanetorget or Gardermoen, Figure S.2.



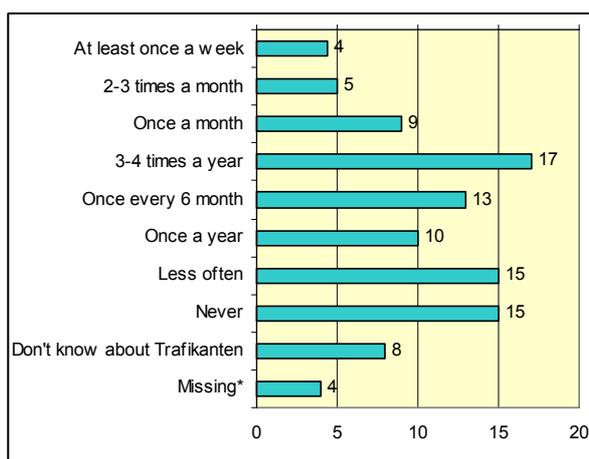
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Figure S.2: Knowledge of the different channels/ services at Trafikanten. Trafikanten survey, 2003. Multiple answers. N = 3481. Per cent

Knowledge of the newest services, information via WAP and SMS is much lower – just 9 per cent know about the WAP service while 19 per cent know that information can be obtained via SMS.

### About 20 per cent of the population use Trafikanten at least once a month

Trafikanten serves 5.85 million enquiries per year (estimate for 2003), which means that a lot of people use the service several times a year. Our data shows that 19 per cent of the population in Oslo and Akershus use Trafikanten at least once a month, Figure S.3. In contrast, 15 per cent of those who know about Trafikanten say that they never use the service. Together with those who have not heard of Trafikanten (8 per cent), those who never use Trafikanten comprise about a quarter of the population of the two counties.



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Figure S.3: How often the inhabitants of Oslo and Akershus use Trafikanten. \*Missing: The proportion which was not asked even though they knew about Trafikanten (due to filter error). Trafikanten survey, 2003. N = 4000. Per cent

The results also show that the inhabitants of Oslo use Trafikanten slightly more often than the inhabitants of Akershus. The proportion using Trafikanten monthly is 23 per cent in Oslo and 17 per cent in Akershus.

### Half had used the Internet for their most recent enquiry

In recent years, the number of enquiries to Trafikanten via the Internet has increased considerably. Our survey shows that 49 per cent of the target group had used the Internet for their last enquiry. 38 per cent has used the 177 telephone service, 10 per cent had visited Trafikanten's information centres at Jernbanetorget or Gardermoen and 1 per cent had used SMS or WAP, Table S.1.

Table S.1: Number of enquiries per channel for Trafikanten compared with the distribution by channel in our survey. Prognosis for 2003 based on real figures as of November 2003.

Channel	Trafikanten*	Survey
Internet	66	49
Tel no 177	16	38
Desk	10	10
WAP	5	0,3
SMS	3	0,7
Don't know	-	2
<b>TOTAL</b>	<b>100</b>	<b>100</b>

\*Source: Trafikanten  
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Compared with Trafikanten's statistics for the distribution of enquiries over the various channels, we see that the use of the Internet is under-represented in our sample while telephone enquiries are over-represented.

### Characteristics of Trafikanten usage

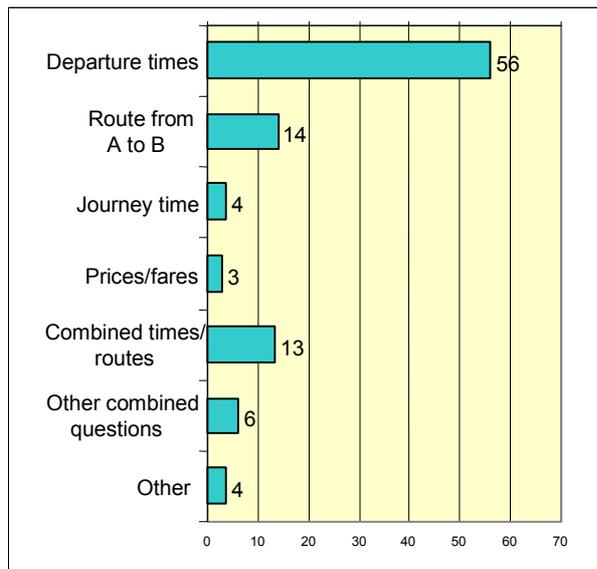
The majority of those in the target group (i.e. those who had used Trafikanten in the previous month) make their enquiries from home (65 per cent) or from work/school (29 per cent).

80 per cent of those in the target group obtained the information for themselves while 20 per cent obtained the information for others.

85 percent of the enquiries were about a specific journey. The majority of the enquiries are made on the day on which the journey is to be made. This applies to 58 per cent of enquiries, while 28 per cent of the enquiries are made a day in advance. The remaining 14 per cent of the enquiries are made two or more days in advance.

## Questions about departure times most usual

If we ask about the nature of the most recent enquiry to Trafikanten, 56 per cent replied that they had questions about departure times, Figure S.4. Questions about the route are also common and comprise 14 per cent of enquiries. Combined questions about routes and departure times represent 13 per cent of enquiries. Only 3 percent asked about prices/fares.



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Figure S.4: Information requested in the most recent enquiry to Trafikanten. N=781. Trafikanten survey, 2003. Per cent

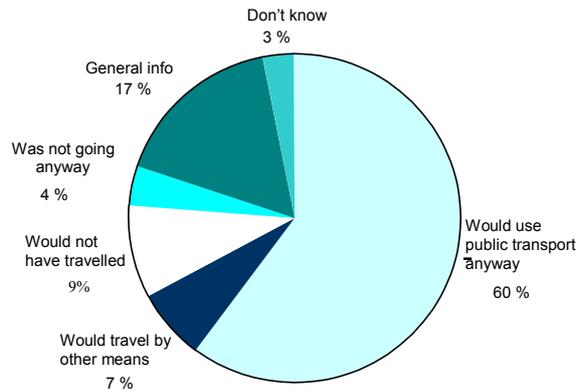
## 16 per cent of enquiries generate "new journeys"

The definition of "new journeys" is a journey by public transport that was carried out on the basis of an enquiry to Trafikanten, and would not have been undertaken without help from Trafikanten. Potentially this applies to all enquiries where the questions are related to a given journey which is to be undertaken. The following question was asked to identify the proportion of "new journeys":

*Do you think that you would have made this journey by public transport if you had not obtained information from Trafikanten?*

If we include those who do not want information for a given journey or who were not going to travel anyway, we obtain the following results, Figure S.5:

- 60 per cent would travel by public transport anyway
- 17 per cent required general information
- 9 per cent would not have travelled
- 7 per cent would have travelled by other means
- 4 per cent was not going anyway
- 3 per cent don't know what they would have done



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Figure S.5: Proportion of enquiries which generate "new journeys by public transport" and the proportion which would use public transport anyway. N = 795 (had used Trafikanten in the previous month). Trafikanten survey, 2003. Per cent

Thus 9 per cent of users say that they would not have travelled if they had not got the relevant information, while 7 per cent would have travelled by other means, i.e. not by public transport. This means that a total of 16 per cent of the enquiries to Trafikanten generate journeys by public transport which would not have otherwise been made. The result fits well with previous surveys.

An important result from the study is that the internet service generate an equally large proportion of "new public transport journeys" as manual services do.

## Characteristics of "new journeys"

The sub target group ("new journeys") does not stand out from the rest of the target group with regard to gender and age, location, how often they use Trafikanten and how often they use public transport. However, the target group as a whole (including the "new journeys" group) is different from the general population with respect to use of

public transport, use of Trafikanten, gender, age, and location, see Table S.2.

There is a slight tendency for the sub target group ("new journeys") to require rather more complicated information than the rest of the target group.

A large proportion of the sub target group uses public transport frequently. 75 per cent of this group uses public transport at least once a week. This implies that the largest potential for "new journeys" is with those who already travel by public transport.

Table S.2: Characteristics of target group, sub target group and others in the sample. Trafikanten survey, 2003. Per cent

Characteristics	Target group	Sub target group	Rest of the population	All
<b>Gender</b>				
Men	35	40	42	41
Women	65	60	58	59
<b>Age</b>				
15-25	14	18	9	10
26-34	24	24	14	16
35-44	23	23	17	19
45-54	18	18	18	18
55-66	12	9	19	18
67 and above	9	9	23	20
<b>County</b>				
Oslo	55	48	45	47
Akershus	45	52	55	53
<b>Use public transport</b>				
At least once a week	75	75	44	50
<b>Use Trafikanten</b>				
At least once a month	61	63	7	18
<b>Total</b>	<b>668</b>	<b>127</b>	<b>3205</b>	<b>4000</b>

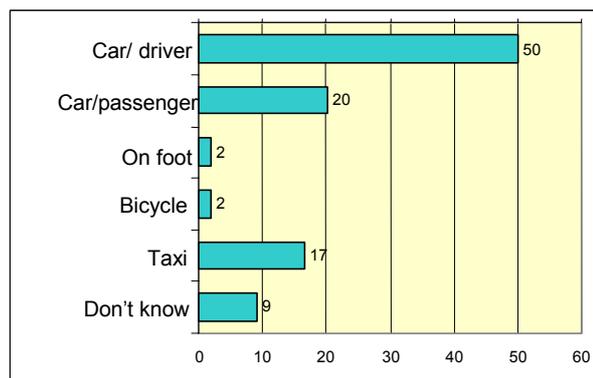
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## The car as an alternative form of transport

The sub target group "new journeys" consists of those who would not have made the journey at all (9 per cent) and those who would have chosen another form of transport (7 per cent). The alternative form of transport is most often the car. A total of 70 per cent state that they would use the car – 50 per cent as driver and 20 per cent as passenger, Figure S.6.

The proportion that would have gone by taxi is 17 per cent, and walking and cycling comprise 4 per cent. In addition, 9 per cent do not know which form of transport they would have chosen. These figures

are somewhat uncertain since they are based on the replies of only 54 respondents.



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Figure S.6: How would you have travelled if you had not obtained information from Trafikanten?

N = 54. Trafikanten survey, 2003. Per cent

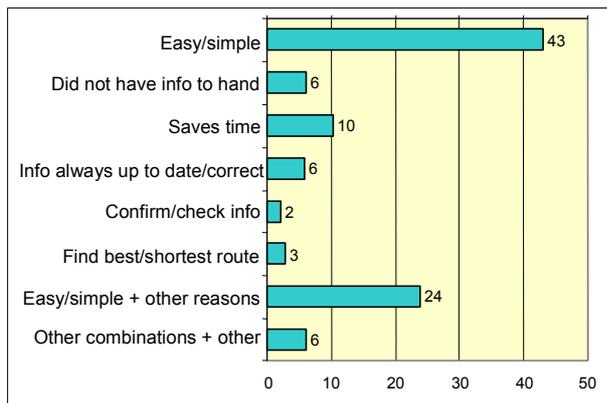
## Characteristics of those who use public transport anyway

60 per cent of those who had used Trafikanten in the previous month (the target group) state that they would have used public transport anyway. The proportion is 77 per cent when we exclude those who asked Trafikanten for general information, i.e. information not connected to a specific journey, and those who were not going to travel anyway.

When asked how they would have otherwise obtained the information they needed, 48 per cent replied that they would have checked at the bus stop/station, 25 per cent would have looked it up in the printed timetable, 6 per cent would have tried both ways, 10 per cent would have asked family and friends or others and 11 per cent would have tried other sources.

## Trafikanten is used because it is simple and saves time

Those who stated that they would have used public transport anyway were asked why they had contacted Trafikanten. The most common reason is that it is easy/simple, sometimes combined with other reasons– in all, 2/3 gave this reason. 10 per cent say that it saves time, 6 per cent say that information is always up to date, see Figure S.7.

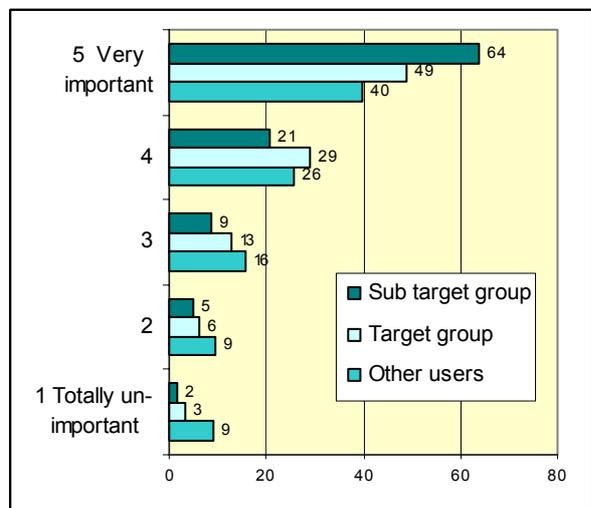


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Figure S.7: Reasons for using Trafikanten. Question put to those who would have used public transport anyway. N = 475. Trafikanten survey, 2003. Per cent

### Trafikanten is important when choosing how to travel

Almost 70 per cent of the population who had used Trafikanten think that the information they get from Trafikanten is important when choosing mode of transport. They have given values of 4 or 5 on a scale of 1-5.



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Figure S.8: How important are Trafikanten's services when making your choice of journey? All users. N = 2773. Trafikanten survey, 2003. Per cent

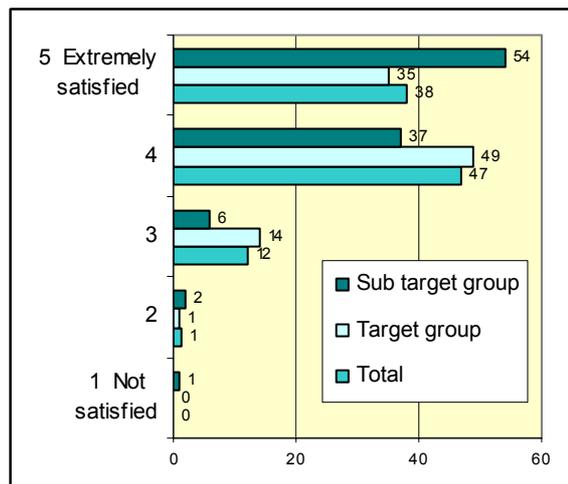
There is also a clear connection between frequency of use and importance of the service. The more often one uses Trafikanten, the more important the service becomes for choice of transport mode. Naturally, the sub target group gives more signifi-

cance to Trafikanten for their choice of transport than other users do, Figure S.8.

### Users are satisfied with Trafikanten

The respondents in the target group (used Trafikanten in the previous month) were asked if they were generally satisfied with Trafikanten. The results show that 38 per cent allocated a score of 5 and 48 per cent gave a score of 4, on a scale of 1-5, Figure S.9. Thus, a total of 86 per cent of those asked in this group are extremely satisfied or very satisfied with Trafikanten.

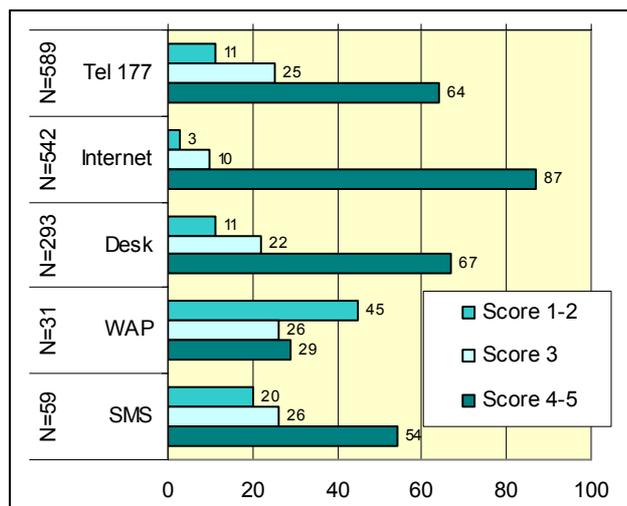
The sub target group is more satisfied with Trafikanten than the others in the target group. While 54 per cent of the sub target group gave top marks to Trafikanten, the corresponding proportion is 35 per cent among the rest of the target group, Figure S.9.



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Figure S.9: How satisfied are you with Trafikanten overall? Target group. N=790. Trafikanten survey, 2003. Per cent

Satisfaction is clearly highest for the Internet service. Almost 90 per cent are very satisfied with this channel (value 4 or 5), Figure S.10. After this comes the desk and tel. no 177, with 67 and 64 per cent of very satisfied customers respectively. Half of the sample is very satisfied with the SMS service. However the WAP service has a large proportion of dissatisfied customers, with 45 per cent giving scores of 1 or 2. This may be due to the fact that the service is still relatively new and has not been sufficiently tested.



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Figure S.10: Satisfaction with the different channels of information offered by Trafikanten. Proportion of those who had heard about the channel (N), "don't know" group omitted. Trafikanten survey, 2003. Per cent

## The value of the journeys generated by Trafikanten

In evaluating the value of Trafikanten's services, we distinguish between direct and indirect effects of Trafikanten's services on journeys by public transport carried out in Oslo and Akershus. The direct effect consists of the financial contribution from journeys which would not have been undertaken without information from Trafikanten. The indirect effect occurs primarily in the form of Trafikanten's contribution towards increased customer satisfaction and knowledge of public transport services.

We have calculated the value of the journeys generated by Trafikanten on the basis of the ticket sales associated with these journeys, data about return journeys, the number of people travelling together and the number of repeat journeys.

The financial value of these journeys will be greater the larger the proportion of journeys that are made using a single ticket or a commuter ticket for a specific number of journeys. When journeys are paid for with a season ticket which has already been purchased, we cannot say that the journeys contribute to additional income for the public transport companies. Our data shows that 80 per cent of the generated journeys are carried out using single tickets or commuter tickets for a specific number of journeys.

The following factors are included in the calculation:

1. *Number of enquiries per year:*  
Ca 5 million
2. *Number of enquiries which generate "new journeys":*  
16-17 per cent<sup>1</sup>
3. *Ticket income:*  
67 per cent have used a single ticket  
13 per cent have used a commuter ticket
4. *Return journeys:*  
67 per cent used public transport for their return journey
5. *Ticket income for fellow travellers:*  
40 per cent travelled with others, i.e. 1.6 people on average  
Fares: 75 per cent on adult fares and 25 per cent on child/senior citizen fares
6. *Number of times the journey will be repeated in the next 12 months:*  
Limitations: No repeat, 2, 3, 4, 6 and max 12 journeys

A highly simplified depiction of this calculation is shown in Table S.3. For the sake of simplicity we have here set the number of enquiries per year at 5 million. When 16-17 per cent of enquiries generate "new journeys by public transport", this comprises a total of ca 800 000 generated journeys per year. If we multiply these journeys by an average ticket price of NOK 18 and include any return journeys, we have a total of NOK 24 million. If we include the ticket sales associated with fellow travellers, the total adds up to ca NOK 40 million.

This is the minimum value of the generated journeys. Many of these journeys will be repeated. Some people state that they would only repeat the journey a few times while others will repeat the journey many times. High values for the number of times the journey will be repeated have a major effect on the value. In this example, we have set a limit of a maximum of 6 journeys per person per year. When these journeys are included in the calculation we obtain a value of NOK 111 million per year. This value does not include season ticket journey or repeat journeys for those travelling together.

<sup>1</sup> The proportion of enquiries that generates new journeys lies between 16 and 17 per cent, depending on how we treat those who reply "don't know".

Table S.3: Simplified depiction of the calculation of the value of Trafikanten's work. Data from the Trafikanten survey, 2003.

Factors	Data	Result
Number of enquiries per year	Ca 5 mill	
Number of enquiries that generate "new journeys" by public transport"	16-17 per cent*	800 000 journeys per year
Ticket sales	Average ca 18 NOK*0.8 mill	NOK 14.4 mill
+ return journey	0.67*14.4 mill	+ NOK 9.65 mill
<b>TOTAL</b>		NOK 24.05 mill
+ ticket sales involving fellow travellers	NOK 14.4mill * 0.63 people	+ NOK 9.07 mill
+ return journey	0.67*9.07 mill	+ NOK 6.08 mill
<b>TOTAL (combined)</b>		NOK 39.2 mill
+ repeat (max 6) journeys (excl. fellow travellers )	Average ca 3 journeys 3*24.05 mill kr	NOK 72.15 mill
<b>TOTAL</b>		NOK 111.35 mill

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We have carried out a number of calculations of the value of the generated ticket income with different limitations:

- Limitations on the number of repeated journeys per person which are included
- Whether repeated journeys for fellow travellers are included or not
- Whether season tickets are given a value or not

The criterion of using Trafikanten in the preceding month in order to be included in the survey's target group results in an over-representation of people who use Trafikanten often in the target group. There are significant differences between those who use Trafikanten often and those who use Trafikanten more seldom with regard to the number of enquiries they normally make, the number of repeat generated journeys and the type of ticket used.

It is therefore important to weigh for frequency of usage when calculating the value. In the report, we present both weighted and unweighted estimates of generated ticket income. However, there are no major differences between the weighted and unweighted estimates. The differences lie between +10 per cent and -6 per cent.

The critical difference in the calculated estimates lies in the number of repeat journeys that are included in the calculation. The alternatives "Maximum 12 journeys" and "No repeat" are the upper and lower boundary values, respectively, for the interval within which we assume the direct value to lie. Which estimate between NOK 40 million and NOK 309 million is most correct depends on how correct we think the subjectively decided limitations are. Figure S.11 illustrates the change in estimate of direct value with different limitations.

## Indirect value

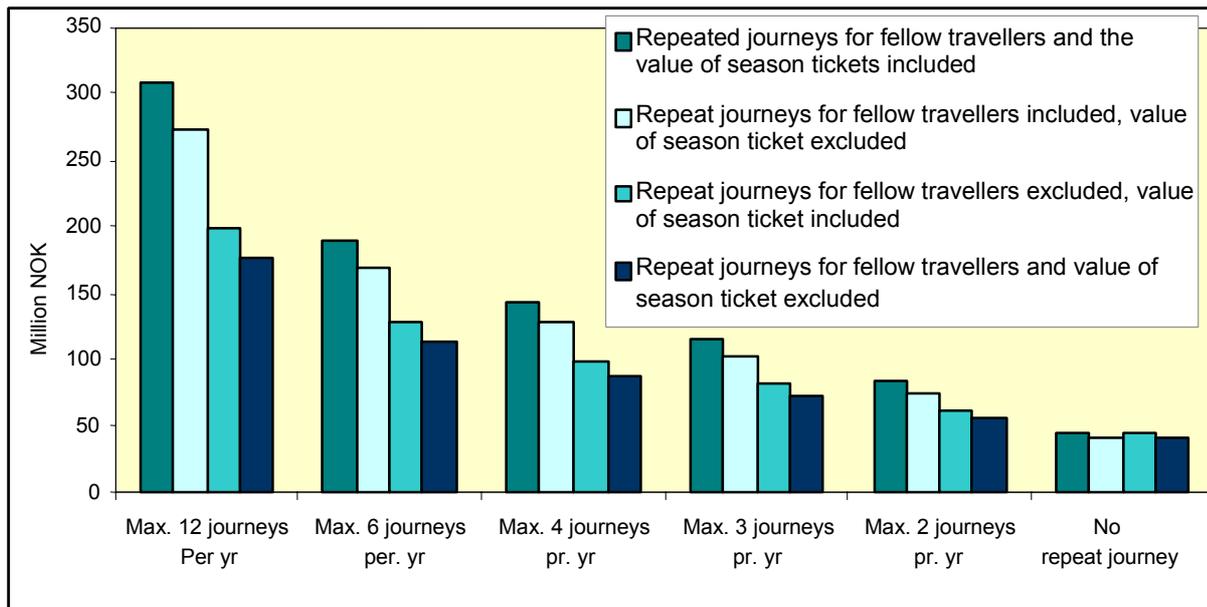
With the help of regression analysis we find a significant association between satisfaction with Trafikanten and satisfaction with public transport in Oslo and Akershus in general.

There is an even stronger relationship between satisfaction with Trafikanten and perception of availability of information about public transport.

There is also a significant association between the availability of information and use of public transport. Easily accessible information means that travellers save time because they can plan their journeys better and avoid unnecessary waiting at bus stops.

Information about alternatives also mean that travellers can chose the one which suits them best, whether they prefer the quickest alternative or focus on other criteria.

The indirect value of Trafikanten's services. i.e. that travellers experience better journeys and are more satisfied with public transport which in turn leads to them using public transport more often, comes in addition to the direct contribution to increased ticket sales. The public benefit of reduced car usage that follows as a result of Trafikanten's services has not been considered in our evaluation.



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Figure S.11. Estimate of generated ticket income with different limitations

## Conclusion

The objective of providing information about public transport services is to give users sufficient information to be able to plan their journey well. Obtaining information about public transport services is itself a barrier that means that many choose not to use the service. The goal must be that no one should be prevented from using public transport simply because they do not know enough about the service. In order to achieve this goal, the information must be simple and easily accessible.

The survey we conducted shows that Trafikanten contributes to more journeys by

public transport. These “new journeys” produces a direct effect in the form of increased ticket sales. The value of the income generated is minimum NOK 40 million when no repeat journeys are included in the estimate. Including a maximum of 12 repeat journeys per person/year the estimate is about NOK 300 million. In addition, Trafikanten contributes to indirect effects in the form of increased customer satisfaction which in turn can give rise to increased use of public transport.

Thus the conclusion is that Trafikanten is a very profitable information service, which also has a very high proportion of satisfied customers.