Influence of Dutch Mobility Policy on Emancipation Process for Women and Men

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In the literature on emancipation and mobility it is often assumed that mobility policy impedes women's chances acquiring equal opportunities in paid employment and activities outside the house. It is said that too much emphasis is placed on the use of the traffic and public transport system by men; therefore, the demands women have in using the transport system are not met. A literature research is conducted to determine the influence of the Dutch mobility policy on the emancipation process in The Netherlands. Further, the validity of this assumption is tested. Relevant policy measures with respect to mobility and traffic safety are evaluated on the basis of three emancipation indicators: (a) the increase in possibilities to participate in employment by women, (b) the increase in possibilities to do activities outside the house by women, and (c) the increase in housekeeping by men. One conclusion of this study is that mobility is just one of the many aspects influencing emancipation. Mobility can be seen as more or less facilitating emancipation, but never as decisive in itself. Another finding is that the effects of the mobility measures do not impede the emancipation process as is assumed in current literature. Most measures are rated neutral or slightly positive on the indicators. This can be explained by the fact that most policy measures tend to increase the attractiveness of modes of transport other than the car. Only few policy measures aim to decrease the use of cars directly.

In the last decades mobility in The Netherlands has taken flight. The most important reason for this growth is the general economic and population growth (7). Next to the increase in the economy, the massive growth in mobility is also influenced by social cultural shifts like the emancipation process. During the last decades the traditional sex role models have been changing, causing women to become more mobile (2-4).

It is obvious that the growth in mobility (and, specifically, road traffic) has negative consequences. The mobility policy of the Dutch Ministry of Transport is formulated in the Second Transport Structure Plan. The major goals of this plan are as follows; first to restrain the increase in road traffic for travel considered less necessary and second, to encourage people to switch from the car to alternative modes of transport. In addition to this mobility policy, the central Dutch government policy is to stimulate the emancipation process (5). Therefore, the mobility and emancipation policies are apparently conflicting issues. In current literature on emancipation and mobility it is often assumed that the mobility policy impedes women's chances of acquiring equal opportunities in paid employment and activities outside the house (4,6,7). It is said that too much emphasis is placed on the use of the road traffic and public transport system by men and, therefore, the traveling needs of women are not met. Therefore, policy makers at the Ministry of Transport are concerned about the aims of emancipation policy in relation to mobility.

Because of the apparently conflicting interests between emancipation and mobility, the Ministry of Transport initiated a (pilot) study to uncover the relationship between the mobility policy and the emancipation process (3). In this paper the results of this study are summarized and interpreted. The goal is to establish the extent to which the mobility policy actually impedes or stimulates the emancipation process. First, three "measurement tools" (emancipation indicators), derived from targets set by the Dutch central government in its emancipation policy as formulated in the policy program, are defined. Using these indicators, the travel behavior of women and men that can be related to the emancipation process is measured. Next the differences between women and men in aspects of mobility behavior are discussed. These differences give some insight into differences in demands for traffic and transport facilities. Finally, the influence of the Dutch mobility policy on the emancipation process is evaluated.

DATA USED IN STUDY

Data that directly relate policy measures to observable (emancipated) behavior are, unfortunately, not yet available because most policy measures have only very recently been implemented or are still in the process of being implemented. Therefore, the conclusions of this study should be considered only preliminary.

The study is carried out on the basis of data on mobility behavior of women and men. For this reason, the differences in mobility behavior of women and men are formulated and used.

METHOD

Defining Emancipation Indicators

The first step in the evaluation of policy measures is to formulate emancipation indicators. With these indicators the possibilities of changing mobility behavior of women and men have to be scored because of changes involving more emancipated activity patterns. In this study it was decided that emancipation indicators should involve observable mobility behavior that can be directly "measured." Therefore, the emancipation indicators are to be found in activities or in patterns of activities. The central aim of the emancipation policy as formulated in the Dutch policy program reads as follows:

To promote the transformation process in current society, in which the differences based on sex are still institutionalized to a large extent, to a multiform society in which everyone, regardless of sex or marital state, has the possibility of living independently and in which women and men can realize equal rights, opportunities, liberties and responsibilities (5).
In this same document, this emancipation aim is "translated" to the various departmental areas. The goal of the Ministry of Transport and Public Works is as follows:

Realizing an optimal situation for traffic and transport, thereby creating the conditions for equal participation of both women and men in public and, especially, economic activities and in unpaid work in private life. (5)

This is the Dutch formulation of the targets set for the emancipation process. In other (Western) countries similar policy targets have been set. For example, the Swedish policy aims to build a society in which each individual participates fully in four major roles of daily life: the household/family role, the work/career role, the interpersonal/social role, and the leisure/recreation role (9).

In Dutch society the following three emancipation indicators (fulfilling the prerequisite to be observable activities) can be derived as follows:

1. The goal of "equal participation of both women and men in . . . economic activities" leads to the first indicator: "the increase of possibilities of women to participate in employment";
2. The aim of "equal participation of both women and men in public . . . activities" leads to the second indicator: "the increase of possibilities of women to do activities outside the house"; and
3. The goal of "equal participation of both women and men in . . . unpaid work in private life" results in the third indicator: "the increase of housekeeping and caring tasks by men."

Recent Developments in Activity Patterns of Women and Men

The proportion of the working population of Dutch women increased from 5 percent in 1960 (10) to 34 percent in 1975 and to 50 percent in 1991 (2). Working (more than 1 hr week) women spent an average of 21 hr week at their jobs. For reference, 75 percent of the Dutch men participated (at a minimum of 1 hr/week) in paid labor and spent an average of 36 hr/week at their jobs, both in 1975 and 1990. No shift was observed between 1975 and 1990 in this respect (2). In this research conducted by Batenburg and Knulst, people are considered workers when they spend at least 1 hr of paid work in the week the research was conducted. Congruently, people are engaged in housekeeping and child care if they spend at least 1 hr on these caring tasks in the week the research was conducted. In 1975, 99 percent of the Dutch women spent an average of 28 hr per week on housekeeping and child care tasks [referred to as "caring tasks" in this paper, which include private housekeeping and child care–volunteer aid (paid and unpaid) and are considered activities outside the house]. In 1990, a slight decrease was observed to an average of 25 hr per week. Of the Dutch men in 1975, 85 percent spent an average of 9 hr/week on caring tasks, whereas in 1990 89 percent of the Dutch men spent on average 10 hr/week on caring tasks. From these data it can be concluded that the increase in the amount of women participating in paid jobs has not resulted in an equivalent decrease in the amount of time spent by women on housekeeping tasks, or an equivalent increase in the amount of time in which men participated in caring tasks (2).

Until the 1960s, Dutch women (and especially married women) traditionally did not participate in paid employment. Instead of paid employment they were engaged mainly in housekeeping, child care, and volunteer aid. Having a job is appreciated much more than housekeeping, child care, or volunteer aid. Traditionally the prime task of men in Dutch society is to participate in paid employment. Women, on the other hand, are primarily responsible for the less-appreciated activities. The high appreciation of paid jobs directs the emancipation process to a society in which women combine tasks. From this observation one can also conclude that the emancipation process has not been 'completed' yet because men did not emancipate at the same rate as women and are not yet taking over women's tasks (2,9). A significant body of evidence from the emancipation literature (7,10–13) indicates that more and more women need to combine paid work with caring tasks as a consequence of the emancipation process. Facilitating the combination of these tasks (for both women and men) is crucial to the realization of emancipation aims.

One of the main effects of combining tasks on mobility behavior is that people try to organize their commutes as efficiently as possible by combining different purposes into one trip. This phenomenon is called trip-chaining (14,15). An example of trip-chaining is escorting a child to school on the way to work. In Table 1 the percentages are presented of Dutch full-time employed mothers and fathers who combine trips while commuting. Far more mothers than fathers are making trip-chains. These findings are consistent with Dutch research carried out by Drooglever Fortuijn (16). She finds that women combine on the average 3.3 trips (round trip) during commuting, whereas men on the average combine 2.9 trips. Moreover, 84 percent of the purposes combined with commuting of women can be regarded as unpaid work (mostly caring tasks) compared with 79 percent of the men's trip-chains while commuting. Similar trends were found in the United States in 1989 and 1990 (17). In this study the authors found that women spend 1.3 times as much time combining household activity trips with commuting as did men.

<table>
<thead>
<tr>
<th></th>
<th>Youngest Child Younger Than 6</th>
<th>Youngest Child Older Than 6</th>
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<tbody>
<tr>
<td></td>
<td>From Home to Work</td>
<td>From Work to Home</td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>52%</td>
</tr>
<tr>
<td>Married Mothers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married Fathers</td>
<td>12%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Table 1 Percentage of Full-Time Employed Married Mothers and Full-Time Employed Married Fathers Who Make Trip-Chains While Commuting (15)
How Mobility Measures Affect Emancipation Indicators

The next step is to determine how relevant mobility measures described in the ‘second transport structure plan’ will influence the emancipation indicators and task combining. These measures can have a direct influence on activity patterns of women and men, thereby directly affecting the emancipation indicators. For example, decreasing the frequency of bus lines has a direct negative effect on the possibilities of activities outside the house for people depending on buses. Another (indirect) influence from these measures depends on the way the measures will affect trip-chaining, because trip-chaining is a fundamental need of people combining paid work and caring tasks. As a result, measures that impede the possibilities of trip-chaining will also decrease the possibilities of task combining. This, in turn, will impede the possibility of women combining their caring tasks with paid work and the possibility of working men performing (more) caring tasks.

Differences in Travel Behavior Between Women and Men

In this section the focus is on the most important differences between women and men with respect to mobility behavior because these differences offer insight into differences between women and men in their demands for traffic and transport facilities.

1. Because women combine various tasks, they also combine different travel purposes in a single trip. This means that far more women than men are engaged in making trip-chains (14,15,17).

2. Typically, in The Netherlands, men commute during peak hours. Women also commute during off-peak hours because of part-time jobs. For the caring tasks (traditionally done by women), people travel often in off-peak hours (2). The number of trips for caring tasks during peak hours has increased in the last decades, but, at present, the largest part of these trips is still being made during off-peak hours in The Netherlands.

3. Although women and men make the same number of trips, the travel distances of men are much larger than those of women (6,18–20). In Table 2 travel distances and number of trips for the various modes of transport of Dutch women and men are presented.

4. Women and men use different modes of transport (Table 2). In The Netherlands most households own a single car that is used mainly by the man; far fewer woman than men use cars (18). The car is often used for commuting by men. Women, on the other hand, use more diverse modes of transport than men (21). Until recently, far fewer women than men had drivers’ licenses (18).

5. Far more often than men, women are involved in caring tasks. Women escort (young) children to day-care centers, schools, doctors, hospitals, and other activities more frequently than do men (4,6,14,21).

6. As a result of their housekeeping tasks, women carry heavy shopping bags more often than men (4).

7. Far more women than men are involved in voluntary aid. Therefore, far more women than men escort elderly and sick people to doctors, hospitals, and other activities or just for a short walk. Voluntary aid is part of the indicator activities outside the house (22).

8. Women (far more than men) are concerned about their social safety. Their fear of assault, especially at night, restrains them in traveling (21,23).

Women and men differ in (almost) every aspect of mobility behavior. Having different mobility behavior implies that women have other kinds of travel demands than men. In this sense the assumption that men have other demands on transport than women is true. The assumption that too much emphasis is placed on the use of the transport system by men and that, therefore, demands women have are not met, has, however, not yet been proved. This different mobility behavior is for the greater part directly based on the traditional roles many Dutch women and men (still) have.

### TABLE 2
Average and Percentage of Travel Distances and of Number of Trips per Day by Mode of Transport in 1992 of Men and Women 12 Years and Older

<table>
<thead>
<tr>
<th>Mode</th>
<th>Kilometers</th>
<th>Trips</th>
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<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Car driver</td>
<td>27,8 (61%)</td>
<td>8,6 (30%)</td>
</tr>
<tr>
<td>Car passenger</td>
<td>6,2 (14%)</td>
<td>10,5 (36%)</td>
</tr>
<tr>
<td>Public transport</td>
<td>5,9 (13%)</td>
<td>5,3 (18%)</td>
</tr>
<tr>
<td>Moped</td>
<td>0,4 (1%)</td>
<td>0,2 (1%)</td>
</tr>
<tr>
<td>Bicycle</td>
<td>3,4 (8%)</td>
<td>3,0 (10%)</td>
</tr>
<tr>
<td>Walking</td>
<td>0,9 (2%)</td>
<td>0,9 (3%)</td>
</tr>
<tr>
<td>Total</td>
<td>45,3 (99%)</td>
<td>28,8 (98%)</td>
</tr>
</tbody>
</table>

Note: Percentages do not add up to 100% because of rounding.
EFFECT OF MOBILITY MEASURES ON EMANCIPATION INDICATORS

In the Second Transport Structure Plan 35 policy areas are formulated to restrain the increase in road traffic. In the study by Pol and Zoutendijk (3) 12 relevant policy areas are evaluated. For the purposes of conciseness, the focus in this paper is on the three policy areas that have the strongest impact on the emancipation indicators:

1. Concentration of housing, employment, recreation, and other public facilities;
2. Urban remodeling schemes; and
3. Pricing policy.

Some of the policy measures have recently been implemented; others have plans in an advanced stage and some measures still do not have a (detailed) plan.

In the following section these three policy areas are evaluated with respect to the three emancipation indicators and use of the knowledge of the differences between women and men in aspects of mobility behavior.

Policy Area: Concentration Policy on Housing, Employment, Recreation, and Other Public Facilities

The policy on urban planning and (regional) transport aims to reduce the need to travel (by shortening travel-to-work distances) and promote public transport and cycling. The target scenario is as follows,

- Serving every major housing development from 1995 onwards by high-grade public transport; and
- Equipping residential areas with appropriate public transport services and bicycle infrastructure.

This concentration policy makes facilities more accessible for everyone traveling by bike or public transport. Those who will profit most are people who do not have access to a car. In the Netherlands far fewer women than men have access to a car (18).

This concentration policy also facilitates the combination of paid work and caring tasks for women and men. Community facilities such as day-care centers, schools, and shops are allocated to be situated in a way that optimizes the accessibility by bicycle and public transport. Consequently, no car is required and less time is needed to travel to these facilities. For a lot of married women with (young) children, participation in paid employment is highly dependent on the ability to combine work with caring tasks (7,8,14). This concentration policy has probably a bigger positive effect on the participation in paid employment by women than on the participation in caring tasks by men. This effect can be concluded from the fact that the increase in the number of women participating in paid jobs has not resulted in an equivalent increase in men participating in caring tasks.

Another objective of the employment location policy is improved accessibility of paid work with short commuter distances and commuter times. To what extent this last objective can be reached is not certain because (in The Netherlands) more and more people are willing to travel long distances to find a job that fits their education and ambitions.

An unwanted (by the Ministry of Transport) side effect can occur in households consisting of two adults who own a single car that is used for commuting by the man. When this man makes the transfer from commuting by car to commuting by bicycle or public transport the car will be available for the woman. This availability of the car will only positively influence the emancipation indicators if she uses the car in a way that alters her activity pattern, such as in participating in paid employment, increasing the amount of working hours per week, or becoming involved in (more) activities outside the house. On the other hand, if she uses the car for making caring tasks more convenient, it will not have a positive effect on the emancipation indicators because her activity pattern does not change.

Policy Area: Urban Remodeling Schemes

A reappraisal of the car’s role in Dutch cities will lead to the target scenario of discouraging nonessential traffic in the inner city. The use of the car for short journeys will be discouraged by the implementation of a coarse-mesh structure for the road network using ring and loop systems in which urban and residential areas only can be reached by car from an external ring route. Bicycles, public transport, and delivery vehicles will be advanced through keeping open the internal routes for these modes of transport.

As a consequence of the urban remodeling policy, community facilities such as schools, day-care centers, and shops will be less accessible by cars and more accessible by walking, biking, or public transport. This can have some negative effect on the indicator “participation of women in employment” because the use of a car to escort very young children to day-care centers can be crucial. Mothers may consider the amount of organizing and time they need to bring and pick up their babies and toddlers to and from day-care centers too high a barrier to continue their work or to start a new job. This impeding effect can be overcome by an integration of this policy area with the policy area of “concentrating housing, employment, recreation, and other public facilities” and by improving the service of the public transport in off-peak hours.

It is possible that the travel behavior of men will be more constrained than that of women because far more men than women rely on car mobility (18). The mobility of women can be enhanced because they, more often than men, use a bicycle or public transport. The urban remodeling policy may have a positive effect for women participating in activities outside the house because the accessibility of these facilities will be improved also.

To require a modest role for the car as the mode of transport the notion of “low-car-density” residential areas with parking facilities on their fringes has emerged. This concept probably has the same negative effect as that described earlier because it impedes the escorting of young children to day-care centers by car.

A positive effect of low-car-density residential areas can be expected as well, however. Cars hinder children in their ability to play outdoors because of the risk of accidents and the parking space cars require. A prime advantage of low-car-density residential areas is that children can play outdoors without adult escort. This will ease the caring tasks of mothers who, in Dutch society, as said before, are often responsible for caring tasks. This might have a positive effect on the emancipation indicators depending on the personal interpretation of this free time by women. For instance, if this time is used for education or personal development, it will have a positive effect on the indicator “the increase of possibilities of women to do activities outside the house.”
Policy Area: Pricing Policy

Pricing policy consists of the increase of the price of certain modes of transport. Measures will be taken to substantially increase the variable costs of the car, to introduce charges on certain sections of the road network at certain times, and to keep the costs of car use in line with the costs of public transport.

Pricing policy is one of the key tools to achieving the target scenario of deterring the use of cars on certain sections of the road network at certain times to reduce congestion problems. Raising fuel tax in combination with a cut in annual vehicle tax will deter car use in general. Tolls and peak-hour surcharge will deter car use in peak hours on congestion points.

The effect of pricing policy is uncertain because most of the pricing policy measures have not yet been introduced in The Netherlands. The pricing policy aims to stimulate car drivers into avoiding the expensive and busy rush hours. Further, it aims to stimulate car drivers to switch and use public transport or a bicycle.

An unwanted possibility of the pricing policy is that people might just pay the price and continue to use their cars. Increasing costs have to be paid by the households of these car drivers who do not change their behavior. These costs have to be compensated in households with a rather small income. One way of compensation is to reduce car use for the kinds of traveling considered less necessary. This will more often lead to reduced car use by women than by men because women are more willing to curtail their car use than are men. This may, therefore, have a negative effect on outdoor activities by women or even on participating in paid employment by women.

A lot of women have part-time jobs and, therefore, have small relative incomes. If women who work are restricted to commuting during peak hours, the pricing policy can have impeding effects on the participation of married women in employment. In this particular case, when the household is not dependent on the salary of the woman, the costs of traveling are not counterbalanced by income.

When car drivers do change their commuting behavior in transferring from car to other modes of transport, this often means that the car will be left available for the woman. As discussed before, the implications of the availability of the car will positively influence the emancipation indicators only if she uses the car in a way that alters her activity pattern. On the other hand, if she uses the car for making caring tasks more convenient, this will not have a positive effect on the emancipation indicators because her activity pattern does not change.

DISCUSSION

In another section, Effect of Mobility Measures on Emancipation Indicators, a description is given of the expected effects of the policy measures as presented in policy areas. This description is translated into scores on the three emancipation indicators presented in Table 3. The range of the scores in this table is from + +, meaning a very positive effect to --, meaning a very negative effect. A 0 indicates that the expected effect of the policy area on the specific indicator is neutral.

The scores indicated in Table 3 suggest that mobility measures do have only a small influence on the emancipation process. On a scale from ++ to --, the scores of the policy areas mostly have neutral (0) or slightly positive (0+/+) or slightly negative (0/-) effects. It is true that aspects of transport such as supply, comfort, and price can certainly (indirectly) impede or stimulate participation in paid work and activities outside the house by women, but aspects of transport are only a decisive factor in a restricted number of cases.

The scores indicated in Table 3 also suggest that most measures set by the Dutch Ministry of Transport as formulated in the Second Transport Structure Plan have, in fact, a neutral or slightly positive effect on the realization of the aims set by the emancipation policy. Only a few measures tend to have a negative impact on the eman-

<table>
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<th>TABLE 3 Scores on Emancipation Indicators</th>
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<tr>
<td><strong>Policy Area</strong></td>
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<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Concentrating housing, employment and other public facilities</td>
</tr>
<tr>
<td>Urban modeling schemes</td>
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<td></td>
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<tr>
<td>Pricing policy</td>
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The emancipation indicators. Especially the scores on the third emancipation indicator, "the increase of housekeeping and caring tasks by men," indicate that policy measures hardly have any impact on the emancipation process of men.

CONCLUSIONS

Used Methods

In this study, the aim is to evaluate the effects of policy measures on emancipated behavior in an objective way. For this purpose three emancipation indicators from the goals act by the central government on emancipation policy are derived. Using these indicators, the potential changes in emancipated activity induced by mobility policy can be "measured." Three policy areas are found suitable for evaluation using emancipation indicators: (a) the increase in possibilities to participate in employment by women, (b) the increase in possibilities to do activities outside the house by women; and (c) the increase of housekeeping by men. Unfortunately, there is still insufficient direct data about changes in mobility patterns. Consequently, the discussion and conclusions are based on current literature on the mobility behavior of women and men. The conclusions of this work should, therefore, be viewed as preliminary only. Future research should aim to acquire direct data on the consequences of mobility policy on emancipated behavior and to further explore these consequences in terms of the emancipation indicators developed in this paper. For each policy area the effects of the policy measures are described. This description is into scores on the three emancipation indicators.

Conclusions on Basis of Scores on Emancipation Indicators

From this survey the following conclusions are drawn. Mobility measures have only a modest influence on the emancipation indicators. It is true that aspects of transport certainly (indirectly) impede or stimulate participation in paid work and activities outside the house by women, but aspects of transport are decisive arguments in only a few cases. This can be explained by the fact that emancipated behavior requires a change of attitude. This change of attitude cannot be achieved solely by mobility policy. If, however, an attitude change were to occur, mobility policy would be able to both facilitate and to impede the emancipated behavior.

Most policy measures as formulated in the Second Transport Structure Plan can be concluded to have a neutral or slightly positive effect on the realization of the aims set by the Dutch emancipation policy. Few measures tend to have a negative impact on the formulated emancipation indicators. Thus, the commonly made assumption that mobility measures have an impeding effect on emancipation seems unwarranted. This finding can be explained by the fact that most policy measures are pull measures, that is, they reward the desired behavior by improving the attractiveness of alternative modes of transport. Far fewer policy measures are push measures for which there is a penalty for undesired behavior, such as decreasing the attractiveness of car use in pricing policy, whereas the expected effect of push measures is stronger, that is, to deter the increase in car use, than the expected effect of pull measures.

Another conclusion of this study is that almost none of the evaluated measures have any impact on the increase in caring and household tasks by men. This finding can also be explained by the fact that an attitude change by men is required, which cannot result from transport policy. Again, if an attitude change does take place, the measures that facilitate task combination will have a positive effect on men doing caring and household tasks and women participating in paid jobs.

In this study, the expected effects of the intended policy measures are discussed, as formulated in the policy program Second Transport Structure Plan on the emancipation process in The Netherlands. The effects of the current Dutch mobility situation on the emancipation process were not addressed. Further research evaluating the current mobility situation on the formulated emancipation indicators is needed. Potentially this research could give insight into the aspects of the current mobility situation that have impeding effects on the emancipation process and that may have stimulating effects on the emancipation process. With these results in combination with the results of the study discussed in this paper, the mobility policy can be reviewed to reach the aims set by the emancipation policy.

ACKNOWLEDGMENTS

The authors thank Ingeborg Oostlander of the Ministry of Transport and Public Works for initiating this study. The paper is sponsored by the Dutch Ministry of Transport and Public Works and Water Management.

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*Publication of this paper sponsored by Committee on Traveler Behavior and Values.*