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Reurbanization: A travel reductive tendency of urban development? Empirical results of a preliminary study of the city region of Hamburg, Germany

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Reurbanization – a travel reductive tendency of urban development?

Empirical results of a preliminary study of the city region of Hamburg, Germany

Introduction

In the recent past the urban development in German city regions was characterized by suburbanization. This stage of the urban process is accompanied by several consequences like shrinking tax receipts of the core-cities, social segregation, soil sealing or passenger transport related impacts (emissions etc). Concerning the urban development several social and economic changes seem to indicate that the tide is turning; a lively debate on reurbanization is taking place in the press¹ and among scientists. The reurbanization is said to interfere with, to weaken or even to reverse the previous pattern of urban development. Actually an incipient reurbanization in the terms of Berg's theory of metropolitan evolution (BERG et al. 1982: 37 ff) can be observed: at the end of the 1990ies suburbanization has diminished in the German city regions and the population of West-German Cities grows slightly (BMVBS, BBR 2007: 20). Taking into account that the development of local populations becomes increasingly dependent on migration as the German population shrinks (GATZWEILER, SCHLÖMER 2008: 245) and considering the spatial consequences of the social change, it is possible that reurbanization gains in importance in the future (BMVBS, BBR 2007: 147 ff, ADAM et al. 2008: 400). Although reurbanization may sound like 'healing' the urban system from the 'nuisances' of suburbanization, we have to be aware that not only positive consequences of reurbanization have to be expected; particularly social issues such as gentrification or spatial disparities in general may increase (BRECKNER et al. 1998: 121; RAUTERBERG 2005). It is therefore important to consider to what extent reurbanization exists, how it will develop in the future and how it can be assessed from the perspective of sustainable development. This knowledge can form the background of urban, regional or

¹ E.g.: 'Wohnen in der Stadt ist wieder voll im Trend' *Hamburger Abendblatt* 2008; 'Stadtquartiere gefragt' *Hamburger Abendblatt* 2007; Rauterberg 2005, 'Neue Heimat Stadt – Ein Epochenwechsel kündigt sich an: Die Deutschen entdecken das urbane Leben wieder.' *Die Zeit* 2005.

transport planning for developing adequate approaches to counter possible undesirable developments.

Given the lack of empirical evidence regarding reurbanization, its causes and interdependencies this paper aims to present the empirical results and methodological cognition of an interdisciplinary, preliminary case study. It focuses on the development of intra-regional migration within the city region of Hamburg and its impact on transport development as one of the crucial consequences of intra-regional migration in the past. Before entering the contents, the theoretical framework of the study including the leading questions will be outlined.

Reurbanization, City and Migration

The term reurbanization has a variety of dimensions; it is used as normative or analytical concept, in a qualitative or quantitative sense (OSTERHAGE 2005: 4). As analytical term in a quantitative dimension concerning demographic developments is defined as follows:

“Reurbanization takes place when the share of the core population in the total population of the FUR [Functional Urban Region] is increasing again [... either] because the core declines slower than the ring [...or] because the core is growing again while the ring is still declining” (van den BERG et al. 1982: 36)

This definition, which is the basis of most recent works on reurbanization in Germany (WIEGANDT 2007: 23), is the result of a comparative analysis of European city regions between 1950 and 1975. Berg distinguishes three antecedent, empirical based “stages” of urban development: urbanization, suburbanization and desurbanization. They differ respective their particular share of population development in the cities’ core areas as compared to their rings. In contrast to the three first empirical tested stages the fourth stage – reurbanization – is Berg’s theoretical construct. It is one possible direction of development which was not yet observed in the 1980ies (van den BERG et al. 1982: 40, 102).

In the context of this paper, reurbanization is defined as migration into the core-area from its ring(s). This means, the study deals with one aspect of reurbanization in the sense of Berg, as the components of natural population expansion and inter-regional migration are neglected. This seems justifiable inter alia because in the discussion of reurbanization the term is associated anyway with ‘(re)migration into the city’ and as opposite to city-to-ring-migration (e.g. RAUTERBERG 2005; BMVBS, BBR 2007: 19)

Furthermore this study is based on a comprehension of the term ‘city’ that is oriented at the evident settlement structure (and not at administrative city-frontiers). This seemed necessary as an overview of other migration analysis showed, that at least since the 1990ies there are sophisticated patterns of migration which are not to conceive in the simple dichotomy core-ring (e.g. ZEPP 2003: 48 f; BRECKNER et al. 1998: 25; ARING 1999: 3). The basis for the applied system of spatial categories was the concept of transport-reducing settlement structures (“Verkehrssparsamkeit”) by Holz-Rau and Kutter (1995). According to this view, the more transport-reducing a settlement structure is the more ‘urban’ is its category. A quasi-synonym is the city of short distances, as transport-reducing structures are characterized by a great diversity of functions in a relatively densely built environment. In these terms the opposite – widespread, poorly supplied structures – are transport-intensive. The more transport-intensive the settlement structure is, the more restricted are the possibilities to organise the daily mobility mainly without motorized private vehicles, whereas transport-reducing structures allow a greater variety of mobility (foot, public transport, car...) (HOLZ-RAU 1997: 12).

The presented system of categories allows describing migration patterns in a distinguished way and aims at better relating migration and transport behaviour. In this sense a ring-to-core-migration is the relocation into a settlement structure whose local supply facilities allow a transportation-reduced daily mobility. The ring-to-core-migrants thus have the *possibility* of changing their transport behaviour after migrating, but no one *forces* them to modify their choice of activity locations or mode of transportation for example. In theory, many other factors beside the settlement structure influence transport behaviour.² This means one cannot automatically assume that ring-to-core-migrants reduce passenger kilometres significantly after migration, in fact it has to be analysed empirically.

Leading questions

To assess the impact of reurbanization on passenger transport development of the whole city region three issues have to be treated:

² For a detailed description of theories concerning determinants of mobility behaviour see for example GATHER et al. 2008: 25 or STEIERWALD et al. 2005: 64.

- Firstly, the extent and temporal evolution of intra-regional migration has to be described spatially and social-economically differentiated to be able to determine the actual importance and novelty of migration patterns.
- Secondly the motives and general conditions of the revealed migration have to be analysed including their dynamic to better forecast the development and to find approaches to influence it. The motives of migration into the rings are well-explored already, those of ring-to-core migration are insular and not very differentiated³
- Thirdly changes of the migrants' transport behaviour are to specify, changed passenger kilometres are to measure and to assess in order to get an idea of the impact of intra-regional migration on transportation.

The aim of this preliminary study was to illuminate selected aspects of the complex theme and to develop and test an adequate survey method. Concerning transport behaviour only the 'reurbanites', the ring-to-core-migrants are taken into account, as several studies reveal the effects on personal mobility of core-to-ring-migration (e.g. SCHEINER 2008: 55; BAUER et al. 2005: 275; GEIER 2001: 23f). Concerning the migration motives a subject oriented approach is chosen and only one group of migrants – families – is explored. Experts attribute to this group to have quite some potential to become carrier of reurbanization in the future (BMVBS, BBR 2007: 151). Finally the available data determined the design of the migration analysis, which means that socio-economic differentiation had to be excluded and the temporary and spatial extension of the analysis were fixed.

Considering these restrictions the following three leading questions were deduced:

1. In which way have intra-regional migration-relations changed in the city-region of Hamburg between 1993 and 2004?
2. Which are the motives of Families (Households with at least one child under 18) to migrate from the ring(s) into the core-city?
3. How far do these families use the structural conditions and local supply facilities of their new location to reach their activities on foot, by bike or public transport and diminish their cumulated motorized passenger kilometres?

³ Only three recent studies which at least partly analyse these motives were available: FÖBKER et al. 2007; ZEPP 2003; BMVBS, BBR 2007.

Intra-regional migration in the city region of Hamburg 1993-2004

Evaluation design

The analysis of migration in the city-region of Hamburg is based on data from the statistical offices of the Länder Hamburg, Schleswig-Holstein and Lower Saxony. To deal with the plenitude of migrations between over 455 communities of Hamburg's rings and 103 quarters within the City of Hamburg it was necessary to aggregate the data. Thus a range of finally eleven spatial types was deduced. They differ in basic conditions they provide concerning transport behaviour: There are important differences concerning the type's settlement structure including local supply facilities and the public transport connection. The most relevant spatial types used in the analysis can be briefly characterised as follows:

- The four spatial types of the urban hinterland are the widespread settlements of the *near* and *distant* 'ring' and the types *near* and *distant* 'middle-order-centre'⁴. The 14 communities that form the latter type are located time-defined (public transport travel time) near or distant to the Central Business District of Hamburg and concentrate urban functions. Middle-order-centres comprise roughly 30 000 inhabitants each and supply more than twice the number of inhabitants, thus provide a functional surplus.⁵ The inhabitants of these communities benefit therefore from relatively large local supply facilities.
- The most relevant spatial types within the administrative borders of Hamburg are the 'inner-city' with a high population and built density, a very good public transport connection and a high level of local supply facilities. The rather suburban 'outskirts' are characterized by lower density, poor public transport and inadequate local supply. The intermediate quarters concerning the named characteristics are called 'intermediate-zone'.

Finally we have a hierarchy of spatial types concerning the preconditions of individual travel behaviour. This hierarchy starts with transport-reducing characteristics and ends with transport-intensive structures. Simplified it can be pictured as concentric city-model with central places as satellites in the rings:

⁴ One so called „main centre” – Lüneburg – was an extra spatial type in the analysis but shall be neglected in this paper for simplicity reasons.

⁵ The system of Central Places in Germany is one basic concept of the German spatial development policy. The definitions are to find in the laws of the federal states.

1. *inner-city*
2. *intermediate-zone*
3. *near and distant middle-order-centres*
4. *outskirts*
5. *near-ring*
6. *distant-ring*

To evaluate the migration patterns three central parameters of each relevant migration-relation (altogether 24) were analysed.⁶ Firstly the migration balance and its development over the evaluation period (1993-2004) were analysed. Particularly the hypothesis was tested that the migration-balance changed in favour of the settlement structure with transport-reducing conditions in each case. Secondly the development of the migration flows was examined; special attention was paid to the in-migration flow. Growing in-migration may indicate a more or less distinct tendency of reurbanization in the defined sense of migration into urban, transport-reducing structures even if the arithmetic sign of the balance does not change. Lastly considerable changes or breaks in developments have been searched for, in order to be able to judge if the identified developments may be qualified as new patterns of migration.

Results

In the 1990ies, migration flows dominated from the *inner-city* of Hamburg outwards and from the *middle-order-centres* into the *rings*. Altogether, the *outskirts*, the *rings* and *middle-order-centres* recorded net migration gains, while the *inner-city* had to put up with net losses of inhabitants. The outward migration flow worked in two different ways: directly, that is from the *inner-city* or the *intermediate-zone* directly into the *rings*, and in form of “cascades”⁷. Thus the spatial types in between the *distant-ring* and the *inner-city* of our hierarchy gained inhabitants although they lost some to the respective outwards-located settlements. These results match with the results of other disaggregated migration analysis of the 1990ies (e.g. ZEPP 2003; BRECKNER 1998).

⁶ Due to the method of classifying the spatial types, not each migration-relation could be qualified as migration into a more or less transport-reducing settlement structure.

⁷ The migration pattern of “cascades“ describes relocations into the respective outwards-located, adjoining spatial type or along the hierarchy of central places, that is from the ‘main-centre’ to the ‘middle-order-centres’ to centres with ‘low’ or ‘without’ importance (e.g. BRECKNER et al. 1998: 25).

At the end of the 1990ies until the end of our evaluation period (1998-2004) there is no fundamental reversal of the previous intra-regional migration pattern. It can still be summarized as suburbanization. In particular, the arrangement of spatial types with a net gain or loss of inhabitants has not changed. This means, the algebraic signs of the balances of the individual migration-relations rest widely like in the previous period. Indeed the *outskirts* and even the *intermediate-zone* do lose inhabitants since 2003 below the line, whereas they gained inhabitants before. Nevertheless the settlements still lose inhabitants outwards and gain inhabitants from inside; only the relation of gains and losses has changed. Yet nothing has changed fundamentally, too.

There are some exceptions and details which relativize this general view: Between *middle-order-centres* and their respective type of *ring* the negative balance of the *middle-order-centres* has turned into a positive one (fig. 1: Change of the migration loss): These spatial types now absolutely gain population in the respective relation; there is indeed a reurbanization – at the level of smaller cities in the city region of Hamburg. Concerning the migration patterns of the 1990ies, this means that the last step of the cascade-migration outwards along the hierarchy of central places is reversed. Moreover all other steps outwards are weakened, in some relations importantly (fig.1: up to -72% between the respective mean of the periods 1993-1995 and 2002-2004). Altogether the *inner-city* lost only half the number of inhabitants in 2004 than in 1993. These observations indicate quite clearly a changing situation although dominant flows have not changed their direction (yet).

In some migration-relations the balance changes significantly in favour of the transport-reducing settlement structures.⁸ This is at least partly due to growing in-migration i.e. migration upwards our hierarchy of spatial types. In most of the relations this development can be observed since the beginning of the evaluation period (1993) already, here in-migration grew at least 15 % within ten years. In some relations in-migration flows did not start to increase until 2001, but then rose more dynamically up to 20 % in three years. The latter relations nearly all concern the *inner-city*. It is unlikely that the observed growing in-migration is just a volume effect of population growth in the respective spatial types. This has to be explained at least partly by other factors and indicates therefore a tendency of essential change.

The control of the out-migration development revealed growing flows until approximately 1998 and a subsequent decrease. However in 2004 only in exceptional cases the number of

⁸ Over 15 % since 1993 or over 13 % since 2001.

out-migrants fell below the number of 1993, furthermore some flows outwards start to grow again in 2003. This leads to the interpretation, that the reduction of migration outwards into transport-intensive settlement structures is not a long-term phenomenon but a short-term stage, a process of normalization: Other authors describe a “swelling” of the German settlement structure in the 1990ies which was observed as direct migration into second or third suburban rings (“Aufblähung des Siedlungssystems” SIEDENTOP 2003: 52). This “swelling” seems to have normalized in Hamburg after the late 1990ies.

Summing up the results so far and regarding the *middle-order-centres* and the *inner-city* as ‘core’ all other spatial types (including the intermediate-zone) as ‘ring’ we can identify two general development-paths of intraregional migration:

- The core-to-ring-migration exists continuously in the intensity of the beginning of the 1990ies, because the quantitative and spatial ‘excrescences’ of core-ring migration in the mid-1990ies have normalized.
- The ring-to-core-migration grows importantly within the vicinity of the inner-city.

The migration relations of the *inner-city* with the types *outskirts* and *near-ring* have a very important volume of migration altogether and thus count a lot concerning the final assessment of migration patterns. They differ from the first of the listed development paths: It can be recognized, that core-to-ring-migration diminished even relating to 1993. Presumably the diminishing out-migration concerning these relations is to qualify as rather long-termed.

Even if the migration patterns have not reversed from a general point of view, the time series analysis showed a growing number of migrants who choose a location which enables them to behave less transport-intensive in the sense of independence on private motorized vehicles. In the very well supplied quarters of the *inner-city* the motivation of leaving seems to decrease. Anyway it has to be emphasised, that the so far presented results do neither prove any causality of settlement structure and the process of active and aware location choice, nor do they help to forecast the real transport behaviour. These Problems are treated below.

The migrants’ location decisions and travel behaviour

Research design

For treating the motives of migrating, backgrounds of the location decisions, changes in individual travel behaviour and the respective framework it was necessary to generate primary data. In the context of this study ‘travel behaviour’ describes in general the choice of

activities, the activity-location, the availability of vehicles or the travel pattern. The latter means the quantitative aspects of travel behaviour such as passenger kilometres differentiated by trip-distance, trip-purpose and transport mode.

The explorative character of the study concerning motives and individual conditions of travel-behaviour suggested itself a qualitative design. The choice of the survey-method of individual distances covered by ring-to-core-migrants was less definite. Trip distances and frequencies are commonly surveyed by trip diaries. However, the trip diary seemed to be an inadequate instrument, as data was required not only for the present time but also for a period longer ago: The simplest and most random-conducted access to migrants is to contact them after the act of migration. Therefore the survey-method had to take into account that daily trips at the previous place of residence cannot be recorded promptly anymore. A trip diary survey for past behaviour would be coined by remembrance and therefore more fault-prone than any actual trip diary.

The basic assumption for developing the actually applied design was that the purpose of most daily movements in space is an activity, whereas trips only “serve” activities (GATHER 2008: 167). As activities and their locations are the ultimate causes of trips, it is probable that they better rest in mind than single trips do. Therefore an activity-based approach to survey personal travel-patterns and passenger kilometres was developed and applied.

The idea of this approach is to draw a map of the individual action spaces by asking the interviewee systematically about the activities of all members of the household (it was assumed that the mothers are well informed about all household members’ activities, therefore they were interviewed). Then all activities are attributed by frequency, organisational relations to other activities, household members who participated, distances and transport mode used. It was expected that this setting would allow calculating trip distances and frequencies of persons and households in a differentiated and exact way at the evaluation stage. To meet this claim a quantitative setting for the activity survey was generally imaginable. Yet the evaluation of the methodological results of an already used activity-based approach revealed that such a setting produces insufficient data concerning the exact activity-location, trip distances and durations (MOBIPLAN 2001: 21). As particularly trip distances are important to be able to compare changing travel patterns before and after the household’s migration, it seemed adequate to choose a method which allows generating more precise results. Therefore a qualitative method, the “semi-structured interview” was chosen. This instrument permits on the one hand a reliable and comparable reproduction of behavioural patterns because of its

open conception that is oriented at the “narrative interview”. On the other hand it assures that particular aspects are recorded in a necessary detailedness. Furthermore the questions concerning motives of migration and personal behavioural conditions could be surveyed with the help of the same instrument. The prepared guideline of the interview was supplemented by a questionnaire concerning general personal and household data.

To ensure the possibility of generalizing the results, the choice of the sample, the survey-instrument and the method of evaluation were carefully reflected. A selective sample on the basis of the “theoretical sampling” of Glaser and Strauss (c.f. FLICK 2002: 102) was chosen in order to get a wide range of differences concerning specific attributes of the interviewees. Suchlike minimal and maximal contrasts of certain aspects allow estimating the variability of values within the population, to identify and understand interrelations and to outline regularities that are of more general relevance (PRZYBORSKI et al. 2008: 177 ff, 320). The evaluation technique was based on the “qualitative content analysis” described by Mayring (2003: 42 ff). Central evaluation categories were extracted deductively from the results of the literature analysis:

- ‘framework / external circumstances of relocating’
- ‘activator of migration’
- ‘assessment of the new location’
- ‘reasons for choosing Eimsbüttel’
- ‘assessment of the former location’
- ‘reasons for leaving the former location’
- ‘neutrally expressed differences between former an new location’

The extraction of activity-categories was inductive. In the first evaluation step they were only slightly abstracted in order to generate differentiated results. In the end activities were grouped as ‘obligation child’, ‘shopping’, ‘free-time’, ‘obligation adult’ but for particular evaluation purposes sub-categories were used.

The city of Hamburg provided contact data of the basic population which was defined as households with at least one child under 18 before the date of migration. This date was assigned to be between 01 / 2006 and 12 / 2008. The migration directions included were those from the *rings* into the *inner-city*. For organisational reasons only one target-quarter of the *inner-city* was chosen: Eimsbüttel. This quarter represents one of the most transport-reducing settlements after the criteria applied at the migration analysis (see above). It is attributed by very good local facilities of daily and medium term supply, including offers of leisure

activities, medical care, nurseries etc.; in terms of travel analysis the quarter provides a great variety of activity offers. The structure of an urban expansion dating from about 1900 forms the ground plan. Multi-story apartment houses from different periods of time and several public parks coin the settlement. A fine-meshed network of bus and subway provides very good public transport connections. From the quarter it takes 5-12 subway-minutes and about 20 bicycle-minutes to the Central Business District. In context of migration it has to be alluded to the fraught housing market; between 2005 and 2008 the rents have increased by 10-20 % (LAWAETZ-SERVICE 2009).

The five households of the sample differ regarding the age of the child (crèche, kindergarten, school-age) and the spatial type of residence before moving to Eimsbüttel (*near-, distant-ring, near middle-order-centres*). Other attributes which are known to be of travel behavioural relevance were relatively stable throughout the cases; particularly the income range at a medium level (roughly 2600-4000 €) and the adults were between 25 and 41 years old. Nevertheless the evaluation of the interviews yielded that it would have been useful if the partition of employment between the partners (both full-time, full-time / part-time, full-time / unemployed) had been considered. In contrast, the affiliation to the spatial type was less relevant as the travel behaviour was affected more by very small-scale differences regarding local supply-facilities.

Results

The following results only refer to the described group of middle-income families with middle-aged parents who moved from a transport-intensive into a transport reducing structure. Due to the research design the results are empirically supported hypothesis which show the range of variation in migration motives and transport behaviour changes. The quantitative distribution rests to verify on a more extensive statistical basis.

All examined families who moved to Eimsbüttel have either reduced their cumulated motorized passenger kilometres or hold them quasi stable (fig. 2: Cumulated passenger kilometres). This happened independently of the spatial type of the previous residence and in spite of increased activity and trip frequencies. Additionally it has to be assumed that the motorized passenger kilometres would have increased in the same period, if the family had not moved: Due to the age of the children (e.g. changing from kindergarten to school-age) the number and location of activities changes and with it the necessity of escorting the child. If the community is not well supplied or the settlement-structure is widespread, more and longer

trips are required; children cannot reach their activity-locations autonomously. To handle the new mobility requirements of the household a supplementary car would have to be purchased and used for reaching distant located activities. Probably this would have been true for near located activities as well as the second car opens the possibility to be used. The balance of motorized passenger kilometres would have grown but this was avoided by migrating. It has to be pointed out that the observed supplementary activities are not induced by a better offer of activities in a well furnished settlement-structure. In fact it is the consequence of the children's life-cycle that is spatially independent. In contrast free time activities for parents / adults depend on the available offer, indeed. But they are relatively seldom exercised and mostly reached non-motorized. Below the line the hypothetical, life-cycle related motorized passenger kilometres of families were spared additionally to what is shown in figure 2 by moving into the transport-reducing structure.

Although the settlement structure is quasi irrelevant concerning the number of activities, the survey showed that it is of high relevance concerning the reduction of specific motorized trip distances. This is particularly true concerning free-time activities, shopping of daily supply in small amounts and the attendance of educational institutions (including nurseries). These activities, particularly the free-time activities, are spent within the quarter and not in recreation areas outside of Hamburg for instance. This can be explained as follows: On the one hand, the residents are satisfied with the quality of local activity offers so that they choose close locations. On the other hand the time budget of families is limited during labour days as well as on weekends: Nearly every weekend another household-member exercises quarter-related activities that only seldom excursions are put into action. It has to be stated out that other household structures probably differ very much as their time budget and distance-sensitivity might be less limited and more flexible.

Nevertheless two families overcome relatively long distances on weekends. In these cases the motorized kilometres were much less reduced compared to the others (B and D, fig. 2). These households are in the particular situation that they still have social relations at their former place of residence. This causes trips from the *inner-city* to the *distant-ring* after migration. The structural effect of the new location is not big enough to over-compensate the covered kilometres importantly. However any other solution for these households (stable activity locations given) would have been more transport intensive than the chosen place of residence, as these households have had social relations in Eimsbüttel since before migrating. This implied regular trips from the *distant-ring* to Eimsbüttel. It can be assumed that the origin of

the migrants (*inner-city* / other city vs. *rings*) influences the changes in travel behaviour in the context of ring-to-core-migration.

Beside these specialities the action space of the households concerning most of the trip purposes is less extended than before migration thanks to the settlement structure of the new location. It enables the households to reach many activities non-motorized and in fact they use this opportunity and do reach most of them non-motorized. Anyway here are exceptions concerning the trip purposes 'shopping' and 'work'.

Concerning the shopping behaviour two behavioural types were deduced. One type uses the possibilities of the settlement structure and shops non-motorized, mostly by combining shopping with obligatory activities. This type purchases each time medium amounts of goods that are comfortable to carry. The other type enjoys the flexibility of purchasing small amounts whenever necessary but regards the car as 'normal' vehicle for shopping. If this group does not use the car for particular shopping-trips it is due to parking restrictions within the quarter or at the shops. In these cases the restrictions – and not the possibilities – of the settlement structure influence the modal choice and sometimes the choice of destination concerning the trip purpose shopping. Here, the particular freight parking situation of the chosen quarter plays a crucial role for the partially changed mobility behaviour.

Concerning the travel to work three households still get to work by private motorized vehicles after relocating; only one changed to public transport and one still uses the bicycle. In the location decision of these families the aspects of a bicycle-friendly distance to work or the availability of a specific public transport connection were of little importance. Therefore after having moved, the alternatives to motorized mobility were not competitive in the mid-term and daily modal choice. It has to be pointed out, that not the supply of public transport in general is important; the conditions of short-term mobility behaviour rather depend on concrete public transport connections. The two households, that paid attention to the conditions of travel to work in their location decision, get to work by bike or public transport. However, in this context not only the subjective weighting or missed consultation of the factor 'travel to work' played a role. The housing market and particularly the usual prices affected the original claims importantly and restricted the possibility to orientate one's residence strategically towards public transport connections.

Indeed from the point of view of transport reduction in the city region families seem to be a potential target group to be pulled into the city. Nevertheless individual reduction of passenger kilometres can be stated concerning families, the actual effects of the families'

distance reductions are marginal regarding the regional transport in total: On the one hand the favourable balance is heavily dependent on the particular (and actually rare) attributes of the settlement structure (satisfying activity offers in combination with restrictive parking infrastructure). On the other hand the data allowed estimating that families actually only represent a very small part of the ring-to-core-migrants: the examined basic population represents approximately five to seven percent of the *persons* (not households!) who migrated into Eimsbüttel from 2006 to 2008. The question that is treated in the following is therefore, if a change of the migration share is to expect at all.

The analysis of motives and circumstances of migration indicates under which conditions a growing share of ring-to-core migrating families can be assumed. Regarding the demand side the general opinion is actually, that living within the city is particularly interesting for single parents and dual-income families, particularly with two full-time jobs (POHL 2009: 15). These family models require a particular infrastructure which is characterized by a wide range of functions for a very small volume of time has to be invested in mobility (ibid). The interviewees esteemed particular characteristics of Eimsbüttel at a level beyond such practical questions: This is for instance the gain of spontaneity concerning various activities just as the modal choice. The interviewees underlined that the various supply facilities, particularly its fine-grained structure and the public transport relieve from daily planning worries (e.g. “forgot to buy baby food”, “car broke down”) and enable to fulfil spontaneous desires (“feel like going swimming”). They accentuated furthermore the possibility to make contacts in the quarter. In contrast to the results of former studies that observed an importance of friends or relatives on site in the location decision (e.g. FÖBKER et al 2007: 205), the interviewees of this study meant casual contacts, they wanted to meet not yet known families in the same situation or to chat in an unsealed way in the streets, on the playgrounds. This aspect was especially important for the parent at home. Therefore it concerns the household-type ‘sole-earner-family’ or families with very young children (temporary parent at home). In contrast to the general opinion sole-earner-households with children are very well potential ring-to-core migrants this household-type is not inherent core-to-ring-migrant. This will be particularly true, if the social structures in the rings change in the opposite direction (less families, more elderly people). The results underline the importance of social life in the quarters in combination with infrastructural preconditions of well maintained meeting places for instance.

We have shown that living in the *inner-city* can be interesting for all types of families. This result fits with the results of other studies which revealed that many families did not want to migrate from the city into the rings in the beginning but did so in the end because of financial

reasons (e.g. BMVBS, BBR 2007: 71, 111). Altogether it has to be assumed, that the demand of living in the *inner-city* exists among middle-income families, either for practical reasons or in order to gain subjective life-quality.

If an existing demand is given, the future development of the family-share of migrants from the *rings* into the *inner-city* depends on other factors. Some statements concerning the search for dwellings and financial aspects in the interviews lead to the assumption that the fraught housing-market of Eimsbüttel plays a crucial role concerning the share of in-migrating families. If a city wants to benefit from households with transport-reductive mobility behaviour, it has to provide suitable housing space. This is particularly true if the number of family households rises. This does not mean to provide dwellings that equal 'the single family detached house with garden' located in the *inner-city*. In fact, the demands expressed by the interviewees showed it just has to be taken into account that families are in a relatively weak position at the housing market, as the income has to be shared with other household members and that a family is coincidentally less flexible concerning the square footage of the dwelling. For exploiting all potential of reducing kilometres it is necessary to provide sufficient dwelling in well furnished environments for middle-income-families to and to enable them to choose their location strategically regarding their fixed activities at a very small-scale level.

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