

Denne artikel er publiceret i det elektroniske tidsskrift

Artikler fra Trafikdage på Aalborg Universitet

(Proceedings from the Annual Transport Conference
at Aalborg University)

ISSN 1603-9696

www.trafikdage.dk/artikelarkiv



Mobility Management for Businesses

Clement Guasco, guasco@ruc.dk

Ph.D ved Roskilde Universitet

Abstract

There is today an undisputed superiority of cars on any other means of transportation, both practically and psychologically. However, the reliance on cars as main means of transportation has led to a number of social and environmental problems. Mobility Management aims at managing the way people fulfil their mobility needs so that they rely less on their cars and start using alternatives such as bicycles and public transport. This article analyses the possibility to use businesses as vectors for introducing Mobility Management within social practices in Denmark in the light of the recent developments in this area.

Mobility is at the core of our society. Everyday billions of people need to go to work, to school, to do shopping, to business meetings, to visit friends and family, all this to produce, exchange, buy, sell, or acquire products, knowledge, and feelings in order to sustain and possibly improve their daily-life. It is therefore natural to talk about the sustainability of such a vital activity. Until now, decisions related to the best means of transportation have been left to the private sphere. This has resulted in a specialisation of transport based on cars, while other means of transportation became "alternative". However, this system is showing limits because cars require more space, pollution sinks and resources than available in urban environments. In a context where those resources are limited, automobiles automatically reduce the total potential for mobility. To put it metaphorically, if every single citizen of Denmark was to use a car to meet his mobility needs, the country would be a giant traffic-jam in a grey cloud of smog. Problems linked to congestion and pollution have already reached significant proportions and call for mitigation.

The traditional answer to car-related problems, such as pollution and congestion, has been the production of ever-larger roads and the mitigation of pollutants. However, it has become clear that the enlargement of roads was not a sustainable solution to congestion. Empirical evidence shows that the enlargement of a road subject to congestion might provide with immediate relief, but eventually induce an increase in traffic of up to 10% in the short term and 20% in the long term (SACTRA, 1994). Additionally, mitigating pollutants and CO₂ emissions through the promotion of electric vehicles and alternative fuels, on which the Danish governments bet most, does not address problems linked to road accidents, lifestyle related diseases and congestion. Moreover, mobility is so fundamental that it conditions access to economic, social and cultural resources (Manderscheid, 2009). An access to faster means of mobility results in an increased capacity to gather those resources. Therefore, it is not as much absolute, but relative speed, which matters; relative to earlier period, but also relative to other individuals. An indiscriminate inequity in access to mobility in terms of time and space will therefore result in an inequity of access to all three resources and eventually an increased unequal repartition of them.

This incomplete answer is the result of transportation policies designed by focusing on the vehicle in a geographical structure, instead of the individual in a social structure. The traditional concept of transport is thus showing its limits because, by focusing on the vehicle only, it is too reductionist and forgets the reasons and goals for transportation.

In this context, it is necessary to replace the concept of transport, tightly connected to the transportation mode, by the concept of mobility. Mobility qualifies the capacity to move from A to B for people, goods and knowledge and thus goes beyond physical movement, by including knowledge, and considerations of social and behavioural characteristics into the equation. Including the reasons for moving can help to understand the need for movement and see if it can be met through sustainable solutions (DfT, 2011b).

Problems linked to congestion and pollution have already reached significant proportions and call for measures. Nonetheless, car-use is steadily increasing year by year and car-use related problems along. In the actual social context, banning cars does not seem possible or desirable. This is where the idea of managing mobility can provide with valuable alternatives to orientate mobility choices toward more sustainable ones. The principal goal is to decrease the use of private passenger cars, when least necessary, to replace it with more energy efficient alternatives. However, cars are not the problem itself. The problem is the unregulated use we make of them. There are so many market failures linked to car-use that no alternative transport modes can compete with cars even though they are the least efficient in terms of costs, energy-use and land-use.

Car-dependence

Cars have been a major mode of transportation for such a long time that the structure of society itself has been modelled around it. Car-dependence as a concept considers thus both systemic and individual conditions for the dependence to cars and their mutual influence.

Both physical infrastructures and behavioural patterns have been deeply modified by this mode of transportation to the point that it seems unfeasible for an average family to deal with everyday-life's routine without a car. The choice of using a car is not necessarily linked to a rational necessity, and is clearly conditioned by a dependency on cars as the "only possible" alternative. This structure, which developed after the Second World War, has been described by Peter Newman and Jeffrey Kenworthy in *Sustainability and Cities: Overcoming Automobile Dependence* (1999). They observe that spatial distribution and planning of Australian cities have been developed around the private passenger car, including infrastructures and housing, and the same phenomenon can be observed in Europe.

However, Mobility conditions the access of each individual to vital activities such as work, education, shopping and leisure. The fact that cities have developed based on car-mobility, has thus rendered citizens car-dependent. Car-dependence is not only the result of urban sprawl, but also of the development of citizens themselves. Factors such as status, image, and what John Urry (2004) calls the System of Automobility, are also constituents of car-dependence, which has a capability of reproducing itself in "lock in" behavioural patterns and social practices associated to the use of the car in a path dependent way which demands a series of co-existing actions to be stopped. Car-dependency is defined by a "high per capita rate of car-use, a car-oriented land planning, reduced transport alternatives and a belief in the superiority of car for the purpose of mobility without distinction of context and goal" (Litman & Laube, 2002). Moreover, car-dependence is rather a process than a state, and thus increases along the individual's life (Goodwin, 1995; Cullinane & Cullinane, 2003; and Steg, 2005). An analysis of the pattern of expenditure for cars shows that young buyers follow a luxury model while older buyers follow necessity. At the time of first purchase, the car is seen as a luxury purchase, but it induces changes in behaviours and circumstances, which turns it into a necessity (Goodwin P., 1995). However, this dependence is not an "either/or". One should distinguish between car-dependent people and car-dependent trips. Indeed, most car-drivers are car-dependent, but not all their trips require a car. If 50-80% of car-drivers declare being dependent on their cars, only 10-30% of their trips cannot be done without cars (Goodwin P., 1995). If one wants to increase mobility capacities in urban settings, one will need to start managing which transport modes are used for which purpose. This is one reason why a strategy consisting in non-coercive measures has developed under the name of *Mobility Management (MM)*.

Mobility Management

The mainstream approach to solve problems linked to car-use has been twofold, providing greener technologies and adapting infrastructures to face an increasing demand in car-use. However, greener technologies do not offer sustainable solutions to congestion and to some of the health impacts, such as lifestyle diseases and accidents, while enlarging roads and crossings only leads to an increase in car-traffic, which ultimately worsen the conditions in the road network (SACTRA, 1994). Additionally, lowering the congestion increases the attractiveness of car-use, reinforcing the car-dependence cycle. This strategy is the product of an approach based on answering demand. This same strategy fails to promote alternative means of transportation like bicycles and public transport since they cannot compete with cars in a car-dependent context. Considering the limit of space and resources in parallel with the increasing number of cars, managing transport by *answering* demand cannot be the solution any longer, and it has become necessary to start *managing* demand instead, so that it can be oriented toward alternative means of transportation. However, the actual context of car-dependence renders strict regulation inappropriate and call for the use of a mix of softer measures to influence transport choices among the population. This is what the concept of *Mobility Management* encompasses.

The main problems linked to the way mobility needs are fulfilled come from the fact that it is left to the private sphere and thus difficult to regulate through public regulation. It would be wrong to say that no regulation exists. The use of fiscal regulation and routing infrastructures allows the state some control over the transport modes used by citizens, but with limitation. In that context, additional tools such as Mobility Management become handy. Mobility Management, and its twin concept Transport Demand Management (TDM), are systemic approaches, which gather a wide range of soft measures aiming at influencing people's transport behaviour. Their goal is to control the demand for transportation in order to orientate consumers towards sustainable transport practices reducing CO₂ emissions, pollution, congestion, noise and impacts on human health (Litman, 2011). The concept of Mobility Management is very heterogeneous across different countries. The term mobility is used in order to symbolize a break with traditional transportation planning based on the management of vehicles, often forgetting non-motorized vehicles and pedestrians. MM replaces thus the individual at the centre of transport planning by referring to his mobility needs instead of that of his vehicle. Mobility also includes non-physical movement like the exchange of information. If the goal of an activity requiring a movement can be better achieved by other means, the transportation of a person might not even be necessary.

MM and TDM are very similar in their goal, but differ in their means. MM is a younger concept, relying on communication to achieve behaviour change (EPOMM, 2011), while TDM is an older concept gathering a wider range of tools including taxation, infrastructure modification and thus encompasses a larger spectrum of the transportation policy sector (Litman, 2011). This article focuses on MM since the management of car-use by regulation and taxation as well as the public transport infrastructure are well-established policy areas in Denmark. In this context, what matters is the range of non-coercive measures to influence transportation choices within an existing structure, and this is the field of MM.

In Europe, a network has been developed to share knowledge and best-practice of Mobility Management. This network, called EPOMM, defines Mobility Management as follow:

Mobility Management (MM) is a concept to promote sustainable transport and manage the demand for car use by changing travellers' attitudes and behaviour. At the core of Mobility Management are "soft" measures like information and communication, organising services and coordinating activities of different partners (EPOMM, 2011).

From this definition, it appears that MM is about managing the demand for cars through "soft" measures. Soft measures are linked to communication, information and organisation, and are opposed to hard measures linked to regulation and taxation (FGM-AMOR, 2003). In this context, "soft" is thus to be understood as *not related to legal and fiscal interventions from the state*. The word soft measure underlines a non-coercive character; however, it can be interpreted in many different ways. This term can be traced back to a concept of international relations (IR) called soft power. In short, "soft power rests on the ability of one to shape the preference of others" without the use of threats and payments (Nye, 2004).

Nye considers that there are three ways to have someone do what you want. 'You can coerce them with threat, you can induce them with payments and you can attract or co-opt them (Nye, 2004). This definition is characteristic of governmental action, i.e. regulation by law, by fiscal measures or by campaigns. MM focuses on the third method, thus the reference to 'soft' measures. However, fiscal measures, investments in infrastructure and equipment, as well as congestion charging have been used within MM strategies. Therefore, the actual interpretation of MM is not limited to the strict definition produced by the EPOMM.

However, the non-coercive characteristic of MM is generally found in most of the MM policies. This non-coercive parameter is important to tackle the car-dependence described earlier. If coercive measures, like congestion charges in London or the closing of street in city-centres around Europe, have been used, they remain limited in numbers and scope. In a social context where car is the social status of adulthood and achievement as well as an indispensable means of transportation for several types of trips, it seems wiser to avoid direct confrontation and help the change instead of forcing it. ***Mobility Management should thus be viewed as a policy to promote sustainable mobility and manage the demand for car-use by changing travellers' attitudes and behaviour though the use of non-coercive¹ measures including communication, financial incentives and investments in infrastructure and equipment.***

Targeted trips may be home-to-work, home-to-school, shopping or vacation trips. In practice, they are those made by car since car is the most energy intensive and the most polluting means of transportation. It is impossible to treat *every single* car-trip. A significant number of similar trips must therefore be clustered for such an approach to be possible. A strategy used by the Centre for Transport of the UK has been to focus on work commuting, as a homogeneous and cyclic mobility need. This strategy can also be found in earlier MM projects in Denmark and has become a focal point of the new strategy for MM of the Formel M project².

MM of commuting can have a spillover effect in the transport sector. Spillover rests on a fundamental assumption about political relations that holds true for many domains, including at the individual's level. It considers that no policy and economical sector can be isolated from the whole. This approach called Neo-functionalism, considers three types of spillover, a functional, a political and a cultivated one. The one which interests us is the Functional Spillover. Functional spillover is the "process whereby integration in one sector of the economy creates pressure for further integration in other connected sectors of the economy" (Gowland, Dunphy, & Lythe, 2006). Functional spillover has been developed based on the observation of the development of the EU, but its assumptions can be transferred to other subjects with benefits. If one consider different sectors of personal transport such as home-to-work, shopping and leisure trips, the integration of MM in home-to-work trips will eventually lead to their integration into shopping and leisure trips as well because it is done by the same person with the same vehicle (coherence effect). Targeting home-to-work trips should not be seen as an isolated measure. Indeed the basic unit to manage is the employee doing a home-to-work commuting. However, a home-to-work commuter can also be a parent, a PT user, an elector or a leisure consumer. It means that any change in his perception of mobility opportunities, could affect other sectors of his mobility such as leisure trips and school trips, or even political perception of what mobility is and what it requires to be successfully fulfilled. Moreover, promoting alternative modes of transportation will break the pattern, which supports cars as the only "viable" means of transportation, and strengthen their use.

In the case of MM for businesses, the spillover effects of behavioural change should not be considered as negligible, since a significant part of the private passenger trips are not home-to-work trips and will be influenced by a change in home-to-work transportation behaviour.

MM through Businesses

Businesses can be a valuable partner for public authorities, since they can implement MM measures inciting their employees to leave their car at home when coming to work. They possess appropriate organisational structures and resources for the implementation of an innovative strategy like MM and are

¹ From a governmental point of view

² The last program for the implementation of Mobility Management in Denmark.

likely to have a stronger impact among their employees than a campaign in the public space. Businesses are also valuable partners because they can implement MM *without the need for the public authorities to develop fastidious regulations*. A successful involvement of businesses in MM can also help to develop a market for MM solutions including car-sharing and car-pooling services, commuter-bikes infrastructure, consultancy and knowhow. The remaining question is *how to get businesses to pursue MM strategies?*

Indeed, they can ease the implementation of MM for work commutes but getting businesses to implement MM is a challenge in itself. As the conclusion of the last MM project in Denmark points out, what businesses need is to understand “what’s in it for them”. A comprehensive MM plan can help a company to reduce costs linked to parking, land-use and car-fleet, to improve employees’ health, to improve the company’s attractiveness toward employees, investors and customers, and to expand their CSR strategy.

Translating MM in business language can be a good place to start. In essence, MM is about promoting socially and environmentally sound practices in the transport sector, an activity that in business language is called Corporate Social Responsibility (CSR). There is no commonly agreed definition of CSR, but basically, it refers to the responsibility of companies to deal with social, environmental and ethical problems linked to business activities as a whole (Carroll, 1999). CSR characterise policies where businesses decide to go beyond the strict legal requirements and integrate sustainable business plans, both for marketing (economics) and for common good purposes. Marketing purposes have been argued to be the only reasons for businesses to start CSR programs, but the same marketing purpose bind them to fulfil their engagements under the penalty of losing the previously acquired benefits if any information on their failure to comply was to reach their customers (Yoon, Gurhan-Canli, & Schwarz, 2006). Moreover, the Denmark has recently passed a law, which stipulates that the 1000 largest companies in Denmark will have to publish CSR reports explaining their progress in tackling environmental and social problems linked to their production (BEK nr 761, 2009). CSR is a relatively new approach and traditional businesses will therefore need time to integrate it, but they will soon be looking at the matter seriously. In the case of MM, the benefits to integrate it within a CSR strategy are economical, environmental and social.

The potential benefits for businesses are:

- Reduced costs for parking facilities
- Reallocation of land-use
- Improvement of employees health
- Increased attractiveness towards employees, investors and customers
- Improved CSR strategy and branding

MM measures for Businesses

In Practice, a MM plan for businesses includes a first phase with mapping of the site and a survey of the employees. Once the mapping is finished, the company can implement MM measures. Those measures are of four types.

Promotion of cycling among the employees through the installation of commuting bicycles at the local train station, the improvement of the conditions for employees cycling to work (shelters, changing rooms) and of the cycling culture in the company.

Promotion of ride-sharing with the establishment of a matchmaking database for the company.

Promotion of Public Transports in collaboration with the local provider in order to improve services to the site. It can also include live information about routes and schedules.

Management of business trips: Employees also need to travel during their working hours. This activity results in significant costs and emissions of GHG. Among the available measures are the provision of electric vehicles for business trips so that employees do not need to bring their car to work and the provision of suitable video-conferencing facilities.

Mobility Management in Denmark

During the last 15 years, a series of projects using MM strategies have been conducted in Denmark. However, they were not part of a coordinated policy and Mobility Management failed to impose itself as a comprehensive policy.

Biking campaigns are a recurring phenomenon like “we bike to work” campaign, which takes the form of a yearly competition between Danish companies with substantial prizes for the winners, and has been held yearly since 1996. In 2010, 76% of the participants answered that they participated for Physical exercise, 67% because of environmental consideration (CO₂) and 45% because of incitement from the colleagues at work. This campaign shows that cycling and health are very much associated in the Danish mentality. The same type of nationwide recurring campaign has been held for children going to school since 2002. Cycling campaigns have also been held in the provincial cities of Århus in 1996 and Odense in 1999 and 2002. Both focused on health and safety as well. With almost one third of the trips done by bicycle, Copenhagen is a good example of this focus on cycling as an alternative to driving. Though the motivation may rather be financial than environmental in a country where cars are heavily taxed.

Colleagues Driving (ride-sharing)

This project ran from September 2002 to June 2004 and aimed at promoting ride-sharing among the 8000 employees of the University Hospital of Odense (OUH) to solve severe parking problems on the site. All employees received a matchmaking letter to inform them about the new scheme. The target group of the marketing campaign was the 2400 employees who lived between 11km and 60km from OUH, because employees living closer could use their bikes to solve parking problems and people living further away were taking the train. A pre-marketing study showed that the main incentives were economical benefits and parking problems, while the barriers would be dependence to another person, distance to the meeting point and uncertainties linked to sickness and overtime. A marketing plan to promote the project was launched in 4 phases of 6 month each (Cogita, 2004b): 1. marketing of the new ride-sharing database, 2. marketing of the guaranteed ride home, 3. reserved parking places for ride-sharers and 4. Lottery for employees registered in the database.

At the end of the trial, 15% of the target group had registered in the database (362 persons), 40% were active ride-sharers (145 persons), and active ride-sharers were in average 2.21 person per car. 68% of registered ride-sharers joined because of economical benefits, 52% because of the Guaranteed Ride Home and 53% because of reserved parking places. 79% came from the target group, 92% were living in couple (62% with children). 71% had one car and 29% had two cars. It indicates that the typical ride-sharer was in a couple with children but only had one car. The main barriers to carpooling identified by this project were that employees had different working hours and that they might use their time after work for other occupations. Therefore, a company with homogeneous working hours and many employees living within 10-60km from the office would present great chances of success (Cogita, 2004b). As result, solo-driving was reduced by 12% from 54% to 48% and ride-sharing increased by 80% from 15% to 26%.

HUR Commuters Office, the first attempt

The first attempt at implementing MM as a comprehensive public policy in Denmark occurred in the Metropolitan area of Copenhagen between 2002 and 2004. The public transportation provider of the capital region, HUR, developed a project, called *the HUR Commuters Office*, in order to implement the same measures that were implemented in the UK through the smarter choices project (Høj & Evanth, 2009). This office was in charge of providing travel plans for employees, conducting surveys, providing general travel information, individual travel information, ride-sharing matches and 20 commuter bikes. HUR Commuter Office contacted a large number of companies with over 200 employees. Participation was on a voluntary basis. All measures were offered as a free service. The level of participation per company was between 2% in Politikens Hus, to 56% in Sampension, with an average of 28.8%. It was found that 30-50% of the contacted persons were interested in participating. The cost of this project was of 200,000€ per year and resulted in a small reduction of -24.8 car/day, -7101 car-km/week and -59.6 tonnes of CO₂/year. The overall conclusion is that a large number of car-users were open to reduce their use of cars, but very few would give it up. Overall, the companies were not interested in measures, which would induce costs for the

company, which would favor a group of employees over the others or which would result in extra costs for the employees. The companies did not make any effort to promote the project either since they could not see what were the benefits of such practices for them (Høj & Evanth, 2009). The evaluation report recognizes that The HUR Commuters Office should have been better to convince the companies of the benefits they could gain from MM by basing their marketing on a “what’s-in-it-for-me” strategy, and that there should be a mutual engagement from both parties (HUR, 2004).

New wind in the sails

In 2011, MM for businesses is seeing a rebirth with the launch of a new project called Formel M. It is a two-year project conducted in Denmark by Gate 21, a centre for the promotion of solutions to climate change, environmental problems and energy production. Gate 21 aims at building triple helix platforms where municipalities, businesses and research institutes can meet to exchange knowledge and best practices. Formel M has a budget of 11.6 million DKK to promote Mobility Management in the metropolitan Copenhagen from 1st Marts 2011 to 30th October 2012. This is the second attempt, after HUR Commuters Office, at implementing MM as a systemic strategy including businesses. The declared goal of Formel M is to anchor MM into all administrative levels of Denmark, though one of their work packages is based on developing MM plans for businesses. Interestingly, a company has developed its own MM plan in parallel, independently of Formel M. This plan followed a pattern which can be traced back to the mobility management policy developed in the UK by the Department for Transport. This approach aimed at understanding how to manage the constantly increasing flow of cars on the roads and in the cities of the UK. The DfT developed a series of behavioural studies about car-use with the aim of understanding how to influence it, called “Smarter Choices” (DfT, 2011a). This approach triggered the development of a large panel of measures to mitigate car use based on the understanding developed through the various “Smarter Choice” projects, and eventually lead to the creation of an integrated method for car-use management in business context called travel plans. The mobility management project at Novo Nordisk gives the perfect opportunity to observe a travel plan “in vivo” and to understand how to induce Danish companies in implementing MM measures.

Novo Nordisk, The free electron

Novo Nordisk is a large pharmaceutical company specialised in the production of drugs for the treatment of diabetes. It has over 32,000 employees, of which 13,990 in Denmark. Novo Nordisk is also known for its triple bottom line strategy including social and environmental objectives within their business strategy. Novo Nordisk chose Måløv site to test MM because they were facing the need to increase their parking facilities. The Novo Nordisk site in Måløv is situated on a field approximately 14km from Copenhagen and 1.6km from Måløv train station. There is one bus line deservng the site, but the frequency is low.

The MM plan was developed in partnership with COGITA and the municipality of Ballerup (partner in Formel M) for a total cost of 1.3 million DKK. The MM plan contains a standard set of measures, starting with a survey of the employees transport patterns, followed by an improvement of the bus service (4 stops through the site and 3 departures per hour), transport plans for the employees, commuter bicycles at the local train station, better facilities for employees biking to work and a ride-sharing scheme. A notable and very practical measure is a towel scheme, where company’s towels are at the disposition of the employees in the changing rooms.

What is interesting in the case of Novo Nordisk is that the company decided to implement a MM on their own. Earlier contact with Ballerup municipality concerning environmental regulation around the site did trigger the process, but it went by itself otherwise. In a discussion where the focus point is for municipalities to find the best methods to implement MM methods, it can shed light on how to go about it. It is interesting to notice that the initiative for implementing MM at Novo Nordisk comes from the facility manager. Environmental concerns were is main motivation, but the need for reducing parking congestion made it easier to push through. Indeed, an investment of 1.3 million DKK would barely pay for ±65 parking places on ground level and 9 parking places in a multi-storey car park. In this case, a multi-storey car park

was considered in order to save ground space. 200 parking places would set the price at 30 million DKK. Aside from all other benefits, savings on parking alone could pay for this MM plan.

CO₂ emissions for Novo Nordisk Måløv site

| | |
|-----------------------------------|------------------|
| Total car-km | 15,227,240 |
| tCO ₂ equivalent | 3,045 |
| Car-km/pers/year | 12,239 |
| Car-km reduction potential | |
| 100 commuter bicycles (80%) | 979,135 |
| Ride-sharing (15% target) | 468,523 |
| Cycling (+20 cyclists) | 113,992 |
| 5% to bus (40 passengers) | 441,362 |
| Total | 2,003,013 |
| tCO₂ equivalent | 405 |
| | = -12% |

Figure 1. car-km and CO₂ equivalent

With a potential reduction of 2 million car-km/year equivalent to 405 tonnes of CO₂ and with a CO₂ spot price oscillating around 7€/tonne at the EEX market, the potential reduction in CO₂ emissions has a value of 2835€/year. Because of this failing market, the MM plan of Novo Nordisk does not represent *economical incentives* in terms of CO₂ reductions. The incentive for such a plan is thus linked to savings and benefits related to parking facilities, land-use, employee's health and branding.

The promotion of MM within Novo Nordisk did not go as smoothly as it appears. The total MM plan has not reached full support from the leadership yet. The facility manager expressed the need for arguments for the promotion of the entire project to other levels of leadership in Novo Nordisk and at the local site. Moreover, a second challenge arose when Novo Nordisk's consulting company closed unexpectedly. MM being rather new, there are few persons with the necessary knowledge in Denmark to serve as consultants, but the company plans to hire an earlier consultant from COGITA. This incident shows the need to develop a market for MM in Denmark and the importance of large companies with strong backs, which can support such incidents.

The example of Novo Nordisk shows that a company can see the incentives to develop a MM. As in the British cases, parking costs and land-use remain fundamental factors, while integration into the CSR policy of the company could provide with a much needed long term anchoring.

Conclusion

Businesses represent a promising vector for implementing Mobility Management within social practices because they possess appropriate organisational structures, the required investment capacities for innovation and can affect one of the most common and homogeneous trip among the population. However, they need incentives before they can be induced to implement such policies.

The example of Novo Nordisk shows that a company can find interest in implementing MM if it sees it as an investment with benefits rather than a free service from the state. Moreover, the relative low cost of MM makes it an interesting measure to include in a company's CSR. The fact that MM took hold at Novo Nordisk was rooted in their traditional CSR policy, but triggered by tangible short-term benefits. Implementing MM within businesses should thus follow this dual approach mixing short-term and long-term considerations.

Mobility Management for businesses focuses much on home-to-work trips, but business travels should not be forgotten. However, they are a part of the CO₂ emissions related to the movement of workforce and should be an integrative part of MM in a business. The total car-fleet emissions for Novo Nordisk Ltd. for

2010 are of 47500 tonnes/year, and emissions from plane travel are of 48500 tonnes/year. Managing those trips could bring significant reductions in CO2 emissions.

MM is not the miracle solution, which will replace traditional traffic planning. It rather gives the tools to revise the Danish transportation planning policy in order to bring in the social aspect of mobility. Public authorities, who possess the sole right on coercive measures, could then produce more holistic approaches to transportation planning and address some structural conditions that MM cannot address alone.

A crucial step for Mobility Management for businesses in Denmark is to help the development of a market including services, equipment, and consulting. Large companies such as Novo Nordisk would be very beneficial for that purpose. Mapping large companies who are concerned by the new law on CSR reporting and have developed CSR strategies would help municipalities in Formel M to find potential targets to kick start MM in Denmark. However, the implementation of a MM plan requires skilled consultants. Without them, it is unlikely that smaller businesses would consider MM. Formel M continuation (or the continuation of a similar platform) is a key factor for the future of MM in Denmark. Indeed a long-term strategy is the only way to anchor MM in business practices and to train civil servants. Moreover, a stable and centralised platform for the implementation of Mobility Management in Denmark will help to develop common strategies for all types of MM.

This article discussed the role of businesses in the introduction of MM for work commutes, but MM concerns all types of transports and similar strategies should be designed for Mobility Management to reach activities such as leisure, education, and shopping.

Bibliography

Carroll, B. A. (1999). Corporate Social Responsibility : Evolution of a Definitional Construct. *Business Society* , 38 (3), 268-295.

Cogita. (2004b). *Markedsføring af sammenkørsel på Odense Univeritetshospital 2002-2004 - Projekt rapport.*

Cogita. (2004a). Mobility Management. *AgendaNYT* (november).

Cullinane, S., & Cullinane, K. (2003). Car Dependence in a Public Transport Dominated City: Evidence from Hong Kong. *Transport Research* , D (8), 129-138.

Danish Ministry for Climate & Energy. (2011, 03 23). *Transportsektoren*. (D. M. Energy, Editor) Retrieved 04 01, 2011, from <http://www.kemin.dk/da-DK/KlimaogEnergipolitik/danmark/reduktionafdrivhusgasser/sectorerogvirkemidler/transport/Sider/Forside.aspx>

DfT. (2011a). *Smarter Choices*. Retrieved April 12, 2011, from Departement for Transport: <http://www.dft.gov.uk/pgr/sustainable/smarterchoices/>

DfT. (2011b). *SACTRA: Transport investment, transport intensity and economic growth: interim report*. Retrieved april 19, 2011, from Departement for Transport of the UK: <http://www.dft.gov.uk/pgr/economics/sactra/transportinvestmenttransport3151>

EEA. (2010). *Annual European Union greenhouse gas inventory 1990–2008 and inventory report 2010 : Submission to the UNFCCC Secretariat*. European Environment Agency, Copenhagen.

Energistyrelsen. (2011). *Transportens energiforbrug og CO2-emissioner*. Retrieved avril 2, 2011, from <http://www.ens.dk/da-DK/KlimaOgCO2/Transport/Genereltomtransportogenergiforbrug/Sider/Forside.aspx>

EPOMM. (2011). Retrieved 21. april 2011 fra www.epomm.eu: http://epomm.eu/index.phtml?Main_ID=820

- FGM-AMOR. (2003). *MOST: Mobility Management Strategies for the Next Decade*. Forschungsgesellschaft Mobilität, Austrian Mobility Research.
- Goodwin, P. (1995). Car Dependence. *Transport Policy* , 2 (3), 151-152.
- Gowland, D., Dunphy, R., & Lythe, C. (2006). *The European Mosaic : Contemporary Politics, Economics and Culture* (3rd ed.). Pearson Education Limited.
- HUR. (2004). *Mobility management på virksomhedsniveau - Evaluering af Pendlerkontorets forsøg med transportplaner i Hovedstadsregionen, efterår 2002 – forår 2004*. (ref. eHUR 441588).
- Høj, J. (Nov 2009). *Mobility Management Monitors Denmark 2009*. EPOMM.
- Høj, J., & Evanth, K. (2009). *Hvordan får man bilister til at bruge kollektiv transport? - Mobility Management og kampagner*. TETRPLAN.
- Krag, T. (2005). Mobility Planning in Denmark. *Mobility Management Seminar, Helsinki*. Nordic Council of Ministers.
- Litman, T. (2011). *Online TDM Encyclopedia*. Retrieved May 2011, from Victoria Transport Policy Institute: <http://www.vtpi.org/tdm/>
- Litman, T., & Laube, F. (2002). *Automobile Dependency and Economic Development*. Victoria Transport Policy Institute.
- Manderscheid, K. (2009). Integrating Space and Mobilities into the Analysis of Social Inequality. *Scandinavian Journal of Social Theory* , 10 (1), 7-27.
- Newman, P., & Kenworthy, J. (1999). *Sustainability and Cities: Overcoming Automobile Dependence*. Island Press.
- Nye, J. S. (2004). Soft Power and Leadership. *Compass: A Journal of Leadership* .
- SACTRA. (1994). *Trunk roads and the generation of traffic*. Standing Advisory Committee on Trunk Road Assessment.
- Steg, L. (2005). Car Use: Lust and Must. Instrumental, Symbolic and Affective Motives for Car Use. *Transportation Research* , A (39), 147-162.
- Urry, J. (2004). The System of Automobility. (Sage, Ed.) *Theory, Culture and Society* , 25-39.
- Yoon, Y., Gurhan-Canli, Z., & Schwarz, N. (2006). The Effect of Corporate Social Responsibility (CSR) on Companies with Bad Reputation. *Journal of Consumer Psychology* , 16 (4), s. 377-390.