“Governing of housing estates: materiality and urban mobility in Mustamäe, Tallinn”

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Introduction

> Surprising though it may sound, Modern blocks of flats went in many respects but a short logical step beyond Reilly Greens and Radburn cul-de-sacs. Some Zeilenbau blocks, with parks on one side and short access roads on the other appear, on plan, like Radburn cul-de-sacs with their end blocks shorn off. Blocks of flats constitute the logical conclusion in the attempts to provide open space around dwellings and to eliminate the ordinary corridor type of street. (Glendinning and Muthesius, 1994, p. 100)

> large estates have an important part to play in promoting sustainable urban development more broadly, given their compact morphology, abundant open space, and their potential to benefit from public transport links and the development of green heating and energy systems. (Dekker et al., 2005, p. 5)

Academics and wider public tend to think about housing estates in a narrative that goes something like that: The need for new housing emerged after the World War Two with housing estate the prevailing idea due to the modernist ideology and this residential form's capacity to relatively cheaply stack large number of people to live; while initially being valued they soon became sites of social concerns such as physical degradation, social homogenisation and image downgrading raising also many worries related to

safety. Housing estates are thus mainly considered as sites of problems or problems soon to come. They are seen as fundamentally failed design. If not already demolished, housing estates in studies appear as on the course to fail, be demolished or to need some major re-planning and re-design. While it is difficult to criticize such negative perspective looking at the all too visible unsuccessful housing estates such as Pruitt-Igoe or Bijlmermeer, it not only irons out alternative currents from its neat story—most notably the one in Central and Eastern Europe—but it merely paints a gloomy picture neglecting the many advances that housing estates actually accommodated (see also Bristol, 1991, Urban, 2012).

Such gloomy narrative owes its existence to the comprehension of housing estates as mainly concerning housing[1]. Focus on housing makes one to turn attention to questions such as housing need, dwelling, shelter, social housing sector, regulations, finance and the role of market. All in all, it is centred on the living place—a house, apartment, room—its condition, regulations, financing, social characters of the residents and the like. Making housing the main characteristic of housing estates, however, omits various other aspects that are also part of designing, constructing and living in those sites. Housing estates are internally multiple with elements having diverging levels of complexity, design quality and use value. Thus, to understand the phenomenon of housing estates we should be more attentive to details that could surprise us and lead to different opinions. While the most visible might be the most important element of the phenomenon—that is, the 'housing' very well is the main aspect of housing estates—but looking into presumed-to-be unimportant elements lets us qualify the opinions and arguments of the general phenomenon. For such task of centralising the peripheral and less-considered aspects I will develop a concept of 'material governmentality' based on Barry's 'material politics' (Barry, 2010, 2013), Foucaultian governmentality (Foucault, 2007, Lemke, 2000) and actor-network/assemblage approaches to materialities (Farías and Bender, 2010, Latour, 2005, 1992). This framework argues for and develops the interconnectedness of the rationalities of governing, minute regulatory procedures and physical features of places as to govern is to govern with the involvement of various materialities wherein those materialities are not passive factors but active actors.

[1] That does not necessarily mean housing studies although housing studies has also dealt much with housing estates.

This paper delves into the materialities of physical mobility plans, which challenge the dominant narrative presented in the first paragraph. By not paying attention to traffic plans as elements of housing estates we have missed to note the innovative thoughts on urban mobility management present in those places. The mobility plans are indeed more advanced than many other aspects of housing estates, such as the quality of buildings. These mobility plans of housing estates are not only rooted in ideologies and architectural narratives of their implementation time but link housing estates to prominent urban planning ideas with long histories (such as Clarence Perry 'neighbourhood unit' from 1929) as well as brings them right to the present day ('woonerf', homezone areas). To live in a city is not only to reside in the house or to shop, spend free time in cinemas or elsewhere, it is not just enjoying parks or other 'recreational facilities'. To live is also to move from one place to another. This point is well made in the 'new mobilities paradigm' in geography (Cresswell, 2006, Sheller and Urry, 2006, Urry, 2007), but has yet to influence the ways in which we approach living in housing estates.

The paper attends to these mobility plans in Mustamäe—the oldest housing estate in Tallinn constructed from 1964 to 1972[2]—by investigating the ways in which the mobility of cars and pedestrians in housing estates has been conceptualised and governed. Central and Eastern European housing estates challenge dominant housing estate narratives in many ways. Firstly, housing estates in Central and Eastern Europe are the dominant form of living and not only for marginal or marginalised groups: in Tallinn, for instance, nearly half of residents live in one of the three large panel housing estates. Those sites, secondly, have managed to retain much of the social mix despite the widespread social, economic and political transformations of societies (Kährik and Tammaru, 2010, Wiest, 2011). Yet, these comprehensions are still mainly focused on housing and, despite noting normality of living in housing estates in socialist and post-socialist cities, are not paying sufficient attention to what might be innovative and

[2] Mustamäe has currently 68,000 residents who live in 11 micro-districts. There are in total three housing estates in Tallinn with Lasnamäe the newest and largest with about 100,000 inhabitants and Väike-Õismäe the smallest with about 28,000 residents. My fieldwork in Mustamäe took place in 2012 as part of a wider research project on parking governing in Tallinn. In Mustamäe I carried out subsequent spells in 2013 and 2013. I interviewed city officials in the district government and eight heads of flat-owners associations. I also worked in the archive with initial Mustamäe plans. Additionally, I lived for over a year in the neighbourhood.

forward-looking in these places. Thus, the aim of this paper is to revise the dominant narratives of housing estates by developing the framework of material governmentality and implementing it for the analyses of housing estate mobility planning.

1 Governing cities as socio-material entities

In order to comprehend the ways in which regulations work with, through or despite material entities, we should first make conceptual space in our understandings of cities for such materialities. This leads to the literature looking at cities as complex bodies made of diverse elements that are material and immaterial as well as human and non-human.

1.1 Cities as complex entanglements of heterogeneous elements

In fact, the city as a complex form of socio-spatial organisation with heterogeneous processes directed by various actors and leading to often unknown outcomes is a perspective that would be agreed by authors drawing on Marx, Weber, Lefebvre, Foucault or Deleuze. Notions such as 'heterogeneity', the city stimuli and many-sidedness that create drama appear already in writings of earlier thinkers of urbanism (Wirth, Simmel, Mumford). Similarly, Edward Soja (2000, p. 12) notes about urban life that '[t]here is too much that lies beneath the surface, unknown and perhaps unknowable, for a complete story to be told.' In *Urban Experience* the eminent Marxist urban scholar David Harvey (1989, p. 1)acknowledges the 'million and one surprises that confront us on the street'. From the Foucaultian governmentality perspective, Osborne and Rose (1999) express the 'complex multiplicities' that the existing cities are. In contemporary poststructuralist urban research, however, the complex and multiple nature of the city is taken even further and pointed out by many (Amin and Graham, 1997, Amin and Thrift, 2002, Farías and Bender, 2010).

The latter body of work is coming together in assemblage and actor-network approaches and provides a sensibility through which to see cities as relational and multiple where non-human entities also have a role to play. Even though some proponents of this manner of research have been closer to the dominant neo-Marxist framework in urban studies (e.g., Graham and Marvin, 2001, McFarlane, 2011), others have stressed the

departure from neo-Marxism offered by assemblage and actor-network theory (Amin, 2013, Farías, 2010, Latham, 2002, 2003). Analytical tools that are open to the variety of elements that play a part in urban life—tools that are more symmetrical and flat—are not necessarily superior to more structural ways of analysis, but by being more nuanced they might offer a more accurate comprehension of the urban condition as we experience it. Simone (2011, p. 356) thus notes in defence of assemblage urbanism that 'the impetus to think about assemblages as a modality through which the urban instantiates itself seems to reflect a desire to make more use, better use, of all that exists in urban life.' Cities often exceed the framings that analysts bring forward which is noted perhaps most forcefully by Amin and Thrift (2002, p. 30): 'Cities are machines of consumption? Yes, but never just that. Cities are artefacts of the state? Yes, but never just that. Cities are generators of patriarchy? Yes, but never just that.'

Assemblage thinking has provided tools to open up an alternative vision of the city whereby analysts attend to what is otherwise seen as minor details. Such conceptual perspective coupled with an interest to uncover the role of mobility in social life (Cresswell, 2006, 2010, Sheller and Urry, 2003, 2006, Urry, 2007) makes the design of mobility space including roads, parking areas, pavements and walking paths appear as significant enough issues to be studied. These elements manifest aspects of housing estate assemblage alongside with the location of buildings, trees, pipes and other material elements. However, merely noting the assembling of diverse set of elements is not enough for understanding the way in which cities work. Things are not just assembling but they are also assembled by regulatory practices and intentions that necessitate the use of analytical perspectives that are attentive to governing. Whether recognised or not, whether successful or not, modern cities are governed by a myriad of regulations (Valverde, 2012, 2011). Those regulations include urban planning, management of streets and other utilities, traffic rules as well as a number of rather small regulations such as where one can stop car. For its attention to power coalesced with details and public sentiments, Foucault's governmentality offers a prominent framework to capture the workings of such minuscule regulations. While regulations sometimes amalgamate into wider governing discourses—such as neo-liberalism or 'welfare state'—they often do not and remain instead singular approaches to particular

questions at hand. Apart from attention to heterogeneous processes of power, Foucault's governmentality is moreover open to the role of materiality being incorporated to the procedures of governing.

1.2 Material governmentalities

As Foucault (2007) claimed, to govern means to govern in relation to something and someone. In modern societies such governing is unable to direct the behaviour of artefacts and individuals but has to take into consideration their needs and wishes. Such governing practice is what Foucault (2007) alongside many other writers drawing on his work (see in particular Barry et al., 1996, Burchell et al., 1991, Dean, 1996, Rose, 1999, Rose and Miller, 1992) have elaborated upon through the notion of governmentality. While definitions vary, governmentality is an ongoing problematisation about how to govern in relation to freedom which should thus not be excessively restricted.

A stream of research on governmentality has elaborated on governing techniques that rather than working *against* freedom, govern through freedom (Rose, 1999). According to such takes on liberal governmentality, in 'advanced liberalism'/neo-liberalism citizens are subjected to take care of their own lives and find ways to better their conditions while also being beneficial for the society as a whole. However, various authors have criticised the practice of implying too much coherence to the notion of governmentality (Collier, 2009, Valverde, 2006, Walters, 2012). Collier (2009, p. 98) points out that governmentality has been 'prone to reification, as though it were a coherent regime that dominated an epoch.' Using governmentality in the limited sense of a liberal governmentality that analysts can then recognise in various instances might give the framework analytical precision but it is not what Foucault had in mind—as he used the term inconsistently (Collier, 2009, Walters, 2012), and it does not elucidate the capacity governmentality studies could really have. Moreover, the state is a complex entity that does not act in unity with various aims and elements pushing in different directions (Desbiens et al., 2004, Mitchell, 1991). Governmentality approaches closer to Foucault's approach propose that studies of state practices should be attentive to details, contingent processes and genealogies of governmental techniques (Walters, 2012). Such analysis is first and foremost an open-ended investigation that through a detailed

research avoids application of readymade concepts seeking, instead, to develop language through the study itself (Walters, 2012). One should thus move away from 'applicationism' and see governmentality as a toolbox for critically encountering various governmental practices (Walters, 2012). Such governmental practices are also influenced by materialities that shape the ways in which governing is done (Barry, 2001, Braun, 2014, Bulkeley et al., 2007, Darling, 2014, Joyce, 2003). Materiality is a concern, tool and factor, which influences governing.

Materiality, firstly, is often a concern itself leading to the demands of governing. The exploitation of resources, climate change and pollution are all changes in the ways that materialities are configured. In this context, we can note that car parking is a twentieth century concern about the flow of cars in the streets, congestion and lack of space for the number of mobility devices (Norton, 2008). More recent conceptualisations of parking regulations have linked parking regulations to the global concerns of peak oil and climate change, making the management of parking then a possible governing technique to work towards a modal shift from car-based mobility to alternative and more sustainable modes (see in particular Shoup, 2005).

Secondly, material entities are used as tools through which to govern. Tasks can be carried out by different entities (Latour, 1992): in some cases, an entity can be human or a collective of humans, or the task can be *delegated* to nonhumans. Those nonhumans could carry out the exact same task as would otherwise have been done by a human (the Latour's example of door opener) but they could also help humans in different ways, to nudge their behaviour. Braun (2014), for instance, gives an example of fuel consumption gauge in cars that by showing more precise information about fuel burning up than usual fuel consumption measuring devices aims to bring 'economy' in to drivers' behaviour. Jones et al (2013, chapter 4) similarly deal with the street design as a nudge to citizens' travel choices. The neighbourhood unit design as well as *cul-de-sac*s that are discussed in this paper in relation to housing estates, are all socio-material governing devices that at once restrict (cars to drive through) and allow (pedestrians to take shorter routes). The materialised ways of regulations can moreover achieve obduracy, the lock-in where other ways of doing things are weakened if not unimaginable (Bijker, 2001). The potential for things to be made otherwise could thus become limited (Bijker, 1995).

Such obduracy is an interplay of material fixity and the embeddedness and domination of certain technological frames in the practices of governors (Aibar and Bijker, 1997, Hommels, 2010, 2005). Nevertheless, while materiality is a tool for governing, it is not only that, being itself more than a mere device in the hands of regulators.

Thirdly, then, material entities themselves resist and alter actions directed to them. As Latour (2005) argued, materialities should not be conceptualised as intermediaries whereby input defines output but should rather be thought of as mediators with agency. Using a speed bump to reduce a vehicle's speed is in many ways different than merely putting a traffic sign demanding a driver to do so (Latour, 1992). Or materials, such as metals, cannot be 'explained away as an expression of political ideology or economic interest' (Barry, 2010, p. 90) but form themselves fields of concerns. Nevertheless, I am not arguing here that materiality should be seen as agentic in itself. Rather, I follow Bennett (2010) in conceptualising material entities to work in assemblages including multiple different human and non-human actants. Material elements are particles of 'lively and dynamic assemblages that may act in unanticipated ways, serving as the catalyst for controversies and thereby contributing to the transformation of political situations' (Barry, 2013, p. 153).

To regulate, thus, means to regulate 'men and things' (Foucault, 2007) rather than merely the society as a human collective. Governing is linked with materiality so that to govern means to govern in association with various materialities. Those materialities, then, are not passive but in many ways shape and influence the practices of governing. The case site here—housing estate—is entangled in all these three issues of materiality: the dilapidated quality of existing housing stock and lack of dwelling space was a rationale behind the construction of housing estates from 1960s onwards; their physical design was in many ways used to govern dwelling and mobility of residents; and their physical shape and materialisation affect the procedures of how they are governed both under the Soviet rule and under largely neo-liberal frameworks of governing thereafter. While the dominant housing estate narrative pays attention to the material conditions—such as lack of dwelling space—that building housing estates were meant to amend, the other perspectives of materiality—governing through physical entities and, especially, the ways in which materialities influence governing—have been less central for

discussion. The next chapter thus presents how the physical layout of housing estates has been used to govern mobilities. This will be followed then by a discussion on how the physical form of housing estates has influences its modes of governing.

2 Governing through materiality: housing estates mobility plans and connections of urban planning

Almost all the cities in the Soviet Union as well as in the Eastern Bloc received a ring of housing estates to surround the older parts of the city since the early 1960s. But housing estates are not exclusively Soviet phenomena. They have been the response to urbanisation and industrialisation—or to slums that were the direct results of these processes—all over the world. Drawing on a study of large housing estates through the experience of seven cities from three continents, Florian Urban (2012) notes the intimate link between large scale housing and ideas of modernisation. Indeed, since the World War II, mass housing emerged as 'the most efficient answer to the challenges posed by social plight' (ibid., p. 13). Then, the USA and the UK had their social housing programmes, Sweden decided to build a million new homes for its residents, France built *banlieu*s and Germany its *Großsiedlungen*.

Nevertheless, even though mass housing in all these places shares similar planning ideas and historical roots, they have come to have different positions in different countries: in the USA, UK and France they have taken on a worse reputation than in Russia, India, China and Brazil, where they were 'pragmatically accepted' (Urban, 2012). While in Western European cities, the population that lives in housing estates is close to 10 per cent, in Eastern Europe the percentage is as high as 40% (Dekker et a*l*., 2005) and in Tallinn, more than 50%. In socialist cities, building a city meant building housing estates. Rather than singular projects here and there in the city, the housing estate was a form of planned urbanisation.

Housing estates as other places are not singular entities but assemblages of various elements. Those elements have different rationales, relations to users and implementers and different histories. From those elements, the attention has been mainly on the buildings themselves making housing estates synonymous with prefabricated block of

flats. This has been one of the great omissions in discussing those living areas in previous literature because housing estates offered so much more than the high residential concentration. If the aim was merely to provide as much housing as possible, buildings could have been just stacked together in rows. Instead, their location and arrangement were carefully considered. Thus, we should also attend to other factors such as location of building for provision of light and greenery, but also—and which is the primary interest here—mobility of cars and pedestrians in housing estates. Housing estates were not just organising principles for travel from home to the workplace but offered innovative solutions for access to schools, kindergartens and shops. The way to deal with the latter issues was to use 'micro-districts' (*mikrorayon* in Russian, *mikrorajoon* in Estonian) as the principal building blocks of housing estates (see Figure 1). Micro-districts contained (or were planned to contain) kindergartens, schools, shops and other services; all within walking distance from homes and accessible without the need to cross streets that had high traffic volume, thus providing safe passage for pedestrians.

2.1 Micro-districts as neighbourhood utopia

In the way micro-districts were planned they paralleled older neighbourhood utopias such as 'neighbourhood unit' proposed by Clarence Perry in the USA, as Triin Ojari (2004) argued through the case of *Mustamäe* that is also the principal site of reference in this paper. The planning ideas that housing estates draw from were based on three points: offering significant amount of accessible greenery; spacing buildings and arranging them in a way that dwellings would receive ample sunlight; and planning traffic in a way that safe pedestrian mobility is improved. Such ideas were combined into the concept of the 'super-block' that proposed a significant expansion of the street block in order for the space for pedestrians to be increased and the green space that residents can access—especially without crossing a street—to be larger.

Clarence Perry (Perry, 2001 [1929]) defined neighbourhood units as areas with a certain size dictated by the services positioned inside a block, most particularly an elementary school that should be located so that there is no need to cross large streets (see Figure 2). In order for roads inside the block to carry less traffic, the arterial roads surrounding the

block need to be widened and thus form super-blocks. While the neighbourhood units in practice have been mainly suburban single-family residential areas, in Perry's work the neighbourhood unit was not restricted to low-rise built forms and also included drafts for inner city redevelopments. It is therefore not surprising to see the superblock form also in 'housing estates' of the Soviet Union, 'superquadras' in Brasilia, 'environmental areas' in the influential British town planning report known as 'The Buchanan Report' (Buchanan, 1963) and elsewhere (see Glendinning and Muthesius, 1994, p. 97 – 100 on British mass housing development and its connections to neighbourhood unit).

In *La Ville Radieuse*, Le Corbusier (1967 [1933]) offers an influential take on the superblock idea, even without reference to Perry (see Figure 3). In this work, Le Corbusier directed his critique at the traditional street pattern that forms what he called 'corridor-streets' where tall buildings follow the street pattern in the perimeter of a city block curtailing sunlight for residents and where pedestrians and cars criss-cross each other in the streets. Le Corbusier did not assume that streets and buildings should be related to each other and positioned buildings, instead, all over city blocks that, at the same time, were larger than in more traditional neighbourhoods. In that way, he could surround each multi-storey apartment block with plenty of green space, leaving space between the buildings so that the apartments in them would receive plenty of sunlight. Still, not just concerned with access to sun and greenery, the planning structure was also concerned with the ways in which traffic should be organised. In *La Ville Radieuse*, cars and pedestrians are completely segregated. When cars enter the 400-by-400 metre car-free area—which is essentially a superblock, even though not called so by Le Corbusier—their movement is restricted to parking lots under the residential buildings from which a driver must continue as a pedestrian. For pedestrians, all the space of the superblock is left for walking or playing outdoor sports. From the block, only 12 per cent was planned to be taken by apartment buildings meandering in various patterns whereas the other 88 per cent was, in Le Corbusier graphs, space for football grounds, tennis courts etc.

Super-blocks carefully considered questions of vehicular access to buildings by, firstly, locating parking in the edges of the block leaving the houses inside the block without direct vehicular access, and secondly, locating parking adjacent to the buildings, in

which case the cars would also need to be able to drive inside the area. While the former is how Le Corbusier planned *Ville Radieuse* and is in many ways how superblocks were planned in *Mustamäe* in Estonia, the latter is what can be seen in many suburban type superblocks—such as Milton Keynes in the UK—and is what *Mustamäe* has turned nowadays. Mustamäe, nevertheless, has subsequently become even more car-oriented than the super-block idea would conceive.

If cars enter the superblocks, then streets are materially arranged as cul-de-sacs. While associated with post-WWII American suburbs and thus much criticised, cul-de-sacs could also be seen more positively as providing safer and quieter urban environments when used in a thought-through way (Figure 4). The examples of using bollards, large concrete planters or other similar physical barriers—which, while easy for a pedestrian or cyclists to navigate, limit car traffic—could be conceptualised as creating cul-de-sacs even in traditional grid-patterned streets (Southworth and Ben-Joseph, 2004). Cul-de-sacs are design elements for reducing traffic and were put into use with that aim in superblocks. In mass housing estates, moreover, where the buildings are increased to a significant height, their location in a superblock is not an epiphenomenon but an underlying aspect of the whole planning principle.

2.2 The automobility-restriction plan of *Mustamäe*

The physical plan of *Mustamäe* set out to restrict the movement of cars inside living quarters. On the one hand, the number of cars entering a block was limited by using the superblock/neighbourhood unit structure with wider streets at the outskirts and only small roads inside a block. On the other hand, vehicular mobility was restricted directly by blocking the possibility of driving through a superblock. Thus, some of the roads in the micro-districts were designed as cul-de-sacs that made it physically impossible to drive through (figure 5). The cul-de-sacs were already designated in the first planning documents for *Mustamäe* from the early-1960s (even though they were not called cul-de-sacs but rather ‘dead end streets’[3]):

> The width of dead end streets leading to the groups of houses is 5.5 metres; the

[3]Although the term ‘dead end’ street would not have the same cultural connotation as cul-de-sac it has the same material function of not allowing through traffic.

> width of the street to individual dwelling is 3.5 or 2.5 metres, depending on the circumstance. The streets with the width of 3.5 metres also have extensions for overtaking and turnaround triangles. (Eesti Projekt, 1964; my translation)

In addition to the dead end streets, the plan regulated automobile use by narrowing streets so that parking on them would not be possible (or would be possible only for a limited number of vehicles). Parking was planned to take place in garages at the outer parts of the micro-district. Vehicles, then, were meant to be contained on the wide streets surrounding superblocks, only entering infrequently close to the buildings to deliver something to an apartment or to take residents on board. A later plan for a refurbishment project in 1985 more thoroughly conceptualised the traffic management by cul-de-sacs:

> With the new traffic organisation the aim has been to reduce driving through the micro-district. The traffic that would endanger pedestrians and children playing around buildings on streets in front of the houses is reduced. . . . [W]ith the new traffic plan, dead end streets are created in front of the houses. In order to curtail traffic, metal bollards are planned to be fitted into the tarmac of roads. (Kommunaalprojekt, 1985, p. 5; my translation)

Lastly, pedestrian circulation was not confined to the roads, but people could walk via direct routes through the courtyards and between buildings. This kind of pedestrian movement exhibits the thinking by Le Corbusier and Perry for whom the superblock form provided freedom for people on foot.

The focus on traffic planning here hopefully helps to decentre housing estates from the popular critique directed to the lack of construction quality, dull living environment and limitations to social interactions (e.g., Kalm, 2002; even Soviet Union authors such as Ikonnikov, 1988). I am not saying that this critique has been misdirected: there are certainly significant grounds for such sentiments. Yet, some of the ideas that housing estates embody in their material form of governing are more forward looking than often discussed. I agree here with Dekker et al. (2005, p. 5) who propose that not only is it premature to claim that housing estates in Europe have reached the limits of their

‘useful existence’—they will be present for long time—but ‘large estates have an important part to play in promoting sustainable urban development more broadly, given their compact morphology, abundant open space, and their potential to benefit from public transport links and the development of green heating and energy systems.’

Those physical features of housing estates, however, are being modified in the changed political order that has brought both shifts in mobility practices and some important changes in governing structures.

3 The material influences of governing practices in housing estates

In Estonia, as elsewhere in the former Soviet Union, private automobiles have turned from objects that are hard to acquire to a nearly ubiquitous element within urban environments, with ownership almost trebling between 1991 and 2011[4]. The housing estates have turned out to be incapable of accommodating the increasing number of individual cars on the existing parking spaces that were constructed these areas. The physical design of those sites has thus not so much altered the practices of residents who have acquired cars despite the physical restrictions of micro-districts. However, that does not mean that materiality has not played a role in the mobility practices. Namely, there are various ways in which the materiality of housing estates has mattered for how the increased car ownership levels translated into changed mobility plans in housing estates. First, there is the malleability of grass. The malleability of grass to the recurring weight of cars has allowed the transformation of space to occur: grass has been transformed into mud. Whereas parking on grass has been illegal, that rule has often not been enforced for a variety of reasons (such as incapacity of regulators) and once the grass has been transformed, mud itself is not the target of law enforcement. Drivers, thus, through the mediation of cars, have carved out space that is no longer considered what it was, but is now a parking lot. Second, materiality matters for the ways in which governing procedures have changed from state to individual actors but still maintaining the strong involvement of the state (local government) despite wide-spread privatisation. This sections thus attends to the third aspect of material governmentality in housing

[4]In 1991 there were 161 cars per 1000 inhabitants and in 2011 the number was already 428 cars per 1000 inhabitants.

estates (as outlined in Section 1.2): the active part of materiality in playing role in the practices of governors.

3.1 From grass to parking lots

Today, more and more cars are driving around the buildings making life increasingly difficult for pedestrians. In that way, the pedestrians are marginalised inside the housing estates and one of the principal aims of neighbourhood utopias—the pedestrian priority in superblocks—is gradually phased out. The materiality of housing estates eventually provided suitable conditions for the increasing domination of cars.

While Minuchin (2013) notes how certain materials such as reinforced concrete allowed large-scale urban imaginations to be constructed, the materiality of grass allows new visions to materialise by being itself malleable to continual pressure (Figure 6). While in some cases governors have chosen to issue fines—for instance when cars extensively violate norms by parking on basketball courts—in the majority of the cases where cars are parked on the edge of the lawn, officials have refrained from issuing fines, even though they could easily spend a day ticketing parked cars in housing estates. With cars having turned grass into mud, such space has become a different entity for governors.

Part of the reason for non-fining by the local government is the socio-legal question of materiality. Namely, while parking on the green without consent from the owner is a violation of Traffic Act (Riigikogu, 2010) article 21 and is enforced regularly, when no such 'green' materiality is visible any longer (as the surface has been transformed by parked cars so that it is no longer 'green' but mud) problems for officials emerge. An official interviewed for the research[5] expressed that he would be unable to verify whether the car is parking on greenery or not if its wheels are not directly on the 'grass-blades'. Drivers, thus, through the mediation of cars, have carved out space that is no longer considered what it was, but is now a parking lot. The malleability of grass to the recurring weight of cars has allowed the transformation of space to occur: grass has been transformed into mud and the mud is not the target of law enforcement.

Nevertheless, there are also factors at play other than the socio-legal question of grass.

[5] Interview no. 28 (12 July 2012)

For example, as cars are increasingly accepted inside the blocks by city authorities the organisation and understanding of the physical space moves further away from the underlying planning ideas of *Mustamäe*. The Scheme for Parking Provision (Tallinn City Government, 2012; my translation) admits that the construction of '[a]dditional parking spaces adjacent to dwellings takes place by reducing greenery and increasing somewhat the traffic in the residential quarter.' Moreover, new projects for parking lot renovation often contain pavements for pedestrians, suggesting an increase of elements that according to the superblock planning ideas are not even necessary: traffic should be scarce enough that pedestrians and cars can share the street space inside the block.

However, a vision in line with the Soviet and neighbourhood unit mobility ideas was presented in Mustamäe General Plan (E-Konsult and AB Koot & Koot, 2006). This plan envisages that the whole of the inner courtyard would remain for pedestrians while cars are parked alongside a larger street, being thus markedly different from the current situation where cars are parking in a row alongside the front of the building (see Figure 7, right). In many ways it follows the underlying design logic of these housing estates—parking on the edges and as little traffic as possible close to the buildings. The planner who proposed this idea, and whom I interviewed for the research[6], exhibited awareness of many innovative traffic planning ideas he had learnt at a university in another country (Germany) and through his own working practice. Nevertheless, even though this plan was exhibited in the General Plan, it has never materialised and has not become a general guiding principle for the future practice of governing the area (the real situation at the site is on Figure 7, left). An urban planner employed by the city[7] expressed her concerns that the plan is impractical for the distance that cars have from homes. Her position was in line with contemporary trends in housing estates wherein the space is primarily for cars to roam and to park, only subject to limits of the physical space; although even that has been eagerly expanded by car drivers. As argued above, grass has turned out to be suitable malleable for being transformed to parking lots with recurring individual activities.

The following section deals with the extent to which the material configurations of

[6]Interview no. 15 (14 March 2012)
[7]Interview no. 23 (7 May 2012)

super-blocks have influenced the modes of governing that can be found for the regulations of cars. The city planner referred to in the previous paragraph also echoed the position that the city has expressed in various other circumstances: flat-owners' associations (FOAs) themselves should be active and take initiative in organising urban space around their buildings. The city favours a more privatised model of governing compared to the ways housing estates usually have been managed or how they were managed in the Soviet days.

3.2 State regulations of car mobility despite (and through) privatisation

The intention to shift initiative and regulatory practices to more individual actors is largely a result of the high degree of privatisation in housing estates. Estonia's strategy in terms of privatisation was a rapid transfer of assets from state ownership to that of individuals: in the case of housing estates, this was done by using Vouchers given based on working years which allowed former tenants of apartments to purchase their dwelling on very affordable terms (Kährik et al., 2004). Whereas at the beginning of 1994, 29% of dwellings were privately owned, five years later, at the beginning of 1999, the percentage was already 93% (Statistikaamet, n.d.). The shift was thus from the almost complete state ownership of housing at the end of the Soviet time (in 1991) to more than 97 per cent of private ownership today (2014). Eventually, houses were transformed into condominiums with each flat-owner owning their apartment and a share of the land under the building and around it.

The privatisation of land—known as the Land Reform—was legislated to start in 1991 and for apartment buildings some years later. The start itself was slow and by 1999 most of the apartment buildings still had not privatised a land parcel (Hagelberg, 1999). Nevertheless, while as little as 26% of land was reformed by the year 1999[8], in 2012 the percentage of land reformed had increased to 91% from the total land in Harju county (where Tallinn located) (Maaamet, 2014). Today, most of the buildings have privatised at least a certain portion of land.

[8]That is, either privatised or given to the state (mainly municipality) ownership.

Yet the privatisation of land has not led to a neat correspondence between spatial elements and their owners. Streets inside blocks were not municipalised as 'transport land' as in other areas of the city and were lumped together either with the building (rare option) or with the courtyard (more common). Land parcels are usually not gated while the individualising use of various spatial elements extends beyond the mainly scant amount of land linked to one's apartment building (e.g., cutting branches of trees or maintaining flowers/bushes that are officially on the city land or parking informally on the green that legally belongs to the local government).

The mismatches of actors and physical space are in many ways induced by the materiality of housing estate. Commenting on the privatisation process when the borders were being drawn, a councillor at the *Mustamäe* borough argued that in the superblock form of urban plan every piece of land belongs to everyone and it cannot be simply privatised (Hagelberg, 1999). Thus, while the privatisation of housing and the Land Reform generated the context whereby residents are organised into collectives based on apartment buildings with residents usually being the owners of their flats (organised into FOAs), much of the land in the neighbourhood has remained in collective use and in many cases in collective ownership (represented by the district government). Such physical space has required some wider level of intervention which in practice is done by the district government.

Housing estates are planned as super-blocks which do not follow the traditional model of a city with houses, streets and parks all neatly separated but instead have all the three elements intermingled into a singular structure. With streets divided into hierarchies, the ones inside a superblock do not structure the city but rather meander inside a block in a relatively messy way. Green areas do not form separate parks but rather intermediary spaces between buildings. They are not so much spaces where one *has to go* but rather spaces where one *is* once one has exited a building. We can really claim that in housing estate superblocks, parks are not between houses but houses are located in vast parks. An area planned in this way necessitates governing on a wider scale than individual apartment buildings. With materialities of housing estates—such as benches, trees, children playgrounds, streets and parking spaces—not clearly divided between buildings, some form of coordination and governing on a more encompassing level has

to be done. The case of Mustamäe parking governance will offer grounds to illuminate this point.

Mustamäe district government has also intervened to the issue of parking provision and has started to formalise parking spaces already informally generated by car drivers. Even though the city does not act as citizens expect—that is, by providing parking lots for citizens to use—the city officials still draw plans, give advice, supply funding and offer city owned land for use to FOAs. In recent years the city has devised three measures that tackle the housing estate 'parking problem': the city has devised a policy, the city provides funding for parking provision and the city privatises the use of land. What is significant in all those three measures is the way in which the city acts but does so only through a pro-active engagement of FOAs who are expected to be self-governing and responsible actors.

The first of those measures—a particular policy scheme—was put together in 2012 by the city government to organise the provision of parking lots in residential areas. The Scheme for Parking Provision (Tallinn City Government, 2012) nevertheless merely points out all the places where parking lots could potentially be constructed. In the end—as municipality officials stressed during an interview[9]—parking spaces will be provided where FOAs ask for them to be provided. Thus, the state has acted and drawn up a plan, but still expects activity from the part of the citizens. The second measure applied by the city is funding provided for constructing parking lots. Despite the funding by the city, however, a significant portion still needs to be provided by city residents. The programme covers at the moment no more than 50 per cent of applicants' construction costs. It thus assumes that each FOA is capable of securing finances among the apartment owners of the building. The programme, moreover, is competitive. In response to my question as to how the selection of applicants is done and whether there is an underlying principle about where parking lots should be provided in the housing estate, the officials claimed the decisions to be based on the merits of the application rather than the logics of urban planning[10]. In advancing their parking options, hence, apartment buildings can compete for the city funding which also requires at least one

[9]In multiple interviews and documents.
[10]Interview no. 49 (23 August 2013)

third of self-funding[11]. Therefore, the funding by the city indeed exists but it is limited, competitive and dependent on the initiative of individual FOAs.

The third measure for the municipality to be involved in 'easing the parking problem' of FOAs, as the vice-mayor claims in the local borough newspaper (Võrk, 2012), is by offering the use of municipal land to individual FOAs. Namely, the city has opened up the opportunity to enclose a portion of land for the exclusive use of a single building. While some houses decided and managed to privatise a larger land plot around their buildings, including parking lots and would thus not need land from the city, other FOAs have now acquired the 'personal right to use' on the city land. 'Personal right to use' is a 15-year rental agreement with the city for the utilisation (but also maintenance and renovation) of the parking lot (only; and not including street). The existence of such a governmental tool, as city authorities have claimed, is a result of the demands of FOAs. Those FOAs that had formalised their parking lots and financed it either fully or half from their own budgets felt it unjustified that cars from other buildings could also use the land. FOAs, having received the right from the city to use a land plot exclusively for a house, then hired private companies to enforce parking.

FOAs are thus expected to be in many ways 'entrepreneurial, self-responsible' actors (Larner, 2003) who manage their own matters themselves. It is fair to argue here that the city has policies that resemble neo-liberal tools of governing.[12] From the two approaches to neo-liberalism—Marxist and Foucauldian (Clarke, 2008)—the former conceptualises neo-liberalism as a 'class-based ideological project' while the latter sees neoliberalism as 'arts of government' (Ferguson, 2010). The arts of governing car parking in *Mustamäe* involve techniques such as governing at the distance and through the freedom of individual actors. However, such governing techniques should not be perceived as purely instances of neo-liberal ideology but as particular manifestations of

[11]Furthermore, the city funding is giver only after the construction is done meaning that the FOA needs to fund the project initially itself.

[12]A vice-mayor, with whom I had an e-mail correspondence as well as a phone call regarding city's support for parking provision (19 August 2013), referred to these measures as PPP procedures where flat-owner associations have to act as 'owners'. Nevertheless, I would not stress her reference to PPP too heavily as characteristic of city's neo-liberal vision as she referred to it casually as just a pragmatic way to govern. She also is a member of a political party that aims to provide social amenities to the public in contradiction to the country's dominant neo-liberal developments (free public transit, social housing, municipal shops, but also more pensions).

materiality. It is precisely the space that regulators try to govern, which has led to these forms of governing.

The space in housing estates requires actions by some actors on more general scale than individual buildings. Housing estates were initially state projects organised around centralised governing modes in either welfare states or communist governments. The space in micro-districts is difficult to parcel due to the way in which public and private spaces are intertwined even if the intention is to move towards increasing individual governing. Hence the schemes for parking regulations devised by the city authorities.

Conclusion: how material governmentality allows new perspectives on housing estates?

This paper set out to revise the dominant narrative of housing estates as failed ideas by attending to the mobility plans of a Soviet housing estate *Mustamäe* in Tallinn, Estonia. I proposed to utilise the framework of material governmentality that by linking actor-network understanding of non-human agency with Foucaultian notion of governmentality provides language to investigate the influences of physical space in all sorts of smaller or larger governing procedures and thus allows a possibility to move beyond a focus on dominant aspect of housing estates—that of housing. The paper showed how housing estates are more forward-looking than usually assumed if we attend to the matter of their mobility plans. The paper also showed how the physical space has had influence on the mode of governing—the state is active despite the ongoing privatisation.

The materiality mattered in at least three ways. The materiality firstly led to a problem—the ‘parking problem’—as the physical plan did not fit with the increased car ownership levels. The Soviet housing estates were planned for low car-use and utilised a model whereby large numbers of cars were not planned to penetrate inside the superblocks. Such a model, however, has been radically transformed by increasing car use in Tallinn, creating a new and more car-oriented vision of housing estates. Such a model, generated by the recurring activities of cars, has also received backing from the local government who devised policy, offer funding and land to be used for parking lots.

Secondly, the physical reality of the housing estate necessitates at least some forms of centralised governing. The way buildings are positioned makes *laissez faire* approaches impossible and requires an actor on a more encompassing scale than a single building to mediate and make decisions. This actor in Tallinn has been local authority and mainly its district branch. Thirdly, the way buildings are positioned—as centres in vast green areas—also makes them possible centres for decision-making and acting. The members of FOAs routinely show interest in their surroundings even if it is not the land they own: trees, bushes, green plots and parking spaces around a particular apartment building all fall within the area that residents from that FOA actively use.

There is of course need for more analysis on mobility plans of housing estates. On the one hand, researchers should more explicitly dwell into the links between urban planners in both sides of the iron curtain to uncover connections of policy mobilities (but see Stanek, 2012, 2015, Ward, 2012). On the other hand, while much research has been done on social profiles of housing estates noting their relative heterogeneity in Central and Eastern Europe, much more could be done related to the opinions of residents regarding the mobility plans of housing estates, and especially how social class relates to the preferences of either sustainable planning practises or more car-oriented mobility organising schemes.

Figures

Figure 1. Micro-district no. 4 in Mustamäe forming a classical superblock. Borders

between properties are shown with yellow lines. Source: Estonian Land Board's web-based mapping system, www.maaamet.ee.

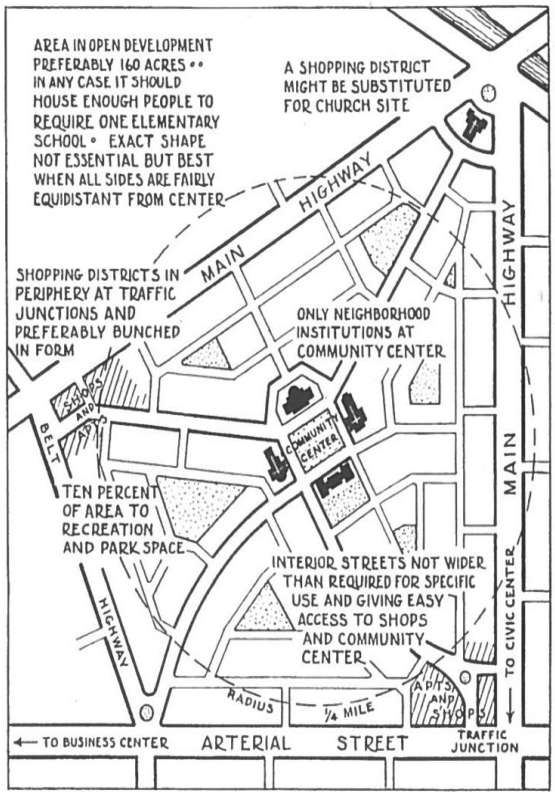

Figure 2. *Perry's neighbourhood unit concept. Source: Perry, 2001 [1929], p. 88*

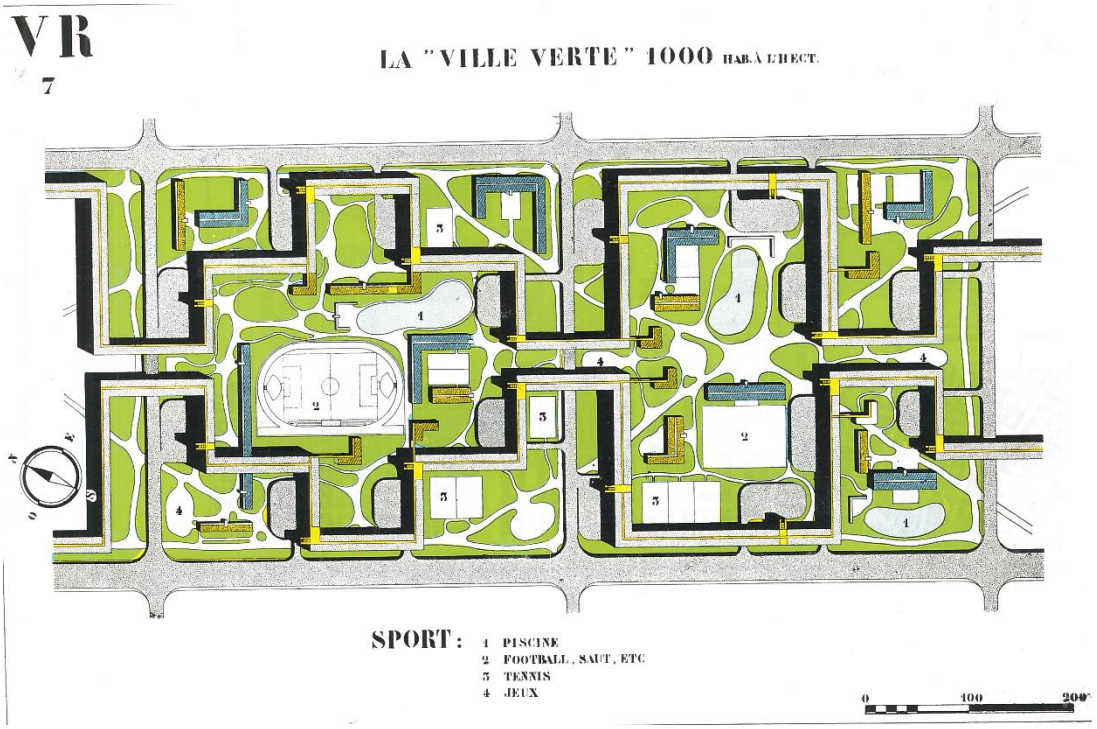

Figure 3. A housing block in Le Corbusier' La Ville Radieuse. Source: Le Corbusier, 1967 [1933], p. 163.

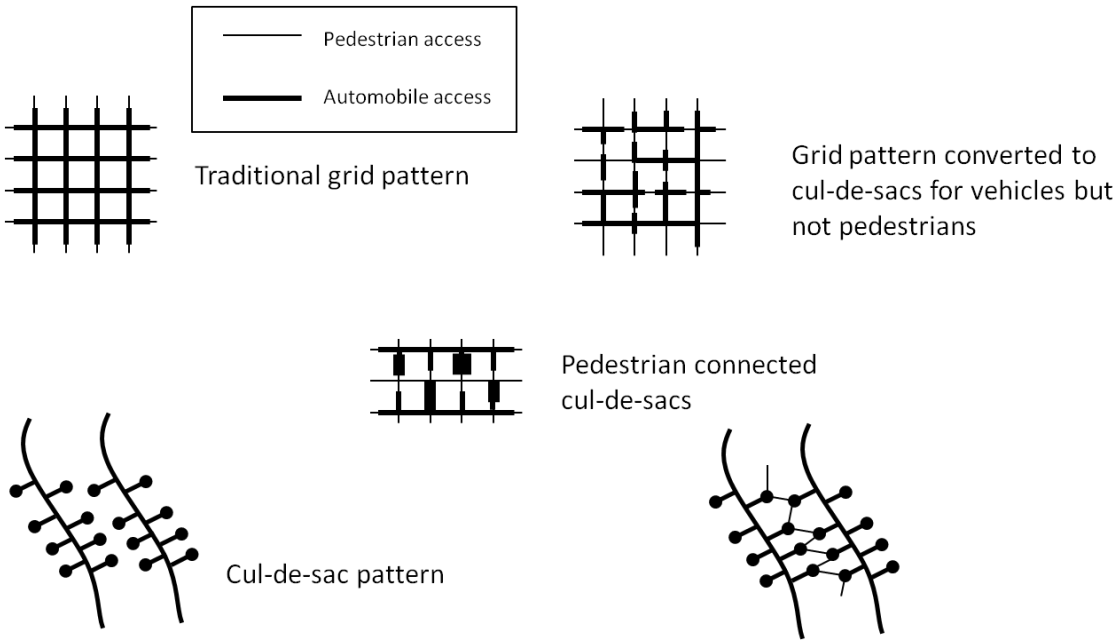

Figure 4. *Different cul-de-sac street patterns. The right-above is similar to the housing estate cul-de-sacs (see Figure 8.9). Source: Adapted from Southworth and Ben-Joseph, 2004, p. 30.*

Figure 5. *Cul-de-sacs in earlier Mustamäe Plan (black arrows). Source: Riigiarhiiv (Eesti Projekt, 1964)*

Figure 6. *Cars parking on the edge of green areas. Source: Author's photo.*

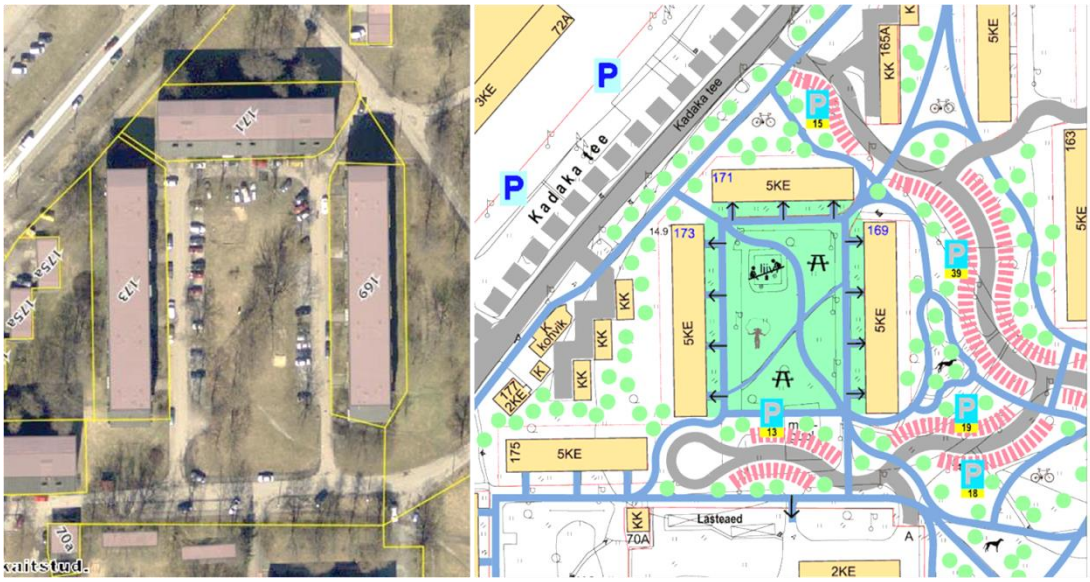

Figure 7. *The current situation of parking (left) and the vision in the Mustamäe General Plan from 2006 (right). Sources: www.maaamet.ee (left) and E-Konsult, 2006.*

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