

Summary:**Mobility in everyday life****A qualitative study of the use of car and ICT in families with children****Movement in time and space requires communication**

Daily life for families with children in contemporary cities consists of a series of tasks and activities that are spread over a relative large geographical area. Most people work in one place and live in another while activities that were earlier tied to the home or the neighborhood are spread over a larger geographical area. The experience of stress and little time for everyday activities makes new demands for effective transport and communication.

The development of “new” family structures while at the same time there is the differentiation and distribution of daily activities has opened the way for new and more flexible forms for information and communication technology (ICT) to coordinate the interaction between family members. The need for flexible transport to link together activities is also an issue.

The point of departure for this project is the interest to examine the interaction between the use of ICT, physical mobility and social life in an increasingly differentiated and distributed daily life among different types of families. We ask how different families use ICT to coordinate and maintain relationships in everyday life and how ICT and physical mobility interact within this context.

Increasing portions of divorced parents choose joint custody of the children. One can call families wherein the children live in two homes *place distributed* families. This family constellation means that there is a need to coordinate daily and weekly activities across two households. This type of organization means that parents need to develop arrangements and routines that take care of the practical and emotional needs of the child or children.

Divorce or separation is a phenomenon that affects the distribution of the family. In addition, working life in the form of shift work, coupled with the geographic development of the cities means that persons in so called intact families also experience diffusion, both in terms of time and space. Parents' working patterns can be quite complex. In situations where parents have shift work, work that includes longer periods of absence and also traditional jobs wherein there is (unexpected) overtime, make greater demands on communication between parents to take care of the family's needs. These can be described as time-distributed families.

If we look at the physical mobility, at the daily travel patterns, there are clear indications that they are more complex, particularly in families with children. Those parts of the daily commuting that can be called chauffeuring young

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children have increased by more than 60 percent in the 1990's. The national study of travel patterns (Norway) shows that people travel farther and use the car more than before.

The use of ICT, and in particular the mobile telephone, has increased phenomenally during the past few years. Different groups in the population use the technology in different ways and use it based on their particular needs. Studies show that mobile telephony can contribute to the experience of increased accessibility and security, greater efficiency in planning and more flexibility in both private life and at work.

Interaction between transport and ICT

In this report we focus on how families use mobile telephony and other ICT to coordinate their daily activities and social lives, and how this use interacts with physical mobility. To illustrate this varied use and the interaction between physical and virtual mobility we have chosen to focus on two types of families:

- Families where parents live in different homes, but where both have responsibility for regular contact with the children.
- Families where both parents live in the same home as the children. In this group of families we have tried to find families with various degrees of time and place distribution.

This is the background for our area of focus that can be formulated in the following four questions:

- 1) How do the different families (time and place distributed) use ICT to coordinate daily activities? Which aspects of ICT are important for the different family types?
- 2) What characterizes the coordination of communication in the different family types? Between which persons in the family does coordination take place? How can the communication be characterized? We are particularly interested in the aspects of security/control, emotional interaction, planning/effectiveness in this communication.
- 3) Which media is used for which purpose? What are the advantages and drawbacks of texting in relation to voice or visually based ICT?
- 4) What types of interaction are there between the use of ICT and physical mobility? Which types of daily trips are impacted by the use of ICT? Is it such that some trips are replaced by other communication (telephone, e-mail), are they modified (the trip is changed en route), are there more trips, or are there no real interaction between the use of ICT and daily travel activity?

A qualitative study

Based on the issues developed above, we have used a qualitative method to allow us an in-depth study. To hold other issues constant, we have chosen families from

the Oslo-area. We have interviewed families with children in two different age groups, 4 – 8 years and 11 – 15 years of age respectively. The goal is to gain insight into the various interactions between virtual and physical mobility, between ICT and transportation. While the youngest age group is completely dependent on their parents' daily care and attention, the older group is more independent.

There were a total of 25 interviews carried out. In the 10 "intact" families, the interviews were done with both the man and the woman. There were 15 interviews with the "place distributed" families. In five of them both of the partners were interviewed individually. The distributed sample consisted of nine women and six men.

Aside from three homes, all households had a car. The three without a car were found among the distributed families where the woman was the head of the household. In addition, four of the same category of household did not have a landline telephone. All of the intact and eight of the distributed families had access to Internet at home. Among those without an Internet connection were four women.

Everyday life and communication – theoretical perspectives

The theoretical approach to the project can be seen in roughly three portions; the everyday life approach, the understanding of technology and communications theory.

Everyday life

Within the everyday life approach we take the phenomenological work of Alfred Schütz as the point of departure. Schütz uses the concept field of action to describe that portion of the world that can be influenced by action: This field of action can be divided in two: the primary field of action that can be reached without special tools, and the secondary field of action, if the boundary is determined by society's technical level. The car and the telephone are examples of tools that extend the boundary for the secondary field of action.

The phenomenological analysis is also the point of departure for Peter Berger and Thomas Luckmann's approach to the study of daily life. With new familial constellations there is an increase in the field of action of everyday life and thus the need for tools with which to communicate. The purpose for analyzing everyday life is, according to Berger and Luckmann, to develop typologies of interaction in order to gain insight into the objective conditions of everyday life. Our interest in this project is to tie these typologies for interaction to the various forms or media for communication and also which role transportation plays in these interaction processes. The main focus is place of interaction and cooperation between parents and the relationship between parents and children. In addition we consider the relationship to other important persons in the social network.

To broaden the phenomenological perspective of Berger and Luckmann, we use Cato Wadel's concept of the family as an employment system. Wadel considers the household as an employment system with a set of mutually dependent activities and roles. The familial employment system exists in a mutually dependent relationship vis-à-vis other employment systems such as the work place, school, day care and the transport system. Thus, within the household one finds a tension between social requirements, one's own and other's needs, desires and resources when daily life is to be organized.

Both Henri Lefebvre and Anthony Giddens emphasize that everyday life consists of repetition and the development of routines. Lefebvre emphasizes the sense that the old totality in everyday life is decomposing and that modern society consists of disjointed sub-systems and an increasing portion of forced time use. Giddens has a more positive conception of routines in everyday life. He suggests that routines can be seen as the basis of an ontological security. In this project the media can be seen as a tool to secure this security. It is a physical implement to increase the field of action while at the same time it increases security in daily life.

Materiality and the understanding of technology

Lefebvre also places an emphasis on the material portion of culture in understanding everyday life. This is seen, in particular, through what he calls sub-systems. He thinks that automobilism is the best example of such sub-systems. The automobile effects and directs behavior and interaction within various spheres, from economy to language. The car is the very element which socially organizes traffic, it dominates urban planning, it has its own organizations and strong pressure groups. In everyday life the car is the most important sub-system since it forces upon us its imperatives for action.

Another way to consider the material objects that surround us is to see them from a domestication perspective. This means that one studies the consumption of objects in a broad sense. One is not simply interested in purchase behavior or in use. According to the domestication approach one is presented with technical developments, both in terms of physical objects and non-material items such as software. Users adjust these to their needs, based on the social situation in which they find themselves. This means that the objects can change the social context into which they are introduced and the objects can be reinterpreted of the users and used in unexpected ways. This is the dynamic that lays at the core of the domestication approach.

Three groups of theories on media choice

Media choice theories can roughly be divided into three general groups: theories that describe the media's quality, acceptance and usability.

The communicator's choice of medium is based on the sense that the assignment/content corresponds to the media's qualities (task-media fit). Media Richness theory and Social Presence theory are examples of theories that have this as a point of departure. The first of these assumes that complex

communications situation, with a high degree of ambiguity and where there is space for many interpretations, means that a rich medium is called for. That is, a medium that allows much information and where the possibilities for interaction are good, i.e. face-to-face interaction. The other theoretical approach says that effective communication assumes that the degree of social presence depends on how much the interaction/communication content requires. Based on this theory, the persons who are communicating choose the media based on the need for social presence they feel is needed.

The communicators' choice of medium is also based on the ways in which the surroundings affect the considerations of specific media. The Social Influence model uses this approach.

The communicators' personal experiences and understandings have a strong influence as to which assignments/content that are appropriate for which media. Approaches that support this perspective are the Technology Acceptance and the Media Appropriateness theories.

The organization of everyday life in intact families

Obligatory activities

Parental commuting and children's going to either school or day-care are the framework that dictate the family's daily life in intact families and also in families that have experienced divorce. These are the obligatory trips and activities that must be coordinated and carried out. Day-care children – as well as many of the youngest school-aged children – need to be followed to these locations. The majority of couples divide this activity. Usually one of the couple delivers the children and the other retrieves them, depending on the individual's job situation. Several of the women have shift work – nurses and airline flight personnel – and thus their delivery and retrieving of children is adjusted to their work routines. The trip to work is often coordinated with other tasks, including the delivery/retrieval of children and the purchase of food and other items for the home.

A working couple with small children often uses the majority of the day at various locations. Not all of the agreements as to who will coordinate the practical household assignments – who will prepare dinner, who will deliver children to after school activities – is done before hand. Access to a mobile telephone or a landline phone, and access to at least one car in the household reduces the need for detail planning, even though the most important agreements are often done before hand.

The interviews show how active the lives of the parents are, particularly those with younger children, and the energy needed to keep one's head above the water in a hectic life. Our material shows how intact couples often develop a set of routines that they use to cover the family's needs.

Flexible routines

For intact couples, daily routines have often slid into a pattern wherein both know generally what needs to be done and who should do what. The partners

complement each other. Interviewees speak about the systems they have developed. The interviews have obvious examples of how the family is a type of employment system or institution where the interaction to other social institutions – both temporally and geographically – determine the practice of everyday life.

In the spirit of Berger and Luckmann, there has developed a type of custom in the routines that families develop. The respondents speak of “natural” spheres of responsibility. Many of the things that the family has to agree on fall within the sphere of one or the other partner. These customs are referred to as “natural” phenomena, but there is obviously a crystallized relationship to the history of the relationship and the gender based assumptions as to who does what. Our analysis shows that in an intact and functioning family the division of labour is only partially discussed. As a rule it has attained the status of being a convention. It is only when it becomes problematic that there is a need for the partners to discuss the situation.

Routines include the use of different technologies such as the car and telephone. In the process of meeting the different demands that one meets in everyday life, the partners discuss how important it is to have effective (that is timely) and flexible transportation. In addition, the need to coordination is assisted with the use of mobile communication. Thus, agreeing on things before hand is less necessary than before. One example is how the mobile telephone is used in connection with daily purchases. Things that should have been on the shopping list can be added as the one partner is in the act of shopping. In addition, the specification of unclear items (“Was that whole milk or skim milk?”) can be made on the fly. In this way, the mobile telephone provides flexibility in the purchasing of daily items and means that traditional planning can be reduced.

Technology, particularly the automobile and the mobile telephone, are a part of this process in different ways. The interviewees indicate that these items contribute assisting parents. The family’s second car is used to deliver children to divers activities while one of the parents use the other car for commuting either locally or to more distant job locations. The mobile telephone is used to organize purchases on the fly and to coordinate whom will get which child at which school or day-care center.

The family can have different needs at different times. The life-phase wherein children must be chauffeured to different activities gives way to a period where they are more independent and can arrange their own transportation. This means that the need for coordination is reduced. Our analysis shows that the greatest need for technical solutions is among those parents with small children. They purchase of an extra car, the telephone is used for coordination and there is a complex interaction between the partners. In addition to caring for the children, both partners are often concerned with the development of their careers and need to take these possibilities and limitations – along with those of their partner – into account.

Delivery of children is often agreed on beforehand, usually latest on the eve of the day. However, there can also be situations wherein arrangements have to be made on the actual day itself and thus other things have to be changed. The mother or the father has to work longer; there is sicknesses in the home or other issues arise. When such situations arise and new agreements need to be forged, the partners

need to talk. SMS can be used for short messages and e-mail can be used if there are longer messages. Partners call each other to make agreements that cover the retrieval of children since it is imperative that the agreement is clear and unambiguous. One cannot risk that the child is not picked up when day-care or the after school program is closed for the day. Whether the partners use the landline or the mobile telephone depends on where they are at the time and if the telephone belongs to one's job or is a private telephone. It can happen that one of the partners, usually the woman, sends an SMS or an e-mail to remind the other of the agreement.

“Dead time” in the car is used for conversation

For a stressed family with small children, the time in the car provides an open time and, with access to the mobile telephone, it provides the opportunity for a conversation with others. Many of these parents have long work trips and there is time to have a conversation that can be more focused on maintaining their social network than on the coordination of everyday life. Mobile telephone use in the car thus becomes a time in which one can communicate with family, friends and also one's partner.

Many of the women we interviewed had contact with their mothers during the day. A “nice” talk of this type was mentioned by half of the interviewees in the intact families in addition to several of those who were separated or divorced. The principle of these incidental conversations in the car while driving seems to be a way in which one can use the time while driving and do two things at the same time. There were several of the interviewees that mentioned such a conversation while driving to and from work etc. This indicates that it is acceptable to have an expressive conversation with one's partner or other friend in what one considers to be otherwise “dead” time. It is in this arena that one can address issues associated with the emotional balance in one's relationships.

The expressive and emotional aspects of mobile telephone use combine with those obligatory uses of the phone in the car. Thus, since one is necessarily in their car in order to commute – and perhaps the person they are calling is also in a similarly disposed situation – the time can be used for something that they desire, i.e. to call a friend or a partner.

What one sees here is a combination of the physical and the virtual communication forms. It is a blending of the instrumental, the obligatory that is seen in the job commute, and the expressive conversation with a good friend.

The mobile phone conversation in the car can also include planning and making agreements. With both friends and partners, one can make agreements as to later activities in this context in addition to the more emotional dimensions of the contact. Parents also use this opportunity to coordinate daily purchases here, either via calling the person who is in the car, or the person who is driving calling home to check on the status of the larder.

The relationship between parents and children in intact families

Practical care giving

For pre-school and younger school children, it is the parents that agree among themselves. Children have little influence vis-à-vis their delivery and retrieval. Parents agree upon these tasks beforehand. They are planned trips. If there are to be changes in the delivery/retrieval of the child, the parents call to each other to insure that the changes are confirmed. E-mail or SMS are often seen as being too unsure in this situation. Here one needs a “rich” medium i.e. a medium wherein one can communicate in real time and clarify eventual misunderstandings.

Control and security

For children, telephonic contact means that they can satisfy their needs for talking with parents when, for example, they come home to an empty house and feel alone. They can use the telephone to get the attention of their parents and to make sure that their parents are where they should be, i.e. at work.

Many of the children contribute to housework, making food and cleaning. This is often associated with their weekly allowances. This is a part of the families “employment” system. Portions of their contact with parents are associated with what is to be made for dinner and the practical issues associated with that. Thus, it is a combination of simple contact, agreements as to practical issue tied to making food and nurturing. These interactions are important in this context. The parents are often engaged in a hectic job and in some cases; they prefer the use of SMS in these situations.

The children’s ownership of mobile telephones means that parents can generally reach them regardless of where they are. For many parents, this represents a type of security on a daily basis. Parents both call and use SMS to check up on their children. Retrieving children in the evening also plays into the issues of security and control. Many of the parents do not want their children or even teens to be out when it is dark and instead choose to drive them.

Emotional aspects

In these families the parents and children are together on a daily basis. In one of the interview families, there are children from an earlier marriage and these children have contact with their other – non-resident – parent. In general then, the need to use media to communicate emotional issues between parent and child is less than in those situations where the parent and child do not live together all the time. Quality conversations, and also simply talking for the sake of talking via the telephone happens when one of the parties is traveling or if the child is visiting others (for example on a week-end visit). When considering the children who have non-resident parents our interviewees indicated that they use the mobile telephone and SMS as a way to maintain this relationship.

Organizing everyday life in physically diffused families

Divorce and separation between parents usually mean that there are major changes in the organization and structure of everyday life for both children and grownups. These changes have both practical and emotional implications. However, the way that the family addresses this new situation is somewhat determined by how far the former partners have moved from each other, the grace with which interaction between the former partners is carried out, the age of the children, and the changes in how assignments and responsibilities are carried out by the parents.

In the interviews we saw that the amount of contact depends on how often children needed to be delivered, the way that custody was dealt with, the agreements with school/day-care, agreements as to the purchase of clothes and equipment for the children, how information from school/day-care was distributed and how flexible the parents were in relation to the various agreements. In addition to describing the reasons for contact between the parents, the frequency of contact reflects the differences in emotional temperature between the parents. In this respect there are two types of situation, namely those with much and those with little contact between the former partners.

Rigid and flexible structures

Ex-partners with little contact often have a more rigid type of organization. They often have a traditional custody agreement where the father has pre-agreed visitation times. These parents have arranged it such that they do not need so much contact in order to observe their agreements. The assignments and responsibilities are often clearly divided. They also have fewer activities with which to concern themselves when compared with families who have frequent contact and have more delivery/retrieval trips.

Families with frequent contact have what one can characterize as a flexible structure. As a point of departure they have regular agreements in relation to visitation and custody. However, there are more and more activities to deal with and more delivery/retrieval trips, much of the contact between the parents is given over to this. The need for an overview is greater and the agreements for these families are also more prone to have adjustments. Thus, there is a need for regular contact to keep track of what is happening and to confirm the various agreements as needed. In addition, the parents in these “flexible” situations often do not have any regular routines with regards to the purchases etc. This situation also increases the need for ad hoc contact. With shared custody there is more of a need for continual interaction between the parents when compared to situations where one parent (usually the mother) has custody.

Complexity, nearness and frequency determine media use

Telephone use or face-to-face contact is the most important way to maintain contact for the families who often interact. Families who are often in contact have more things to plan, coordinate, change and/or confirm than families with little contact. This means that they often must show respect for one another’s daily life

and plan/coordinate according to that. There can be a lot of information to exchange. There can easily be a lot of “back and forth” if they use SMS and there is the potential for misunderstanding.

In those cases that something needs to be confirmed or sort messages need to be sent, SMS is used as an additional channel between ex-partners where there is much contact. This agrees with the notions of media richness theory in that richer media – face-to-face, telephone – are selected when there are complex communications and where there is a high degree of ambiguity or where there is the potential for different interpretations.

Even though the telephone is a “richer” medium, we see that there are other media that are used for families with frequent contact since the situation of one or the other partner means that it is more natural to use another media. E-mail is used, for example, because of one’s work situation or if there is a danger that the children will hear interactions that are not meant for their ears. Media choice, therefore can be situational where, for example, text based interaction is used when it is awkward to use voice interaction.

We also note that men often prefer to call as opposed to use SMS since they feel that it is easier to call. In other situations there are advantages with SMS since the message can, for example, be saved and used as a reminder. In these situations it is the ideas and experiences of the user that play into the choice of media.

We also suggest that in those families wherein there is little contact often use SMS also supports the ideas behind media richness theory. In these situations there can also be other reasons that one uses SMS or e-mail such as, for example one does not want to engage in the social contact that is implied by a telephone call. A good example of this is a woman interviewee who noted that it is awkward to call an ex-partner that she never meets, not even when delivering/retrieving their daughter when exchanging visitation.

Contact between parents and children in distributed families

The distributed family’s situation creates the need for mediated communication between parents and children. They are in a period where children and parents do not live together and in which mediated communication is particularly meaningful. In this study we see parents (in particular the non-resident parent) use the mobile telephone as a direct channel to the child that is outside the direct purview of the resident parent. The non-resident parent can send a message before an eventual telephone conversation to hear if it is appropriate to call, for example. In this instance the non-resident parent might not want to break in on the child’s activities and, in effect, is “knocking on the door” with an SMS. In connection with a divorce/separation the mobile telephone has been seen as a “divorce mobile.” The mobile telephone has developed into a tool that is used to deal with parenting remotely.

Practical coordination and virtual nearness

Practical coordination and child-parent contact in distributed families often deals with, among other things, where various things are (sports equipment, specialized clothing, etc.), when the child will come for their next visit and the practical coordination around this. There are often many things that need to be moved in the transition between parents. In the words of one parent, “there is a little hassle around moving each Sunday.”

The parents’ attitude in relation to communication via the telephone, SMS and e-mail varies. On the one hand there are those parents who feel that the child can be contacted directly since it creates a sense of “co-presence” in spite of the fact that they are not physically together. At the same time, the mediated contact should not be a replacement for the physical contact between parent and child. Some say that this is not an issue and that they have not thought of it while other had thought a lot about this issue.

Emotional contact

In media theory we find support for the notion that the qualities of the media provide a clue as to which ones are best suited to different types of communication. We see in the interviews that both telephone and the mobile telephone are important communication channels through which to express feelings and the show one cares for the other in these distributed child - parent relations. The media are a way to show nearness when physically separated. This form of interaction seems to be particularly important for those parents who have child care on alternate weekends and one day a week (typically a father). Parents think, however, that the media does not really do a good job of replacing the physical contact. This mediated communication comes in addition to the physical and personal contact.

The emotional contact in the communication between parents and children is varied and is both positive and negative. Children often use the one parent to hear out their arguments if they are not happy with the other. This is also the case in distributed families.

Security, safety and control

Control, security and safety are three important reasons to give children and teens a mobile telephone. This is the case for children in both distributed and intact families. As mentioned above, the distributed family is more complex in its organization than is the traditional nuclear family and it demands more effort to maintain an overview over who is where at any given time. Parents in divorced families often have the sole responsibility for the children in the period that they have them and perhaps feel more secure when they can be reached via the mobile regardless of where they are. A divorced parent can not necessarily rely on a new partner when it comes to care giving in the same way that one can with their biological parent. Security and safety is provided when the children can contact parents regardless of where they are.

This also has some negative aspects. Children are never completely clear of the parents and are perhaps not completely self-reliant when parents are always available. “*Come and get me*” is one of the more common messages from pre-adolescent children.

Parents’ need for control of children is not different in distributed families than it is in intact ones. With respect to teens parents say that they listen for suspicious background sounds and for unfamiliar numbers on the telephone. The mobile telephone increases the sense of security on the one hand. Children and parents can quickly get in contact and it seems that this gives children a greater freedom of range when they can be contacted via the telephone. At the same time it can reduce the children’s sense of independence.

Media theory and communication acts

Several of the interviewees describe SMS as a limited type of media and as a source of misunderstandings. Several of them had reduced their use of SMS in certain types of communication situations. This is in accordance with Media Richness Theory that suggests some communication situations demand a “richer” type of medium.

Several interviewees noted that SMS is not adequate in relation to the near and personal types of contact. This can also have generational dimensions since the older interviewees are less familiar with SMS. One person mentioned this while at the same time noting that it was not difficult to develop good contact via SMS. Others noted that it is easier for children to write, “I love you” than it is to say the same thing in a face-to-face encounter. In social presence theory it is suggested that the degree of attendance or attention is an important dimension of communication. Inflection, body language, grounding comments and eye contact are parts of the communication situation and are tied to the content that is being communicated (as either voice or text). Some types of communication situations and certain types of content “demand” that the communication partners both see and hear each other in order for the message to be delivered in the appropriate and correct form.

The SMS messages that are sent are often short since many people experience the user interface as difficult to deal with. Several of the interviewees mentioned this dimension of SMS. They did not feel that the mobile telephone was a writing utensil. Several of the interviewees said that they used SMS at work because the person with whom they communicate – be it a friend, partner or an ex – had a job where it was difficult to contact them either because the job situation was hectic or because it was difficult to carry out a conversation. This is also was the case with children’s communication with parents when they were at work. Children whenever the urge moves them were seen as being disturbing and stressful and several interviewees noted that in such situations children prefer to send a text message.

Children and mobile telephony

The time at which Norwegian children get their first mobile telephone is usually around the time they enter middle school. Many of the school children in the sample had a mobile telephone. The material indicates that the children in divorced families often get a mobile telephone earlier than those in intact families. The concept of a “divorce” telephone illustrates the prevalence of this phenomenon.

Social pressure and social contact is an important reason that children get a mobile telephone. Several of the parents tell that social pressure had meant that they bought a mobile telephone for their children earlier than they had actually planned. The social pressure varied in the various milieus, but the material indicates that it becomes more intense as they approach the end of elementary school. The pressure is experienced as being real and it often results in the children getting a mobile telephone in spite of the fact that parents are opposed.

Economic issues are another dimension of children’s mobile telephone use. Parents are often concerned with the money used. Parents relate stories about uncomfortably large telephone bills and that children should be of a certain age because use costs so much. Most of the children with mobile telephones have pre-paid subscriptions such that the economic aspects of use are under some control. Other subscription types where one “fills up” their subscription with a certain sum are also in use. This is also to help control the child’s use. Several of the interviewees said that it was important that the children learn to make economic priorities.

Even though the discussion with regards electromagnetic radiation is often discussed in the mass media, only one of the parents in our interview group names this as a reason that they did not want their child to have a mobile telephone.

Life with the automobile and the mobile telephone

The families that were interviewed in this project had in most cases chosen a housing arrangement vis-à-vis their work that had implications for the physical dimensions of life and also for the need for communication solutions. The housing choices that the families had made in the urban region’s sphere thus had temporal implications when all the daily activities were tied together. The automobile was thus a central element here. A majority of these families said that the car was completely necessary in order to make the temporal ends meet.

Many of the interviewees associated their dependence on the car on one or another aspect of time. Time pressure, shortness of time, time plans for alternative forms of travel – i.e. that to travel via public transport or by bicycle etc takes too long is seen as a common form of argumentation. The idea that one has too little time in everyday life is a common notion for many of these families.

The necessity associated with the use of the car is also often tied to the issues associated with children. Without the car there is not enough time. The families had adjusted their daily lives to the rhythms of the automobile. When the day care center and one’s job are in different parts of the city it is difficult to use public

transport. Some of the interviewees noted that while they could walk to their work, delivering children to day care doubles the distance of their “commute.”

The routinized nature of daily life is the basis of the more habitual use of the car. When one always has access to the car – and a routinized use pattern – the threshold to using public transport is more difficult to overcome. Accessibility to the car means that it becomes more and more central to daily life and use of alternatives becomes increasingly difficult. Many feel that it would not be possible to do without the car. Either the habit is so strong or issues of access are so insurmountable that car use is entrenched.

The mobile telephone does not have the same central position as the car in the organization of the families’ daily life. Everyday life is possible without the mobile telephone. This said, the mobile telephone is an important supporting technology both in relation to the daily errands and the social contact between parents and children and contact with other members of the social network.

However, as opposed to the car, none of the interviewees have grown up with the mobile telephone. Many of them are in, what domestication theory would call a “objectification/incorporation” phase. This means that they are in the process of learning how to use the mobile, determining what it will be used for and how it will be incorporated in to their social life. Thus, the domestication of the mobile telephone has not come as far as it has with the domestication of the automobile.

As with the automobile, the mobile telephone is something that one becomes accustomed to. Availability is the most important. This group of persons associates availability to security vis-à-vis children. That they can be reached in case something happens at day-care or that they can reach the older children when they are away from home. The mobile telephone also means that the children can reach their parents in case they need contact with their parents.

In the interaction between the car and the mobile phone there is no discussion that the one will replace the other. It is rather such that they represent technologies that complement each other and can perhaps mutually increase use. One can say that while the car is an extension of the body and which increases the physical range of the individual, the mobile telephone increases one’s range of overview. To some degree the mobile telephone directs automobile use, more in the sense that it may generate more trips since use of the mobile telephone means that there is not the need to plan daily activities. More of the activities are carried out spontaneously and daily life is more ad hoc.

In the different families we can easily see different time use arrangements that are tied to the use of technologies such as the car and the mobile telephone. At the one extreme we find the structured where all the activities are planned – both in time and space – and all the assignments are divided between the various members of the family. On the other hand we see families where everything is done spontaneously and there is very little planning aside from the fixed portions of life such as school and work. The structured and ad hoc systems are two extremes on a scale where there are many alternative solutions. Clearly the families here represent positions between the extremes tending towards the ad hoc end of the spectrum. The reason that this is possible is precisely the use of the car and the mobile telephone. It is perhaps “modern” to not plan but rather to live ad hoc. The car and the mobile telephone are thus devices that allow this type of

organization. The car is a magic carpet that can take us over long distances in a short time. The mobile is a navigation tool that helps to determine the route.