# COMPANY CARS AND MOBILITY BEHAVIOUR: 3 TYPES OF COMPANY CAR USERS

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## ABSTRACT

The last two decades, the phenomenon of company cars has become very popular. In Belgium, the use of company cars has evolved from being a status symbol for board members and a necessary means for employees who have to make a lot of professional displacements, to a common practice in the composition of the salary package and a popular incentive to attract motivated personnel. This evolution has mainly been triggered by the fiscal advantageous treatment of company cars and the heavy tax burden on labour forces, making it often more interesting for the employer to grant a company car instead of a salary increase leading to the same monetary benefit for the employee. As a result, half of the new car registrations are nowadays made in the name of a company and company cars account for 10% of the Belgian car fleet. In many cases, an employee can use his/her company car for both professional and private displacements. In addition, most costs related to the use of a company car are beard by the employer, turning the company car into a nearly free way of travelling for the employee. Previous researches have already established that the yearly amount of kilometres driven with a company car is significantly higher than that of private cars (e.g. De Witte et al., 2009). Consequently, the rising phenomenon of company cars and its impact on our daily mobility can no longer be ignored. The objective of this paper is to analyse the mobility behaviours induced by the use of company cars in order to make policy recommendations for a more sustainable mobility. To this end, a survey was conducted among Flemish-speaking company car users to learn more about their company car use and travel motives.

Keywords: company cars, mobility behaviour

# 1. INTRODUCTION

The last two decades, the phenomenon of company cars has become very popular in Belgium. The use of company cars has evolved from being a status symbol for board members and a necessary means for employees who have to make a lot of professional displacements, to a common practice in the composition of the salary package and a popular incentive to attract motivated personnel in specialized functions where adequately trained personnel is scarce (e.g. Information Technology (IT) sector). This evolution has mainly been triggered by the fiscal advantageous treatment of company cars and the heavy tax burden on labour forces, making it often more interesting for the employer to grant a company car instead of a salary increase leading to the same monetary benefit for the employee.

Company cars, as we consider them, are not only attributed exclusively for the purpose of making professional trips, but can also be used for private displacements. On top of that, company cars are usually accompanied by a fuel card or a fuel reimbursement system, which reduces the costs of using this transport mode to nearly zero from the viewpoint of the employee who receives a company car. As such, it can be expected that the availability of this 'free' transport mode has an influence on these peoples' travel behaviour and their modal choice. However, despite the increasing popularity of company cars, not much research has been done on the company car topic. Therefore, the objective of this paper is to provide insight in the issue of company cars and its impact on travel behaviour in order to make policy recommendations to support a more sustainable mobility behaviour. To this end, a survey was conducted among company car users to gain information about their company car use.

The outline of this paper is as follows: first of all, in section 2, it will be clarified what is meant exactly by a company car. Next, section 3 will elucidate the research objectives and the investigated research questions. In the following section (section 4), the methodology used for drawing the sample and recruiting the respondents will be explained. Section 5 will provide a description of the sample used to derive the findings on company car travel behaviour and in section 6, the main results of the research will be presented. Here, the focus will be on the distribution of trip purpose kilometre proportions and on potential substitution opportunities with regard to the home-work displacements. Finally, in section 7 conclusions will be drawn and policy recommendations will be made.

# 2. COMPANY CAR DEFINITION

In this paper, company cars are defined according to the definition proposed by Cornelis et al. (2007) in their report on Company Car Analysis (COCA project). They define a company car as: 'A vehicle whose initial cost is supported by the employer, which is awarded to an employee for his personal, professional and/or private trips, and which can be used by the employee without the authorization of his employer'. With this definition, vehicles registered in the name of the company which are exclusively being used for professional purposes, such as transport and service vehicles, are being excluded.

# 3. RESEARCH OBJECTIVES

The main research objective is to gain insight in the impact of company cars on travel behaviour. This objective is being approached by zooming in on the travel behaviour of Flemish employees with a company car. The main issues that will be addressed are the determination of the distribution of home-work, professional and private kilometre proportions in the total amount of annually covered kilometres (How is the annual mileage of company cars constituted in terms of home-work, professional and private kilometre proportions? What are the repercussions of the distribution of these proportions on the annual mileage of company cars?), and the examination of potential substitution effects in case employees would no longer be able to use their company car (What home-work transport mode would current company car users choose in case they could no longer make use of their company car?).

# 4. METHODOLOGY

This section describes how the data collection was executed. First, it will be explained how the questionnaire was designed. Next, it will be elucidated how the respondents were recruited.

## 4.1 Designing the questionnaire

The questionnaire designed for the purpose of this research consisted of 4 main parts. The first part included questions on the company's mobility policy in order to gain insight in whether or not the company makes an effort to support sustainable transport modes and to find out which of the company car related costs are beard by the company. In the second part, questions were aimed at collecting information on the socio-demographic profiles of the respondents, asking for their education, gender, age, etc. The third part entailed questions on travel related characteristics (home-work distance, annual mileage, etc.) and in the fourth part the questions addressed the description of typical displacements made on a reference day (travel motive, transport mode, etc.). Taking into account the loaded schedules of our population of interest, it was decided to work with web based surveys giving the respondents the opportunity to fill out the questionnaire at their own convenience.

## 4.2 Recruiting the respondents

An important issue that had to be overcome while performing this research on company cars is the unavailability of a reference scenario with regard to company car users. Given that there is no database available on the company car user population or on company car attributing firms, we had to rely on other sources to recruit enough useful respondents to collect data on the phenomenon of company cars. Therefore, it was decided to mobilize a market research company (TNS Dimarso) to contact the respondents. This working method was made possible thanks to a budget granted by the Flemish Government. The main advantage of this approach is that it facilitated the recruitment process as the market

research company can fall back upon their year-long expertise and upon panels which have been established during those years, which makes it easier to get in touch with people belonging to the target population. However, as the provided budget originated from the Flemish Government, it was primarily used for surveying Flemish-speaking employees with a company car. As a result, the sample of respondents, as well as the research results, are Region-oriented, with an emphasis on employees residing in Flanders.

Before the actual recruiting process started, the market research company first conducted a test by sending an email with the link to the web-based survey to 1500 of their contacts. After this test was carried out promptly and minor changes were effectuated to improve the user-friendliness of the survey, the final version was sent to a panel of 1500 members with the request to follow the link and fill out the survey concerning the topic of company cars. This fieldwork started on 7 May 2008 and ended almost two weeks later on 19 May. Eventually, this approach proved to be very successful and resulted in 720 responses from (mostly) Flemish employees with a company car.

# 5. SAMPLE CHARACTERISTICS

Previous research on company cars elucidated some particularities of company car users in terms of their socio-demographic profile (De Witte et al., 2009). It was observed that employees with certain socio-demographic aspects are more likely to have a company car than others. As this research only concentrates on employees with a company car, it can be expected that the collected sample will for a large part be composed of people corresponding to these characteristics, namely higher educated males, aged less than 50 years and occupying a management or board function in a company located in the Flemish Region.

## 5.1 More males

Male employees are more likely to be attributed a company car than female employees (De Witte et al., 2009; Cornelis et al., 2007), suggesting that the proportion of males in the sample should be higher than the proportion of females. Figure 1 demonstrates that this is indeed the case: 70% of the respondents constituting the sample are male employees, while only 30% are female.

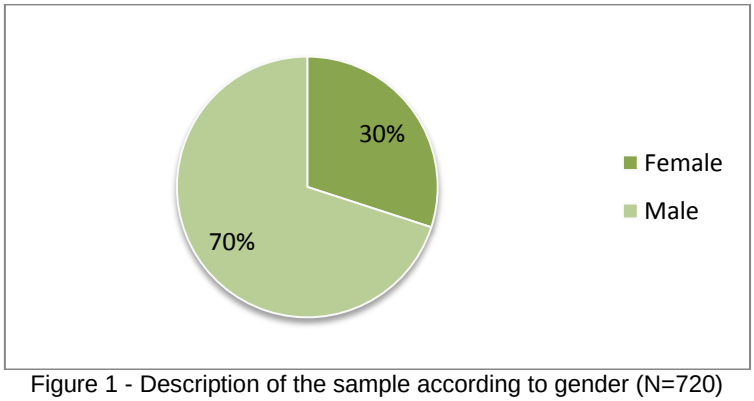


Figure 1 - Description of the sample according to gender (N=720)

## 5.2 Younger than fifty

Compared to employees being in their fifties or older, employees belonging to younger age categories are more likely to have a company car at their disposal (De Witte et al., 2009). Figure 2 shows the age categories of the respondents in the sample. Employees being in their thirties are the largest group, as they constitute 39% of the sample. 29% of the respondents are aged between 40 and 50, 16% belongs to the youngest age category (20 to 29 years old) and an equal proportion can be attributed to employees being 50 years or older (16%).

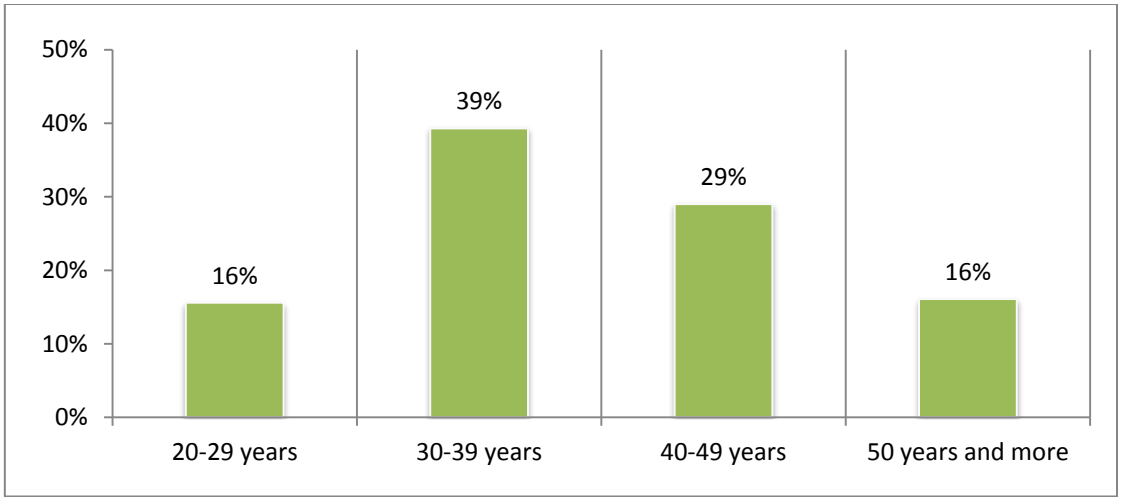


Figure 2 - Description of the sample according to age (N=720)

## 5.3 Higher educated

Higher educated employees are more likely to be granted a company car than lower educated people (De Witte et al., 2009). Employees are categorized as higher educated when they have completed education at university or college level. The lower educational level category is composed of people who finished studying after obtaining their secondary or primary school diploma. Figure 3 confirms that there are more higher educated employees (77%) in the sample than lower educated ones (23%).

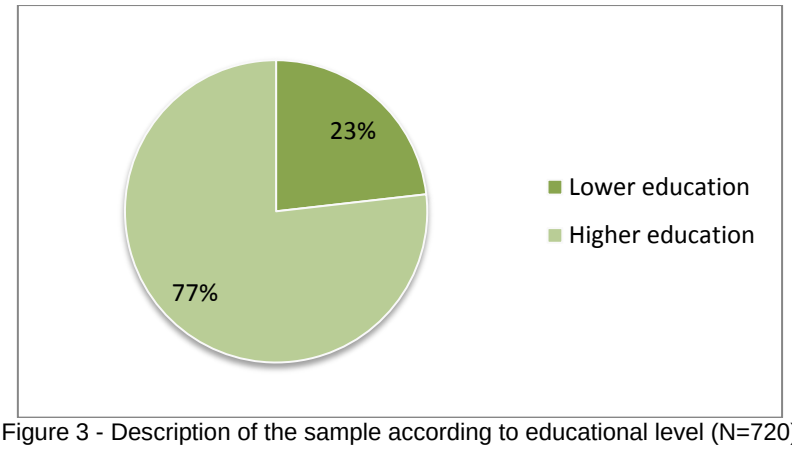


Figure 3 - Description of the sample according to educational level (N=720)

## 5.4 Managers and board members

Managers and board directors are more likely to drive a company car (De Witte et al., 2009). Figure 4 shows the description of respondents according to their professional status. A distinction is made between people without management function and people with a management or board function. The first category comprises mainly employees, but also a few workmen. The second category is composed of managers from all three levels (low, middle and senior level management) as well as board directors.

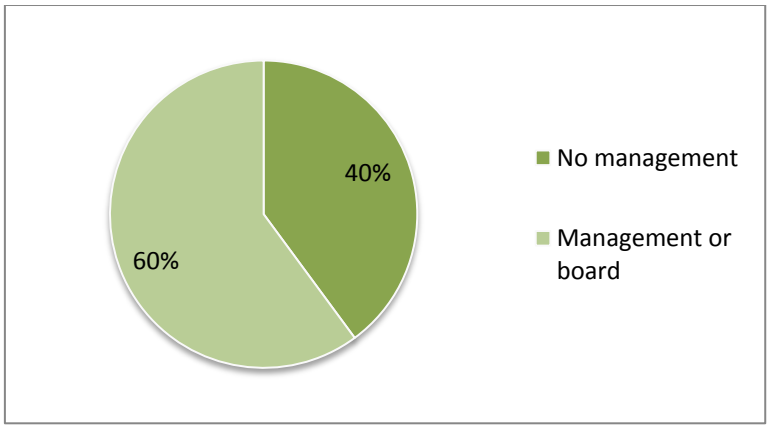


Figure 4 - Description of the sample according to professional status (N=720)

Although managers and board directors are indeed better represented in the sample than employees and workmen are, the proportion of respondents without management function is considerable (40%). This can be clarified by the fact that function level as well as function content play an important role in the company car attribution decision of the company (De Witte et al., 2009). Indeed, when looking at the frequency of professional trips among employees with no management function, it appears that a majority of them has to make professional trips at a daily (50%) or regular (27%) basis (Figure 5).

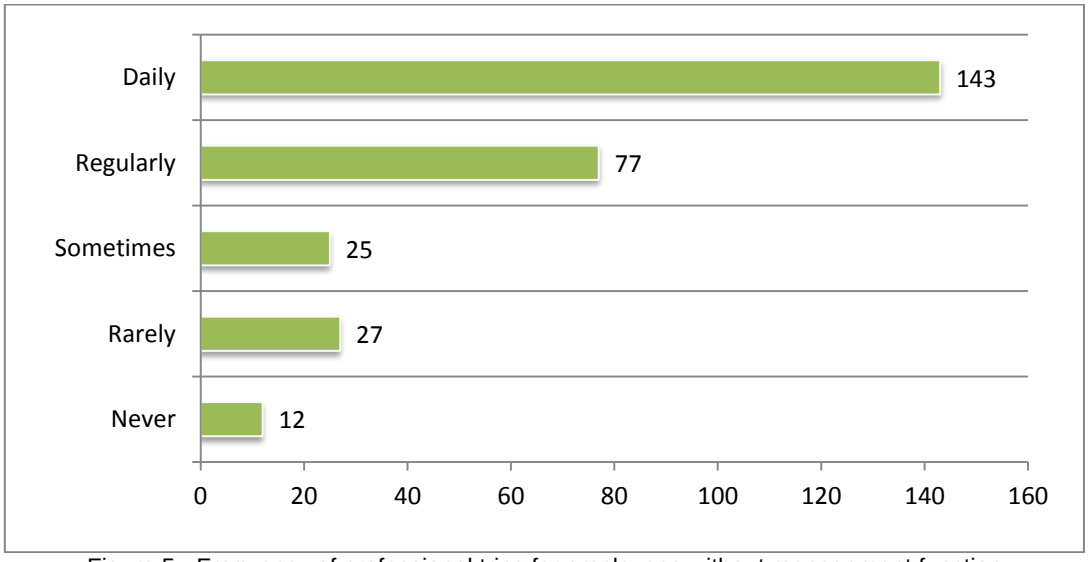


Figure 5 - Frequency of professional trips for employees without management function

### 5.5 Focus on the Flemish Region

Compared to employees working in a company located in the Brussels-Capital Region or Walloon Region, employees contracted by a firm having its seat in the Flemish Region are more likely to be granted a company car. As far as the home location was concerned, no significant relation could be established with the attribution of company cars (De Witte et al., 2009; Cornelis et al., 2007). As the sample was drawn with a regional focus on Flanders, it can be expected that the rates for people living and/or working in Flanders will be higher than those for people having their home and/or workplace in the other two regions.

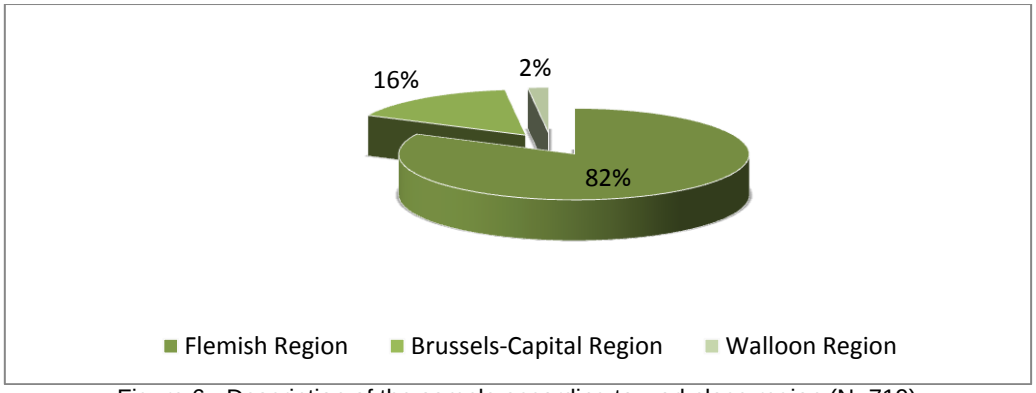


Figure 6 - Description of the sample according to workplace region (N=719)

With regard to workplace, 82% of the respondents constituting the sample work in a company located in the Flemish Region, 16% in the Brussels-Capital Region and only 2% in the Walloon Region (Figure 6). As far as the place of residence is concerned, the focus on Flemish-speaking employees becomes even more apparent as 97% of the respondents are living in the Flemish region (Figure 7).

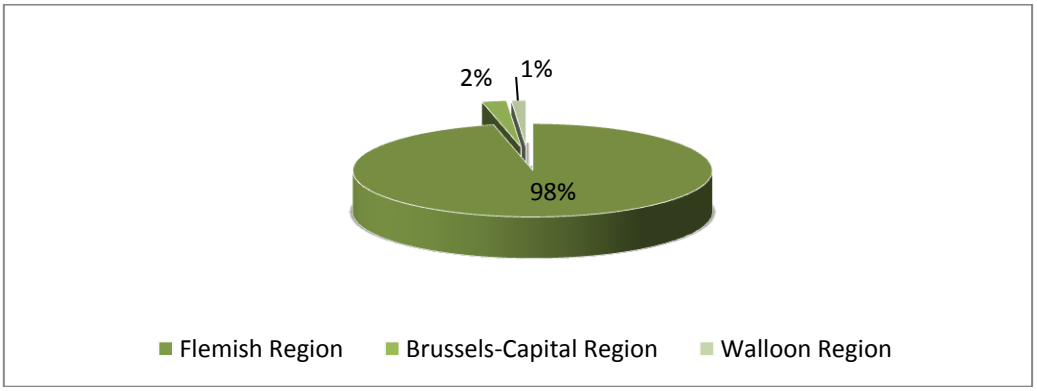


Figure 7 - Description of the sample according to home region (N=720)

## 6. RESULTS

The results presented below are aimed at providing insight in the displacements made with a company car. In the first section (section 6.1), attention will be paid to determining the nature of the company car trips. This will be done by analyzing the proportions of home-work, professional and private kilometres in the total amount of kilometres driven per year as well as its repercussions on the annual mileage of company cars. Section 6.2 addresses the

issue of the modal shift potential for home-work commuting trips in case the employee would no longer be able to use a company car.

## 6.1 The nature of company car kilometres

The average number of kilometres driven per year by the company car users constituting our sample equals 32.774km. This number is more or less in line with the findings of existing empirical researches (Hubert & Toint, 2002; Zwerts & Nuyts, 2004; Vacature, 2007; De Witte et al., 2009), all of them indicating that the average mileage of company cars stands at about 33.000km per year and that company cars drive more kilometres per year than private cars. This section is dedicated to analyzing the constitution of the annual mileage of company cars in terms of private, professional and home-work kilometre proportions. First, an overview will be given of the overall distribution of private, professional and home-work kilometre proportions (6.3.1). Next, a cluster analysis will be performed in order to identify groups of respondents with homogeneous proportion distributions (6.3.2). Based on the results of this cluster analysis, different types of company car users will be defined (6.3.3). To end this section, the repercussions on the annual mileage will be examined by analyzing whether certain types of company car users have higher annual mileages than others (6.3.4).

### *6.1.1 Private, professional and home-work proportions*

Figure 14 shows the number of times a certain proportion was indicated for each type of displacement (home-work, professional and private). It appears that with regard to the private trips, a majority of the respondents (N=516 or 72%) attributes less than 30% of their total amount of kilometres to private displacements. As the proportion of kilometres accredited to private purposes increases, the number of respondents indicating these options decreases. Only 2% of the respondents acknowledge that private trips constitute 70% or more of their total amount of kilometres. This means that for a majority of company car users the kilometres driven for private displacements only represent a small proportion of their total amount of annual kilometres.

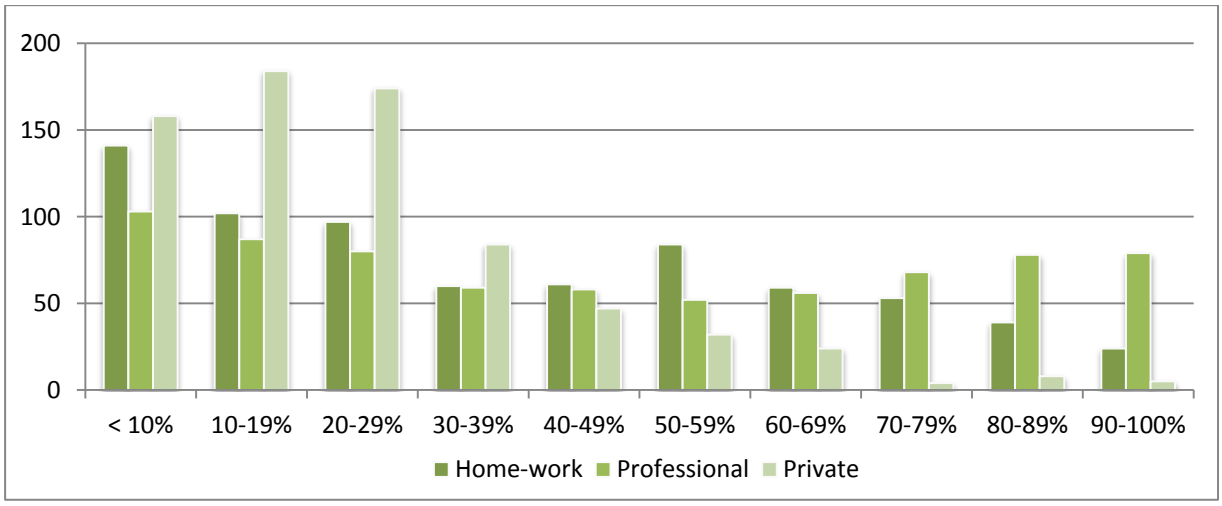


Figure 14 - Proportions of home-work, professional and private trips in the total annual mileage of company car users (N=720)

Compared to the private trips, the professional trip proportions follow a different pattern. Although there is still a large but smaller number of respondents indicating that less than 30% of their annual mileage is due to professional displacements (37,5%), there is also an important share (31%) of the company car users in our sample pointing out that kilometres driven for professional purposes constitute 70% or more of their total amount of kilometres driven per year. This means that for almost a third of the respondents, the kilometres driven for professional displacements constitute a large part of their total amount of annual kilometres. The contribution of home-work trips to the annual mileage lies somewhere in between the contributions of private and professional trips. 47% of the respondents attribute less than 30% of their annually driven kilometres to home-work trips, and for 16% of the surveyed company car users these home-work displacements represent 70% or more of their annual mileage. For the remaining 37%, the home-work proportion varies somewhere between 30 and 70%.

Observation of the private, professional and home-work proportions learns that there are three main categories of respondents: those who mainly use their company car to drive private kilometres, those who principally use it to drive professional kilometres and those who mostly use their company car to make home-work related kilometres. In the following section, these categories will be further explored by means of a cluster analysis.

### *6.1.2 Clustering proportion profiles*

A k-means cluster analysis was performed in order to identify homogeneous subgroups of cases in the sample, based upon the proportions of home-work, professional and private kilometres in the total amount of annual mileage. Although they are separate variables, they are mutually dependent as the total sum of the three proportions should equal 100%. The k-means cluster analysis uses Euclidean distance to minimize within-cluster variance and maximize between clusters. As indicated before, three clusters were indentified for further examination: one with a dominance of home-work kilometres, one where the proportion of professional kilometres prevails and one with a substantially higher proportion of private kilometres.

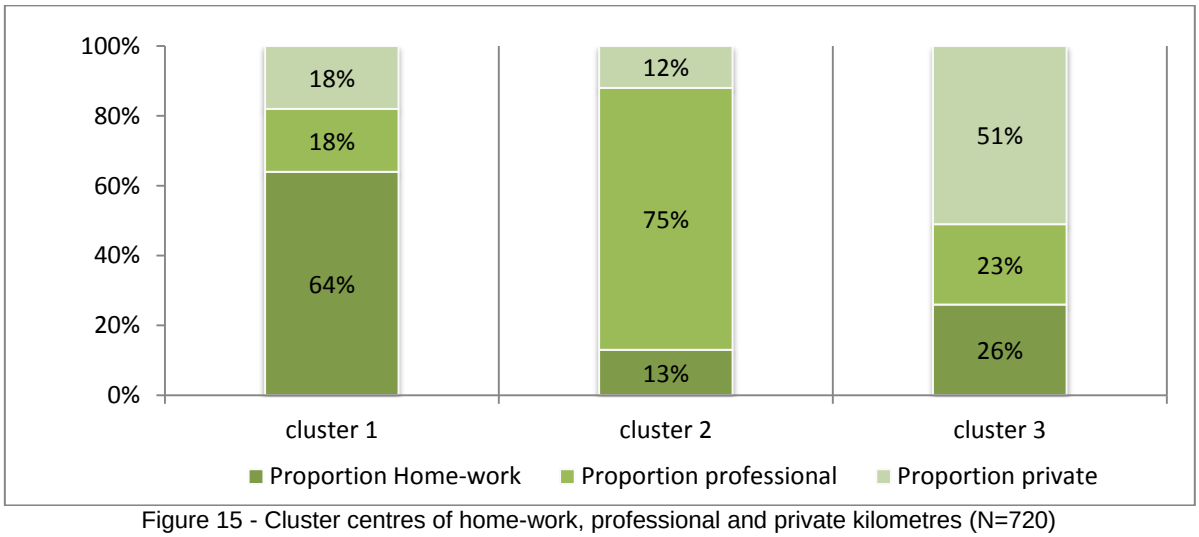


Figure 15 - Cluster centres of home-work, professional and private kilometres (N=720)

Figure 15 shows the three clusters with their respective cluster centers. The first cluster groups respondents who have indicated that their home-work kilometres contribute the most to their annual mileage (N=274 or 38%). Within this cluster the average proportion of home-work kilometres amounts to 64%, whereas the average proportions of professional and private kilometres both equal 18%. The second cluster entails respondents who pointed out that their proportion of professional kilometres in their total annual mileage is much larger than their proportions of home-work and private kilometres (N=318 or 44%). In this cluster, the average proportion of professional kilometres represents 75% of the total amount of kilometres, leading to much lower proportions of home-work kilometres (13%) and private kilometres (12%).The third cluster represents the respondents for whom the private kilometres constitute the largest part of their yearly amount of kilometres driven (N=128 or 18%). In this group, the dominance of the proportion of private kilometres is less pronounced and has an average value of 51%, leaving room for relatively higher proportions of home-work kilometres (26%) and professional kilometres (23%).

### *6.1.3 Defining different types of company car users*

Based on the three clusters identified in the previous section, different types of company car users can be defined. To this end, it will first be analyzed how home-work distance, professional trip frequency and home-work transport mode contribute to defining the different company car user types.

- *Home-work distance*

It can be expected that the dominance of home-work kilometres in cluster 1 is generated by higher home-work distances. Therefore, it was verified whether cluster 1 respondents generally have higher home-work distances compared to the respondents of the other two clusters. As illustrated in Figure 16 this indeed appears to be the case: cluster 1 respondents live significantly further from their workplace than respondents belonging to cluster 2 (Chi square: p<.001) or cluster 3 (Chi square: P<.001).

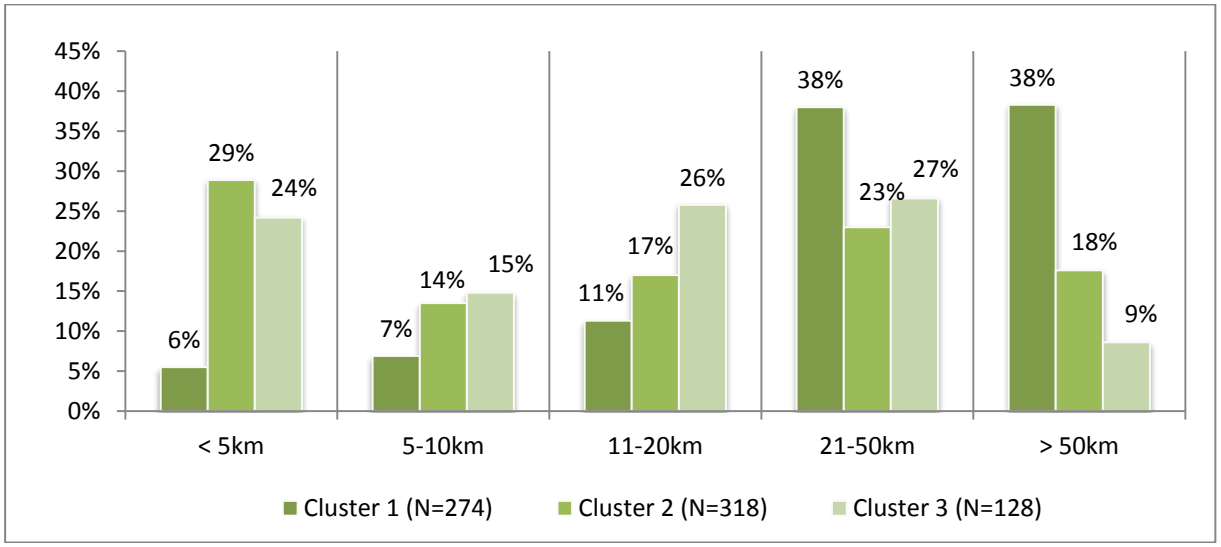


Figure 16 - Distribution of clusters according to home-work distance (N=720)

The relationship between cluster membership and home-work distance is moderate when comparing cluster 1 to cluster 2 (V=.387) and relatively strong when comparing cluster 1 to cluster 3 (V=.429). More than three quarters (76%) of the cluster 1 respondents indicate that their home-work distance is above 20km. For the two other clusters the share of respondents living further than 20km from their workplace is much lower and stands at 41% for cluster 2 and 36% for cluster 3.

- *Professional trip frequency*

As far as the professional trip frequency is concerned, it can be expected that respondents belonging to cluster 2 have higher frequencies of professional trips than the respondents belonging to the other clusters. Figure 17 confirms that the professional trip frequency is indeed higher among the cluster 2 respondents compared to the cluster 1 respondents (Chi square: p<.001) as well as to the cluster 3 respondents (Chi square: p<.001). Moreover, the measure of association indicates that the relationship between cluster membership and professional trip frequency is relatively strong when comparing cluster 2 to cluster 1 (V=.489), and strong when comparing cluster 2 to cluster 3 (V=.629).

No less than 91% of the respondents belonging to cluster 2 have to make professional trips at a daily or regular basis. This percentage is far above the percentages of the respondents belonging to the other clusters who also have to make professional trips this frequent. For cluster 1 the percentage of respondents having to make professional trips at a daily or regular basis stands at 50% and for cluster 3 only at 36%.

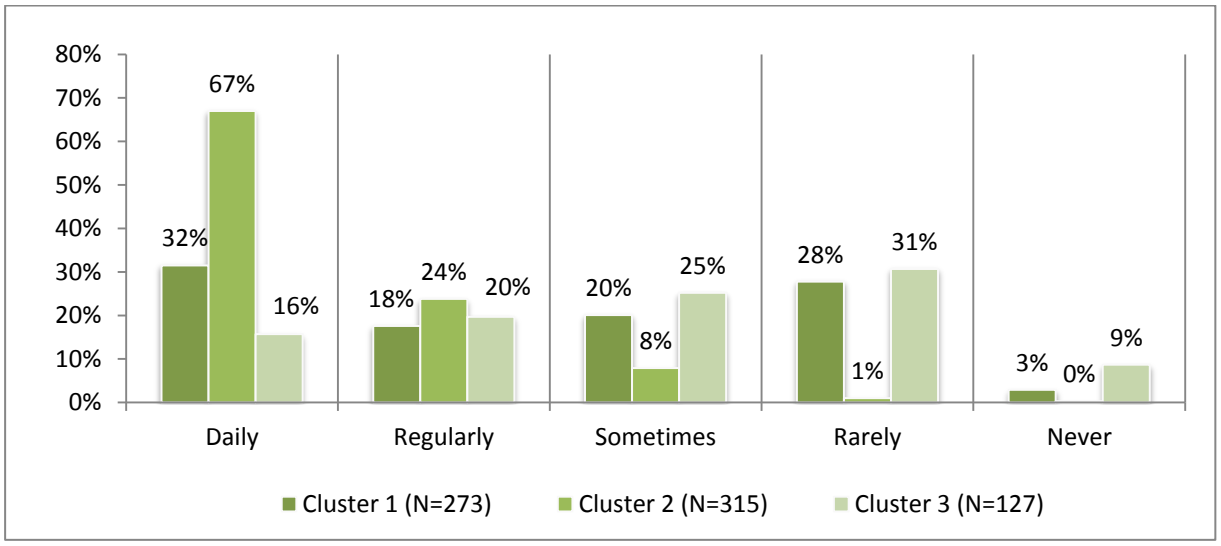


Figure 17 - Distribution of clusters according to professional trip frequency (N=715)

- *Home-work transport mode*

The reason for including the home-work transport mode into this analysis is to verify whether there are employees who have been granted a company car but who prefer using another transport mode to make the home-work displacement. Figure 18 shows that the use of the company car for the trips between the home and workplace is most imperative in cluster 1, where 94% of the respondents use the company car to drive to work. Among the two other

clusters, where the home-work displacement does not contribute the most to the total of company car kilometres, also a dominance of company car usage for the home-work displacement can be observed, but in these cases there is more room left for other transport modes too.

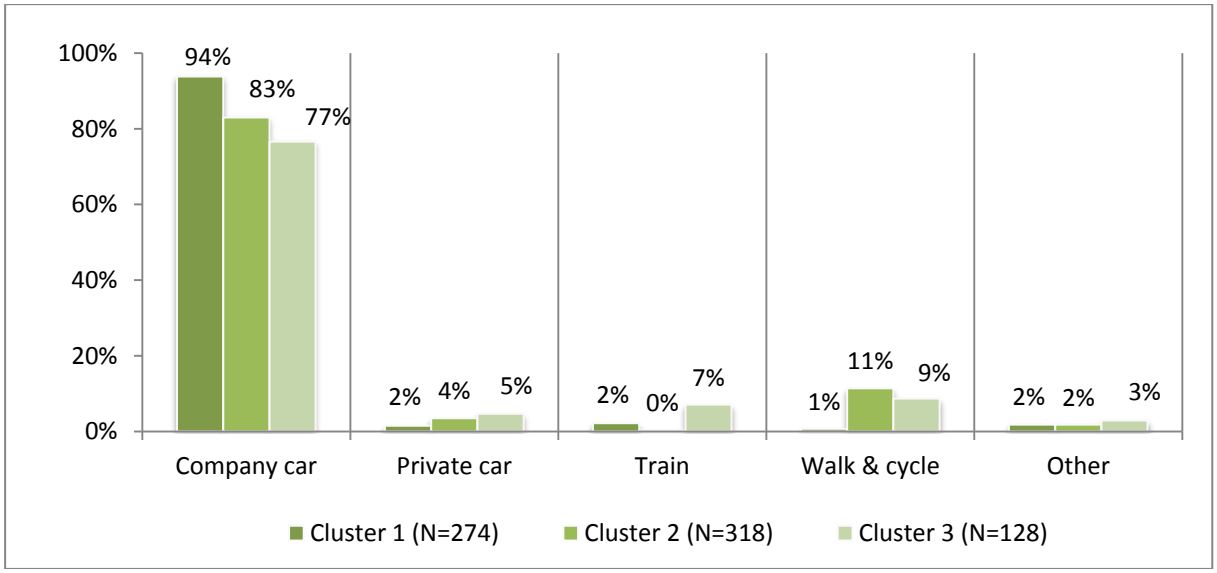


Figure 18 - Distribution of clusters according home-work transport mode (N=720)

Among cluster 2 respondents, who mainly use the company car for making professional trips, 83% commutes by company car, 11% walks or cycles to work, 4% uses a private car instead of the company car and 2% chooses another transport option. Among the respondents belonging to cluster 3, where the company car is mostly used for private kilometres, the proportion of employees using their company car to commute to work even decreases to 77%. The remaining 23% chooses not to use their company car to go to work: 9% walks or cycles, 7% takes the train, 5% uses a private car and 3% opts for another transport alternative.

- *Three Company car user types*

Based on the cluster analysis and on the variables discussed above (home-work distance, professional trip frequency and home-work transport mode), three main groups of company car users can be defined: the ‘commuters’, the ‘representatives’ and the ‘enjoyers’.

The ‘commuters’ are employees with a company car whose professional trip frequency is moderate, who tend to live further from their workplace compared to other employees and who almost exclusively use their company car to make the home-work commuting trip. ‘Commuters’ do not necessarily need a company car for the execution of their job. Nevertheless, the company car plays an important role in their salary negotiations, because being offered a company car compensates for the longer commuting trips they have to make.

The ‘representatives’ are employees with a company car for whom the company car use is necessary for the execution of their job, in a way that it helps the employee to contribute to the productiveness of the company. The ‘representatives’ frequently have to make

professional trips and spend a lot of their time being on the road in their company car. They tend to live closer to their workplace than the 'commuters', which leads to lower home-work kilometres (cfr. Figure 16). In addition it can also be expected that they do not always drive to their fixed workplace before they start making professional visits to clients, which also contributes to them having attributed lesser proportions of their annual mileage to home-work kilometres. For the 'representatives', being offered a company car fits into the requirements of the job.

The 'enjoyers' are employees with a company car who make significantly less professional trips than the 'representatives' and who live significantly closer to their work than the 'commuters'. In fact, 'enjoyers' do not necessarily need a company car for the execution of their job and also not to compensate for long commuting distances between their home and workplace. Moreover, almost a quarter of the 'enjoyers' actually not uses the company car to commute to work, but prefers to walk or cycle, or to take the train. 'Enjoyers' mainly use their company car to make private trips. In this case, it is more likely that the attribution of a company car is inspired by financial considerations of the company, inducing them to offer a company car instead of a cash benefit.

### *6.1.4 Repercussions on the annual mileage*

After having defined different types of company car users, this section will concentrate on analyzing whether the type of company car user influences the annual mileage of the company car. As each of the company car user types corresponds to higher kilometre proportions for a particular trip motive, comparing the annual mileages between the different company car user types will allow to gain information on the extent to which home-work, professional and private kilometres contribute to the overall average annual mileage of company cars.

Figure 19 illustrates that the average annual mileages are significantly different for all three types of company car users ($F(2,713)=16,712$; $p<.001$). Moreover, the annual mileage is highest for the 'representatives', who have an average annual mileage of more or less 37.600km. This is about 5.600km above the average annual mileage of the 'commuters', which stands at about 32.000km. Both these average annual mileages are significantly above that of the 'enjoyers', which equals approximately 22.400km, and is respectively 9.600km and 15.200km lower than the average annual mileages of the 'commuters' and the 'representatives'.

Next to being the company car users with the highest average annual mileage, the 'representatives' are also best represented within the overall group of company car users: 44% of the company car users in our sample can be labeled as 'representatives'. The 'commuters' are the second largest group accounting for 38% of the company car users in the sample. Finally, the 'enjoyers' not only have a significantly smaller average annual mileage, they also represent the smallest part of the company car users (18%) in our sample.

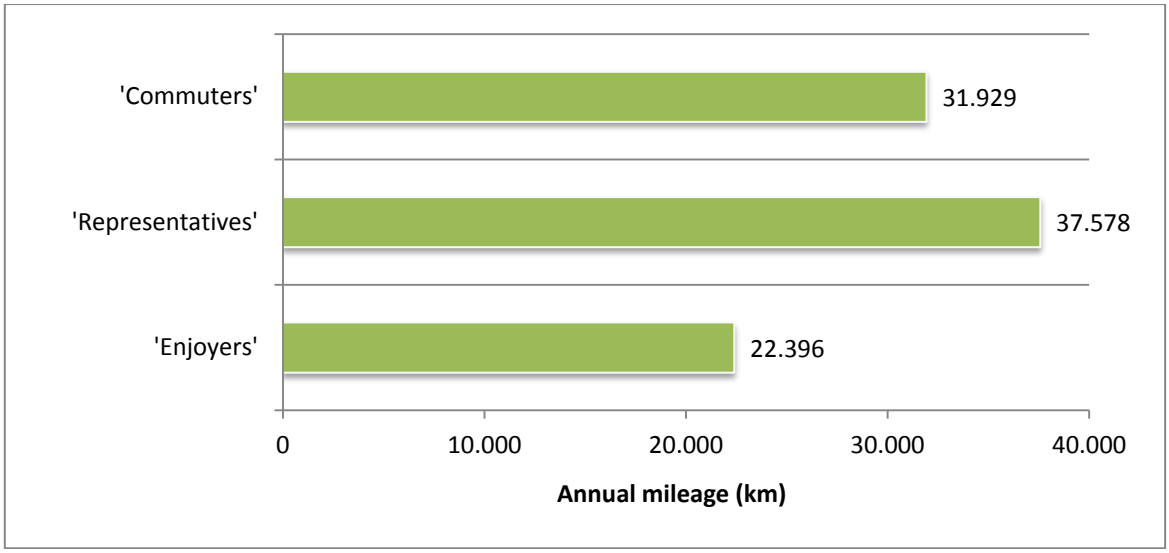


Figure 19 - Comparison of the average annual mileages between the three types of company car users (N=720)

When the annual mileage of company cars in general is being considered, no distinction is made between the different company car user types and the annual mileages of all three types are being combined to calculate a single average annual mileage for company cars. Keeping in mind the higher proportion of 'representatives' and their corresponding higher annual mileage, it can then be concluded that professional kilometres contribute the most to the average annual mileage of company cars. Compared to the professional kilometres, there is also an important, but somewhat smaller, contribution of the home-work kilometres. As far as the private kilometres are concerned, they also contribute to the annual mileages of company cars, but to a considerably smaller extent compared to both the professional and home-work kilometres.

## 6.2 Substitution potential

Next to the analysis of the nature of company car kilometres, also the examination of potential substitution effects in case employees would no longer be able to use their company car was indicated as one of the research objectives. This objective will be addressed by concentrating on the transport modes used to make the displacement between home and work location. In other researches (De Witte et al., 2008; De Witte et al., 2009) it was found that company car users almost exclusively use their company car for this displacement. Based on the survey conducted among Flemish-speaking company car users, the same conclusion can be drawn. Figure 18 (section 6.2.3.c) already showed that a pronounced majority of the sample respondents use their company car to make the trips between their home and workplace. Especially 'commuters' rely almost exclusively on their company car to make to commuting trip (94%). Although the company car is also the most commonly used commuting mode for 'representatives' (83%) and 'enjoyers' (77%), a considerable part of these company car user types also considers other commuting alternatives.

In order to measure the substitution potential for home-work commuting trips, the respondents currently using their company car for these displacements were asked to

indicate how they would go to work in case they would no longer have a company car at their disposal. The answers to this question are shown in Figure 20. It appears that within each company car type user group a majority of respondents would still be using a car to make the trip between home and work: 78% of the 'commuters', 71% of the 'representatives' and 76% of the 'enjoyers'. Despite the dominance of switching to private car use, there are also substitution opportunities in favor of other commuting alternatives, mostly towards walking or cycling to work and towards taking the train.

Walking and cycling would be more appealing to the 'representatives' (16%) and the 'enjoyers' (10%) compared to the 'commuters' (4%), as the latter usually have to deal with larger home-work distances. The share of 'commuters' (12%) who would switch to using the train is slightly higher than those of the 'representatives' (8%) and the 'enjoyers' (9%). Due to the specific characteristics of home-work commuting trips, namely that it concerns regular and repeated trips between the same locations, the train can in particular be a viable alternative for employees who primarily use their company car to make their home-work displacement (the 'commuters'). For the 'representatives' who would walk, cycle or take the train to work in case they would not have a company car, the company would have to provide a solution for them to be able to make their professional displacements during their workday, such as company cars not attributed to a single employee, but put at the disposal of the company's personnel exclusively for their business trips.

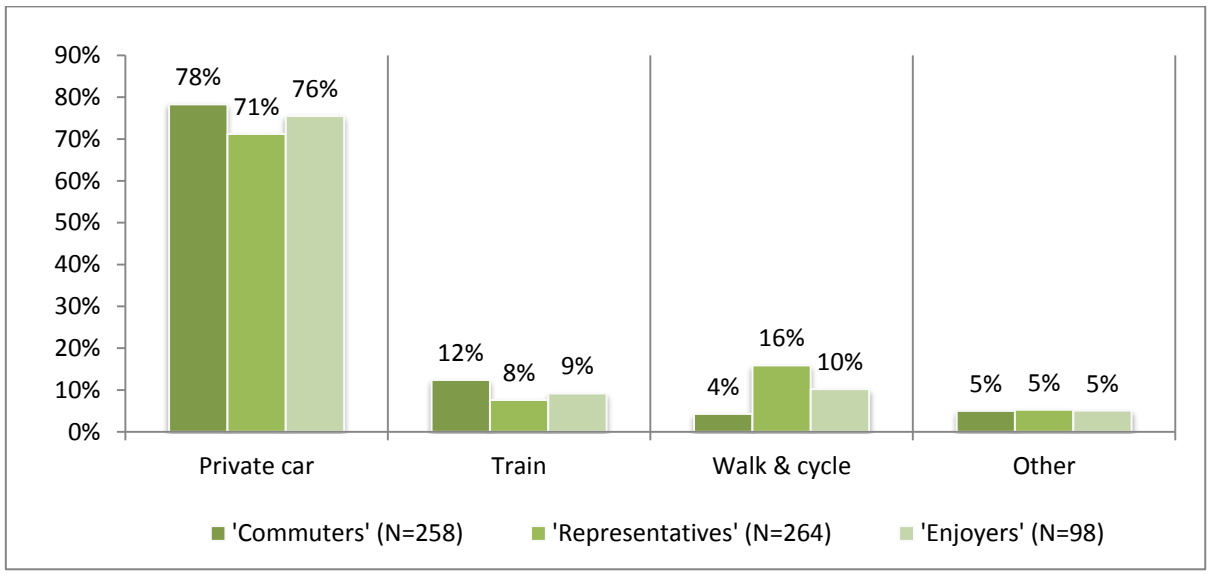


Figure 20 - Home-work transport mode of the different company car user types currently using their company car in case they would no longer have a company car (N=620)

Although there are considerable opportunities with regard to train use and the use of 'soft' transport alternatives, an additional question was asked to the company car users having indicated that they would use their private car to question them about the reasons why they would not consider using public transport. Table 1 summarizes the five most frequently mentioned obstacles. The insufficient network appears to be the biggest obstacle, followed by the speed of public transport and the timetables. The other obstacles completing this top five are the public transport connections and its availability.

Table 1 - Obstacles public transport

| | | |
|---|---|---|
| **1** | Network | ***41%*** |
| **2** | Speed | ***19%*** |
| **3** | Timetable | ***10%*** |
| **4** | Connections | ***9%*** |
| **5** | Availability | **8%** |

# 7. CONCLUSIONS

For the majority of respondents, the company car represents a transport mode that can be used for all kinds of displacements. In addition, the company car is usually accompanied by some form of fuel refunding (mostly a fuel card).

One of the key objectives of this paper was to find out what the actual proportions of home-work, private and professional kilometres are within the total annual mileage of company cars and how the distribution of these proportions influences the average number of kilometres driven per year by company cars. By means of a cluster analysis, three types of company car users could be distinguished, based on the distribution of home-work, professional and private kilometres within the average annual mileage of company cars: the 'representatives', the 'commuters' and the ' enjoyers'. Each of these company car users has different reasons for using their company car, which results in different travel behaviours and different average annual mileages. The 'representatives' are employees for whom the availability of a company car is necessary for the execution of their job. They frequently have to make professional displacements and they have the highest annual mileages compared to the 'commuters' and the 'enjoyers'. The 'commuters' are employees who usually do not have to make frequent professional trips and mainly use their company car to commute between their home and workplace. They tend to live further away from their workplace compared to the other company car user types and their average annual mileage is somewhat below that of the 'representatives'. The 'enjoyers' are employees who do not really need a company car for professional or commuting reasons and mainly use it for private purposes. It is likely that the reasons for offering a company car are in this case related to financial and/or fiscal considerations of the company. The 'enjoyers' have significantly lower annual mileages than the other two company car user types. Nevertheless, their average annual mileage is still significantly above the average annual mileage of privately owned cars.

Also the issue of potential substitution opportunities with regard to the home-work displacement was investigated. The majority of company car users currently use their company car to make this displacement. In case they would no longer be able to rely on this transport mode, most respondents would still be using a car to go to work. The main reasons why these people would switch from company car use to private car use and not to public transport are service and quality related (insufficient network coverage, speed issues, timetable concerns, inconvenient connections and unavailability of public transport stops).

The issue of price does not appear to be a primary concern. Despite the dominance of the private car in this hypothetical situation, the number of respondents who would consider public transport (mainly train) or 'soft' transport alternatives is considerable.

From a sustainable mobility perspective, where the excessive car use generates detrimental effects on our society, economy and liveability, it is necessary for policy makers to take measures affecting the use of the car in general and of the company car in particular. When considering measures aimed at reducing company car attribution and hence company car use, policy makers should take into account that there are different types of company car users ('representatives', 'commuters' and 'enjoyers') each using their company car for different purposes and thus each requiring a different type of policy approach.

The measures aimed at reducing the attribution of company cars should in particular be focused on the 'commuters' and the 'enjoyers' as in case of the 'representatives', their company car can be justified as a means for the execution of their job, contributing to the economic activity of the company. Nevertheless, from a sustainable mobility perspective these company car users should be targeted with measures further increasing the environmental-friendliness of the company car in order to reduce their contribution to the exhaust of polluting emissions. Current policy measures aimed at promoting the use of more environmental-friendly company cars are of a stimulating kind, mainly consisting of linking the fiscal deductibility of the costs related to company cars to their $CO_2$ emission level. These measures should be made more stringent in a way that only cars being ranked at the top of environmental-friendliness turn out to be fiscally attractive to be attributed as company cars.

As far as the 'commuters' are concerned, policy makers should take measures to promote and stimulate the use of other means as an alternative to company car use for their home-work commuting trips. Due to its specific nature, home-work trips are trips were public transport is able to compete against the car and where there are opportunities for modal shifts from car use towards public transport. However, in order to make public transport a viable alternative for car use the policy support should not only focus on the financial aspect of public transport, but also on quality and availability issues. Other alternatives that should be considered to reduce company car use among the 'commuters' are for instance offering Internet connections in order to allow teleworking and to avoid the home-work commuting trip, or tax benefits for people reducing their commuting distance by moving closer to their workplace, etc. In any case, as long as the company cars enjoy a fiscal advantageous treatment, these measures should also be accompanied by important fiscal benefits to increase their attractiveness compared to the attribution of a company car. In order to increase their effectiveness, the policy measures aimed at stimulating these alternatives for company car attribution should be taken at company level, redirecting the mobility policy orientation of the company away from (company) car use.

For the third type of company car users (the 'enjoyers'), business or commuting motives do not play a role in the decision to be attributed a company car and the company car is actually being considered as a part of the salary package. In this case the policy approach should focus on finding and stimulating more sustainable incentives as an alternative for the use of company

cars as a compensation for monetary benefits. However, this will not be an easy task as company cars are perceived as very attractive incentives, being far more attractive than other monetary benefits like additional pension schemes, life insurances, savings plans, etc. Another option would then be to tackle the issue of using company cars as a financial compensation at its roots by reducing the heavy tax burden on labour forces, making it more interesting for the company to grant cash benefits instead of company cars.

Finally, it is important to remind the reader to the fact that the sample used for this research is Region-oriented, which might have repercussions on the obtained results. Therefore, it is important to keep in mind that these results are derived from Flemish-speaking employees and that they are not to be generalized for all Belgian company car users without further research. Also, given the sensitive nature of the company car topic, it can be expected that respondents are inclined to somewhat adapt their responses to what they believe is more socially desired.

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