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Minicities in suburbia – A model for urban sustainability?

Abstract

In the 1970s it was argued that suburban centres in the US had developed into "minicities", offering a wide range of possibilities for consumption, cultural events and a sense of the urban. In this article we explore to which extent this description of minicities may be valid in two cases in the suburban hinterland of Oslo. We further discuss whether the "urbanization" of these suburban centres may contribute to a more sustainable urban development, with respect to everyday travel. We conclude that the growth of these minicities may reduce car travel, either because of their excellent public transport connection to the (big) city centre and other nodes in the increasingly decentralized urban region, or because they may serve as a substitute for the city centre. However, an empirical investigation of the role of minicities must be based on a deeper understanding of the social and cultural processes that guide the everyday life of today's sub-urbanites.

Keywords: Minicities, suburbia, transport node, sustainability

Introduction

The compact city has been forwarded as a model for a sustainable urban development, especially with respect to transport (Newman & Kenworthy, 1989; Næss, 1995; Næss, Sandberg, & Thorén, 1996; Owens, 1986, 1992), and has been adopted as national policy both in Norway (Miljøverndepartementet, 1993; St.meld. nr. 31, 1991-93) as well as in a European context (Commission of the European Communities, 1990). The Norwegian policy is to increase densities within the urban area while at the same time protect green structures within urban areas. A third element is to strengthen public transport in order to reduce traffic volumes and consequently, energy consumption and CO2 and NOX emissions.

In the discussion on densification as a means of obtaining a more compact city, much emphasis has been placed on central city areas for transformation, meaning a complete change in levels of density as well as building structures, building types and building heights. There might well also be major changes in the functions and use of these areas. These transformations are part of a general economic restructuring, evident in most western cities, affecting harbor areas and former industrial areas now redeveloped into spaces for dwelling, shopping, recreation and entertainment.

If inner city restructuring and densification has been considered the solution to environmental problems, suburbia has generally been described as the "root" of them in terms of urban sprawl, low densities, longer travel distances and high proportions of trips by car. These areas are problematic in the sense of being those where, statistically, the populations are most likely to use cars, as is the case in Oslo (Næss et al., 1995; Engebretsen, 2003), and where the total lengths of trips are the longest (Næss et al., 1995; Røe, 2001). Because of this, one could expect more attention towards the way these areas are changing, and a discussion on how they should or could be further developed. But this is not the case. One element, however, has been discussed: the role of suburban nodes in the transport system. The common wisdom, and state policy, is to develop public transport nodes in particular into mixed-use, high density areas, so that different activities could benefit from better accessibility, leading to a more sustainable

transport system. This is also part of a growing discourse on decentralized concentration (Bontje, 2004) as a means to reducing inter-urban and intra-urban traveling, or making it more sustainable.

Extending this line of reasoning, we argue in this paper that some centres in suburbia are developing into "minicities", to borrow Peter O. Muller's (1976) term, offering suburbanites a range of possibilities for consumption, cultural events, atmosphere and a sense of urbanity that could possibly replace some of the attractions of the "big centre". Because these places are also nodes in the public transport system, suburbanites are given the opportunity to choose between minicity or city centre facilities. Suburbanization first meant the development of dwellings outside the urban core. Gradually, shopping facilities, and then also workplaces, were located in suburbia, in minicities, or, especially in the US, in so-called "edge cities". This phenomenon has particularly been described in Anglo-American literature. In this paper we explore the extent to which this description may be valid in a Norwegian context in two cases, and discuss whether this urbanization of suburbia may contribute to a more sustainable urban development. In this discussion we draw on urban theories and to some extent on existing empirical research, and present some hypotheses and themes for further research.

The appearance and growth of minicities in suburbia

Suburbia has traditionally been characterized as residential spaces spreading out in increasing distances from the city centre, more or less resembling the Chicago School researchers Park and Burgess' (1925 in Bruegmann, 2005) famous concentric zone model. The first modern suburbs, which were mainly for affluent residents who wanted to escape the crowded and unhealthy urban environments, were established just outside the densely-built industrial cities. The first large suburban expansions emerged just as residential areas, which were also for blue collar workers, along public transport lines, making transportation innovation an important cause, accompanied by, Jackson (1985) argues, new cultural values. The subsequent mass expansion of suburbia, driven by the increasingly widespread use of the automobile already evident in American cities in the 1920s and 1930s (and later on in European cities) was mainly residential. In the 1950s, the image of endless rows of almost identical detached houses, as in Levittown on Long Island, New York, or in Lakeshore outside Chicago, became the predominant representation of suburbia and suburban expansion. Accelerated by subsidized loans and new building techniques, homes were built at an incredible rate, for the working class as well as the middle class.

Outside North American, and later, European cities, vast areas became dominated by dwellings and dwelling facilities. In Oslo, the first suburbs, which were established in the 19th century, developed as unregulated housing in the eastern, working class areas outside the city limits, while suburbanization of the western districts mainly took the form of mansions and large villas for the bourgeoisie. Later on, the suburbs spread out along the tram and suburban rail lines. The areas in between were then gradually filled out when the use of automobiles became widespread in Norway after 1960. This suburbanization was primarily in the form of housing. And in Oslo as well as in Swedish cities, but contrary to American and British suburbia, a substantial part of the suburbs developed in the 1950s, 60s and early 70s, consisted of multi-family housing and blocks of flats. These were comprehensively planned and organized around community facilities, shops and services, including an underground connection to the city centre, all based on the master plan for Greater Oslo of 1950 (Lorange & Myhre, 1991). Also because of their higher densities, such suburbs were very different from mainstream North American suburbia. However, the Norwegian suburbs dominated by detached and single-family housing

were in most cases not planned in the same detailed way. Here planning in general was "looser", less comprehensive and more privatized, but still under the supervision of municipal planning authorities.

Suburbanization thus was mainly about building new homes. But this was about to change, and again, the changes were to come first in the US. When Garreau's book entitled *Edge City* came in 1991, the growth of suburban commercial centres in the US had actually been going on for some time. In 1976, Muller wrote about new outlying urban centres with considerable locational pull, what he referred to as "suburban minicities". Based on statistical data, he described an intra-urban activity deconcentration, led by the rise of regional shopping centres and followed by the suburbanization of employment. This included the manufacturing industries as well as offices and corporate headquarters. The suburban share of total jobs in the fifteen largest metropolitan areas in the US rose from 37.0% in 1960 to 47.6% in 1970 (Muller, 1976).

However, this was the outcome of a process which had been initiated even earlier, in the US. Bruegmann (2005) argues that retail activities decentralized quickly in the late 1920s, and according to Harris and Lewis (2001), the decentralization of employment was already under way in polycentral clusters as early as 1900. The new shopping districts, which had their own department stores, offices and theatres, operated like miniature versions of downtowns and had started to rival the retail sales outlets of the traditional downtowns. By 1935, three-quarters of all retail sales in Chicago occurred outside the city core (Bruegmann, 2005). However, these rather dramatic figures should be treated with caution since the borderline between the central city and its suburban areas may be hard to draw. Besides, because of their urban architecture and relatively high densities, the older suburbs near the city core would appear to be part of the inner city. In Oslo, the once exclusive mid 19th century western suburbs, now housing a number of international embassies, would probably be regarded by most inhabitants as an inner part of the city rather than a suburb, or even an inner suburb.

The decentralized concentrations of former city core activities resulted in the emergence of major multi-functional urban cores which came to dominate the economic geography of contemporary suburbia (Muller, 1976). At this point, in the 1970s, the exceptional American experience was that the suburbanites were losing or had already lost their ties to the old central city. Garreau (1991) has termed the larger of these multi-functional cores "edge cities". To Garreau, the rise of the edge cities, that is the moving of the means to create wealth, the essence of urbanism, the jobs, out to where most people live and shop, represents the third wave, after the suburbanization of homes and the "malling" of America. According to his definition, an edge city is a place that has at least five million square feet of leasable office space, has at least 600,000 square feet of leasable retail space (the equivalent of a fair-sized mall), has more jobs than bedrooms, is perceived by the population as one place, and was nothing like "city" as recently as thirty years ago (Garreau, 1991, p.7).

In the extreme case of an urban poly-nuclear city such as Los Angeles, as in the case studied by the so-called "LA school", the city centre fades away amongst other centres evenly distributed all over the urban area. According to Dear and Flusty (1998), in this postmodern urbanism the city is turned inside out, compared to the classical concentric zone model. However, this "model" of the archetypical postmodern city is criticized because, contrary to what LA school theorists would believe, it cannot be considered a prototype for the future development of other American cities, not to mention European ones.

The literature is rich in descriptions of the suburban centres and edge cities in North America, sparse on European counterparts, and almost non-existent when it comes to Norwegian

examples. In this article we focus on Norwegian suburban minicities and their role, which may resemble but also differ from their North American counterparts, not only with respect to size and spatiality, but also to culturally informed ways of life, social practices and, consequently, sustainability. The development and growth of minicities, or suburban centres, can also be part of a regional strategy of developing a decentralized concentration which, according to Bontje (2004), now seems to be more in focus than the plain compact city model. These minicities may as well be viewed as a kind of urbanization of suburban areas in which these subcentres can both develop into more or less functionally self-sufficient urban places and resemble the urbanism of "the big city". We will discuss to what extent these changes in two cases are sustainable.

The minicities of Asker and Sandvika

We will look at two minicities or suburban centres, based on secondary information: Asker (in the municipality of Asker) and Sandvika (in the municipality of Bærum) on the suburban outskirts of Oslo (see Figure 1).[1] The municipality of Asker had a little more than 52,000 inhabitants in 2007 (see Table 1). The number of inhabitants in the municipal centre (the minicity) is difficult to determine due to its location within a continuous built up area. One measurement that may be of relevance here is that Asker in 2005 had between 1,600 and 1,700 inhabitants within 800 meters' radius of the train/bus station. Sandvika centre (the minicity) has between 1,000 and 1,100 inhabitants within 800 meters from the station, while the municipality of Bærum had around 107,000 in 2007. However, the population of Sandvika is expected to grow to approximately 4,000 in ten years' time (Bærum kommune, 2005).

Both minicities have been developed from a local centre connected to nodes in the transport network. Both minicities have one central train/bus station. This gives them a potential for sustainable transport. On the other hand, both are also located along the major access motorway to the big city centre of Oslo. The competition between cars and public transport is consequently fierce. A survey conducted in 2003 of different residential locations in Greater Oslo found that, on average, the densely built-up centre of Sandvika represented more multi-family housing and less energy consumption for everyday travel and housing than less densely built-up areas (Holden & Norland, 2005). This leaves us with the question of whether, and how, the growth of these minicities could contribute to more sustainable development for the surrounding suburbia. This will be discussed in this paper.

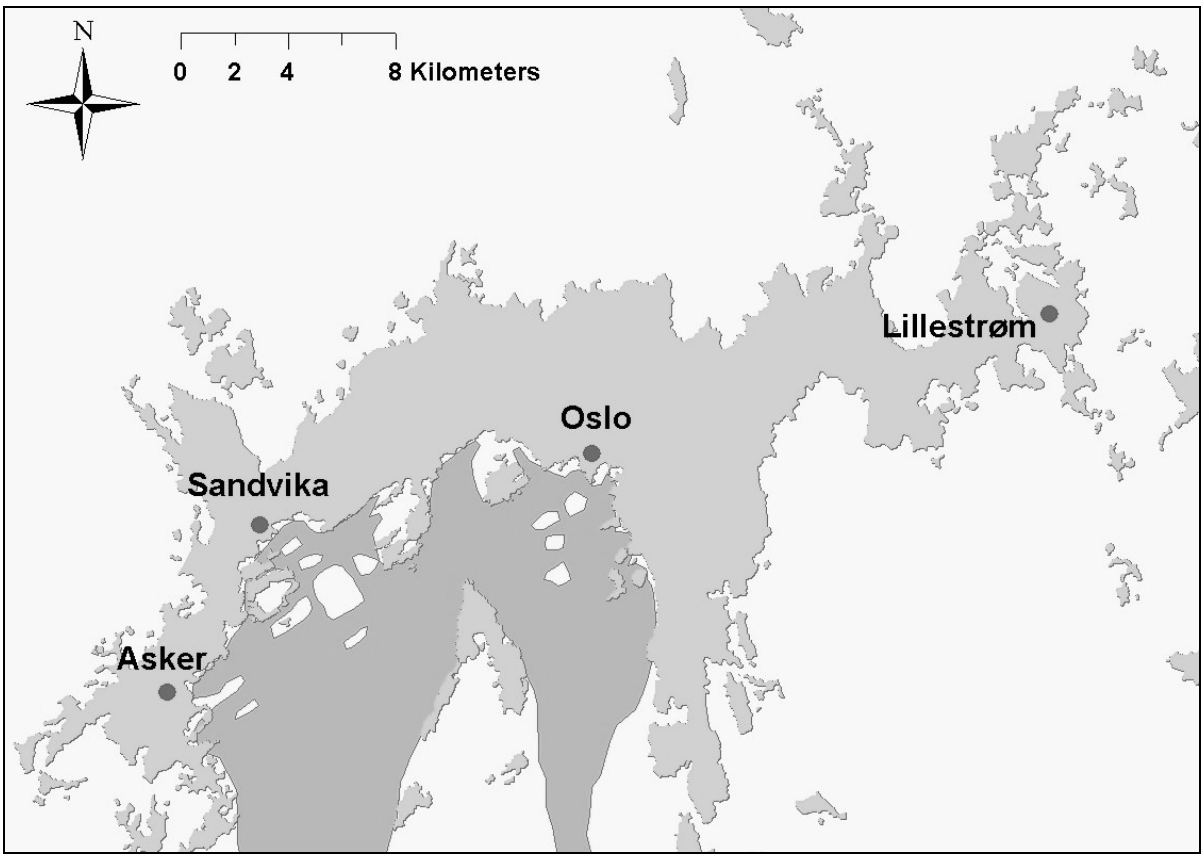

Figure 1. Location map of the greater metropolitan area of Oslo, which includes the minicities of Asker, Sandvika and Lillestrøm (Data source: Norwegian Mapping and Cadastre Authority).

Table 1 Descriptive statistics for the minicities of Asker and Sandvika.

	Asker	*Sandvika*
Inhabitants		
-Within 800 m from train station[a]	1 670	1 055
-Municipality[b]	52 210	106 932
Public transport connections to Oslo		
-Train connections per hour (rush hours)	5(8)	4(6)
-Bus connections per hour	2	10
Airport express trains per hour	3	3
Workplaces		
-Minicity	4 792[e]	9 950[f]
-Municipality[c]	23 068	59 152
Workforce in municipality[d]	25 857	52 526
Shopping outlets[g]		
-Within shopping centre	70	190
-Outside shopping centre	70	50

[a]Figures for 2005. *Source:* Akershus fylkeskommune (county council) (2005).
[b]Figures for January 1., 2007. *Source:* Statistics Norway (2007).
[c]Figures for 2004. *Source:* Akershus fylkeskommune (2005).
[d]Figures for 2004. *Source:* Akershus fylkeskommune (2005).
[e]Figures for 2005. *Source:* Asker kommune (Municipality of Asker) (2006).
[f]Figures for 2004. *Source:* Bærum kommune (Municipality of Bærum) (2005).
[g]Figures for 2008. *Source:* Approximations made by the leader of Asker og Bærums handelsstands forening (Asker and Bærum trade association for local businesses).

The functions and meanings of the two minicities

Minicities as architectural and spatial structures

Both Asker and Sandvika were once centres in rural areas that have gradually been suburbanized over the past 50-70 years. It is a common trait that their urban morphology, structure and architecture have changed from those of a small town, characterized by public access roads organized in a street pattern and with relatively small buildings, often with a single shop on the ground floor level. Today, this small-town character has been radically changed, and the minicities are characterized by large building volumes resembling an urban structure, and architectural facades which give a sense of urbanism (see Figures 2 and 3). One project in Asker won a national architectural prize for good urban architecture (Figure 2, bottom right picture). Over the past 10-15 years, urban apartments in houses with 4-6 floors have been built. Both minicities have a major shopping centre and cultural amenities, with cinemas, libraries, theatres, etc., coupled with public space access for pedestrians. The building complexes are organized so as to create a sense of street and square. But equally important are the inner "streets" of the shopping centres, which provide competition to, but also an extension of, the outer public streets and public spaces.

Figure 2. Urban forms and architecture in the minicity of Asker (photos: Per Gunnar Røe).

Figure 3. Urban forms and architecture in the minicity of Sandvika (photos: Per Gunnar Røe).

Thus the minicities are a mix of open accessible streets as well as a large proportion of private, commercial indoor spaces, which are controlled and closed outside shopping hours. This shift towards inward-oriented shopping centres is a development that also can be observed in the big centre. Nevertheless, this tendency is more pronounced in minicities such as Sandvika and Asker, simply because the shopping centres have a large proportion of all shops and services.

Accessibility by car for visitors to both minicities is very good. In Asker, the centre is surrounded by a kind of ring road, more or less directly coupled to the motorway (see Figure 4). The parking facilities are very good. This is a deliberate policy, as good parking facilities enable people to drive to Asker, park, and take the train to the big centre in Oslo or other places served by train. Also Sandvika has good parking facilities, where parking houses coupled to the shopping centre provides good access by car from the local road network and the regional motorway system (see Figure 5). This is also a deliberate move on the part of the municipal government of Bærum, which has practiced a fairly parking-friendly policy (Røe et al., 2002). Both these minicities are highly accessible by car compared to the big centre in Oslo, a fact which may be part of a trade-off made by suburbanites when considering substituting trips to the big city with intra-suburban trips.

Figure 4. Map of the minicity of Asker, showing buildings, roads and railway lines (Data source: Norwegian Mapping and Cadastre Authority).

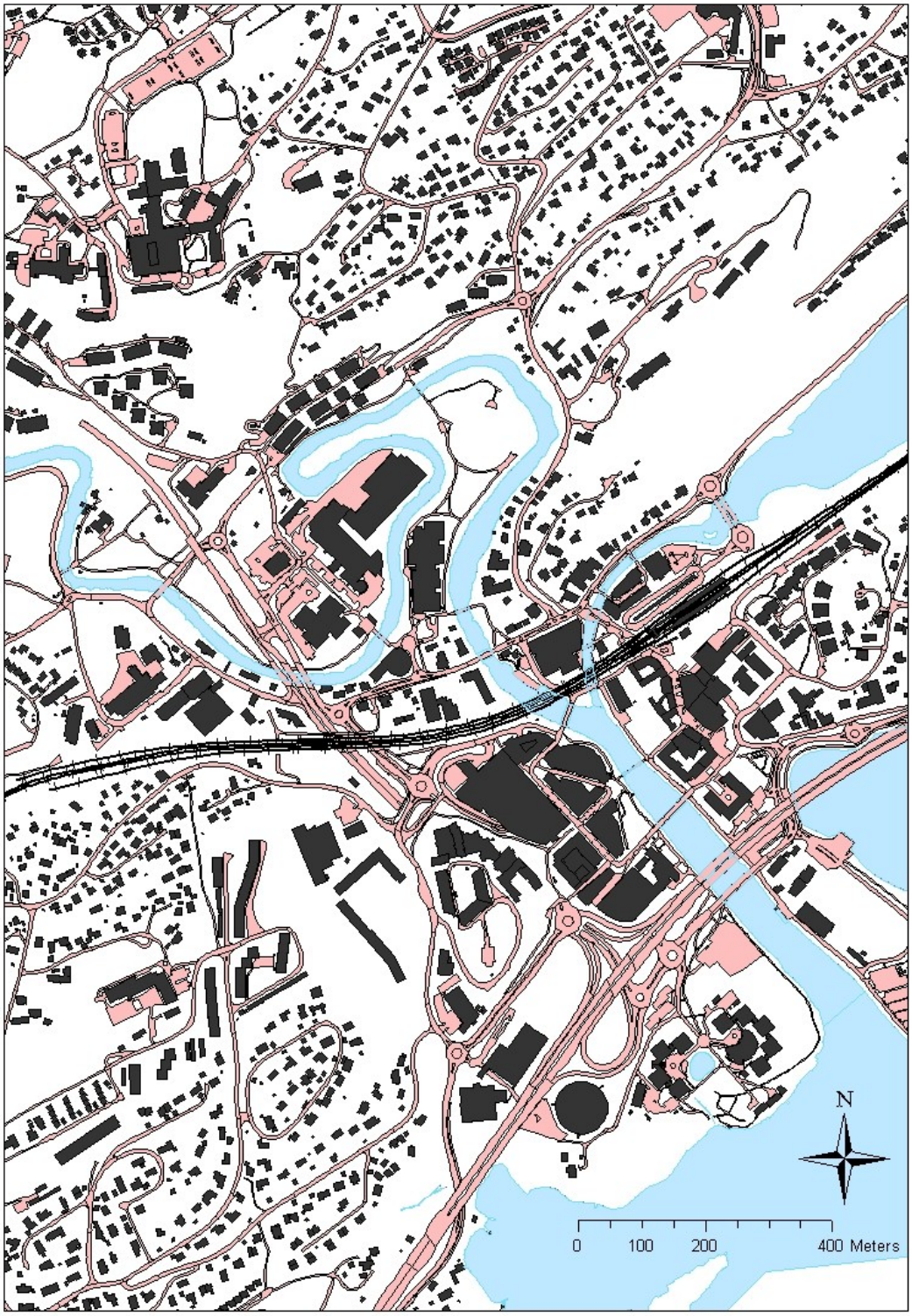

Figure 5. Map of the minicity of Sandvika, showing buildings, roads and railway lines (Data source: Norwegian Mapping and Cadastre Authority).

Minicities as places for everyday living

Both minicities serve as nodal points for the suburbanites' everyday routines, providing transit nodes for different forms of transport. The suburbanites park their cars, ride on public transportation, stop and shop, and shift from bus to train. Certain spaces, such as the area around the intertwined bus and railway stations with suburban and, in the case of Asker, inter-city connections, are dominated by the flow of people and machines (trains, buses and taxis), passing through and stopping. These are also spaces where young people, especially those from ethnic minorities, gather at night, and where homeless people may find shelter during the winter. In the course of time, the nodes, networks and flows of people and things have transformed these spaces into miniature versions of railway stations and transport nodes in the big centre. There is a certain standardised international style of architecture, consisting of glass and steel buildings, stairs, tunnels and information screens, all symbolizing connectivity in such a way that also newcomers can find their way around. This connectivity is not only local, but also "glocal", since the minicities have stations which are connected to the high speed airport train system.

These minicities are also places to which people travel as part of their everyday routines from the surrounding suburban areas. The large number of shops, especially in the large shopping centres; 190 shops in the recently expanded Sandvika Storsenter and 70 shops in the Trekanten shopping centre in Asker, in addition to a substantial number of shops outside the centres (50 in Sandvika and 70 in Asker), make these minicities likely places to shop for a range of consumer goods. Responding to the increasing demand for diversity and what we may term as the "cultural turn" of shopping, making it more lifestyle-oriented and culturally informed, the minicities and their shopping centres offer a range of different shops which enable people to choose between styles, brands, prices and qualities. In Sandvika there are at least five sports shops (not including more specialized shops such as one for bicycles), making it possible to wander between and compare shops with similar commodities. The typical chain stores are complemented by more exclusive or niche shops, combining everyday shopping with out of the ordinary shopping. To make shopping an even more enjoyable experience, these centres offer bakeries, food delis, cafés and coffee shops, which also function as meeting places. Asker has recently acquired its third coffee bar, in addition to the bakeries and cafés which also sell Italian and French-style coffee.

The extraordinary growth in the number of shopping outlets has lately been accompanied by an increasing number of recreational and entertainment facilities. Being central places for the surrounding suburbia and former agricultural areas, Asker and Sandvika have always had places to eat and drink, as well as cinemas and libraries. However, to meet the demand for diversity of urban lifestyle-oriented recreation and entertainment combined with shopping facilities, thereby providing "shopertainment", the minicities offer an increasingly wider range of recreational and cultural activities. If it is not an issue in this article, focusing on sustainable travel practices, the growth and suburbanization of shopertainment supports a consumerist culture that of course may counter sustainable development in general.

Demographic and cultural change is an important backdrop for this transformation. The new middle class described by Ley (1996), with their well-paid jobs and new consumption practices, moves from the more and more gentrified inner city to the traditional suburbs once they start families or when their children start school. This new middle class has other practices and cultural preferences, and demands other activities and facilities than did their parents' generation. According to Bridge (2001, 2007), this stems from a distinction through cultural capital, which is typical of the new gentrifying middle class. Bridge argues that the objectified cultural capital of the gentrification aesthetic is sacrificed to secure conditions to reproduce institutional cultural

capital (i.e. education for their children) when the gentrifiers "relapse into a more traditional suburban trajectory" (Bridge, 2007, p.38). However, this is probably more important in the Anglo-American context, where private schools are more common and where the quality of schools may vary more than in the Oslo region. Besides, the cultural capital from which the gentrification aesthetics stems is not likely to change much when people move from the inner city to the suburbs; it simply finds new forms of expression. We also argue that the minicities may serve as a field in which consumptional and aesthetic distinctions come into play.

Traditionally, suburbanites commute to the big centre, where the concentration of workplaces is high. Like the development in the US, but somewhat later in time, workplaces have been moved out to the suburbs and edges of Oslo. The Sandvika area in particular has a relatively good supply of jobs. The building of offices, services and shops has been substantial (Engrebretsen, 2003). Compared to the other suburban municipalities in the Oslo region, the municipality of Bærum has a substantial number of jobs, a greater number than their workforce (Bærum kommune, 2007). Nevertheless, half of the workforce commutes, mainly to Oslo (Akerhus fylkeskommune, 2005). In Asker the number of jobs represented 89% of the workforce in 2006, yet 65% of the workforce commuted, mainly to Oslo but also to Bærum (Asker kommune, 2006).

Most people living in the suburban hinterland of the minicities of Asker and Sandvika commute by car. According to Engebretsen (2003), 60%-74% of the trips beginning at home are done by car. A relatively small share is done by public transport. Of the trips inside Greater Oslo (including the municipalities of Asker and Bærum), the use of public transport is higher near the minicities (though less than 20%) than the peripheral suburban locations, but is generally lower in suburbia than in the inner city, where the public transport share may reach approximately 50% (Engrebretsen, 2003). This investigation does not, however, single out the "true" travel practices of those living in the minicities. Another study, which focused on the mini-city of Sandvika as well as eight other places in Greater Oslo, may indicate that the public transport share is higher amongst those living within such minicities. Holden and Norland (2005) found that residents living in Sandvika used less energy for everyday travel and housing, compared to seven other places located in both the central city and suburban areas. The excellent public bus and rail transport connections in the minicities (4-8 train departures per hour during the daytime, see Table 1) make public transport a viable option for commuters living around these nodes, something which may keep energy consumption at a lower level compared to the rest of suburbia. The minicities are nodes for connection to other places, especially the big centre of Oslo, as well as serving as attractions in themselves.

The urbanity of minicities: Is there a suburban cosmopolitism?

Suburbia has been cherished for its combination of the best of both town and country living; to have the city within reach and yet still have the green and safe environments of the countryside. However, suburbia is also criticized for lacking both the authentic feel and community qualities of countryside villages and the vibrant urbanity of the big city. The intellectual urban elite criticizes suburban life for being boring, the suburban architecture for being dull and repetitive, suburbia for being socially homogenous, and suburbanites for being individualistic and hopelessly middle-class (Hall, 2002). Half a century ago, the sociologist Herbert Gans moved to Levittown, an archetypical American post-war lower middle-class (and working-class) suburb, to explore life in this suburb and find out if suburban life was as socially, culturally and emotionally destructive as some critics charged. His conclusion was that the suburbanites led an active social

life, and were enthusiastic, socially engaged and community-oriented (based on mutual aid). Suburbia was considered a good place to live by most inhabitants. Levittown was no more socially homogenous than inner city or small town tracts, and the physical homogeneity of mass-produced housing (which came to be altered individually over time by the house owners) would not lead to mass-produced lives any more than the physically homogenous town houses of the urban upper class (Gans, 1967). Besides, those who criticized suburbia tended to view all suburbs and suburbanites alike, a view which was a severe case of over-generalization.

It may, however, be argued that the widespread gentrification and socio-spatial restructuring of inner cities in western countries since then has generally intensified the cultural gap between the inner city and the suburb. The socially diverse, multicultural and economically dynamic city is the stage for an entrepreneurial urban policy (Hall & Hubbard, 1996; Leitner & Shepard, 1998) aimed at attracting the so-called "creative class" (Florida, 2005) and at achieving a better and more competitive position in the urban hierarchy. Much is written about this "back to the city" movement of both people and capital, a re-urbanization countering the dominant suburbanization trend. In Oslo, a survey by Barstad et al. (2006) indicates that an increasing share of the well-educated middle class prefer to live in gentrified (eastern and thereby mostly former working-class) inner city areas, but only until they start families or their children reach school age. In the period from 1998 to 2004, the number of pre-school children increased while the number of schoolchildren decreased (Barstad et al., 2006). It is at this point that the exodus to suburbia begins, because many still do not view the inner city to be a good place for children to grow up in, and they therefore leave the city behind.

However, it may seem as if these new suburbanites, having urban lifestyles and being used to the urban "feel" and urban facilities of the big city, also expect the suburban centres to offer some of the same. The new middle class' preferences and practices, stemming from a certain level of cultural capital as described above, are more or less met in these minicities. Sitting on a sidewalk café drinking caffè latte, looking across the new plaza at the new, spectacular glass and concrete cultural centre housing a multi-unit cinema, multi-purpose theatre, library, café and restaurant, is part of a certain urban atmosphere in the minicity of Asker. This atmosphere, and especially the accessibility to all the things the mini-city can offer, is cherished in real estate advertisements for dwellings near Asker: located close to "everything".

To some extent the resemblance of urban vibrancy also includes the cultural diversity of the big city. Contrary to many of their US counterparts, which are more socially and ethnically homogenous and have private shadow authorities, these minicities are somewhat diverse, but this varies a lot (some minicities lie in suburban areas with for example a large and increasing immigrant population, others do not) This is due in part to the social housing units owned by the local municipality in these places and to the few affordable housing units lying outside them. In Asker there are large blocks of affordable apartments located immediately outside the minicity, within 800 meters' walking distance. Ethnic shops and cafés and immigrant youths together with designer stores and stylish (upper) middle-class suburbanites add a certain urban cosmopolitan-ism resembling Massey's (1997) progressive sense of place, produced by the forces of globalization. Surprisingly, this makes the suburban minicities seem more diverse than the western inner part of Oslo, where housing prices are extremely high and social selection prevalent.

Is this a sustainable (sub-)urbanism with respect to travel?

The question is: how could the described development of suburban centres into minicities

contribute to a more sustainable urban development, focusing on everyday travel practices? It is out the scope of this article to investigate this empirically in all its complexity. The aim is rather to raise some questions, and discuss possible futures that arise from this development in suburbia.

There are a number of trends that may point in an unsustainable direction. Increased accessibility to shopping facilities may of course lead to increased consumption. In a country with a consumption level that is already very high, such trends are clearly not inherently in line with sustainable development. It is also a point for discussion whether this development can be called socially sustainable. Oslo is a divided city with severe differences in parameters such as health and, life expectancies. Asker and Sandvika are located in the affluent western parts of the city region. The question is whether the development in Asker and Sandvika increases the social segregation tendencies in the urban area as a whole, if suburbanites less frequently visit the varied city centre (which is becoming more homogenous because of massive gentrification, for example in the former harbour and working class areas along the eastern inner waterfront). This could well happen, if the suburbanites live separate lives with less contact with core urbanites, or if the development of minicities would contribute to increasing housing prices. On the other hand, Asker and Sandvika may be more diverse, within a limited and accessible space, than the more functionally and increasingly socially segregated big city. Another "wild card" is that the variation within suburban districts is changing, including increased social differentiation, because of both suburban gentrification and social filtering.

However, the starting point of this article is the discussion on compact cities where transport arguments are very much the central core. From his investigation of the Oslo region, Næss (1995) found that, in general, a decentralized concentration at the regional level is favourable for reducing transport energy use per capita. However, this needs to be discussed in more detail. What kind of concentration and centres are favourable, and compared to what? We will consider four hypotheses: i) the minicity may reduce the need to travel to the big city; ii) the urban morphology and mixture of use may affect the mode of travel to the minicity; iii) suburban concentration around nodes in the public transport system may increase the public transport share; and iv) from a long-term resilience perspective, the possibility to carry out daily activities within short distances from the dwelling may be a better solution than relying on one large centre.

The minicity may reduce the need to travel to the big centre – the substitution hypothesis

One argument is that minicities can offer some of the attractions of the big centre so that they may act as buffers for journeys to the centre. The environmental benefit of less travel to the city centre could be reduced traffic volumes and, consequently, less overall emissions of CO2. Furthermore, a reduced number of trips from suburbia to the big centre would result in fewer local environmental problems in inner city areas. Part of the current wisdom of urban planning is that high-density development in or immediately around nodes in the public transport network is beneficial in terms of reduced transport volumes. The argument is that short distances between the home and a stop or station in the public transport network which could bring people to several destinations, make it more likely that people would choose this mode of transport rather than the big centre. The development of attractive nodes may also encourage non-motorized everyday practices if the nodes were turned into a minicity, thereby providing suburbanites with easy access to a wide range of services, cultural events and the experience of an urban atmosphere. The node may not only be a home place or an easy access to work and amenities, but may also be an alternative to the attractions of the big centre; a minicity. The question is, then, to what extent do the minicities compete with the urban centres? Our chain of argumentation is that they may

offer the new middle class suburbanites a cultural and functional experience of urbanity sufficient to act as a "buffer" for journeys to the big city.

One of the competitive advantages of a small centre is that it can offer a compactness and thus easy access to a number of different facilities such as grocery stores, pharmacies, banks, shoe shops, book shops, florists and cafés. While there might not be a vast selection of shoe shops to suit a wide variety of tastes, it would be sufficient for many (in Asker there are at least five shoe shops, and even more in Sandvika), and would offer an easy and time-efficient way to combine a wide range of errands and needs.

It may, however, be argued that the minicity, at least until now, does not provide a full range of diversity and variety of shops, cultural amenities, cafés etc. One of the classical texts in the discussion on the vitality and attraction of big centres is Jane Jacobs' book "The Death and Life of Great American Cities" (Jacobs, 1961). Her work is a passionate defence of the inner city and high density areas. In her view, high density (in terms of people) and compactness is an essential precondition for the urban attraction that includes diversity, richness, and intensive use of public spaces. The hallmark of successful urban neighbourhoods is that they can offer a variety of urban functions throughout the day. Thus the pavements become lively and the possibility for cafés to survive increases, as they need a regular influx of customers over a long period of the day. One of Jane Jacobs' main arguments is that a large number of people (high population density) is a prerequisite for urbanity as she understands it. Only a high number of potential customers can secure an economic base for a diversity of specialized shops such as delicatessens or cultural niche activities (Jacobs, 1961, p. 158). This, according to Jane Jacobs, cannot occur in suburbia because there are too few people. Shopping, as well as the cultural offerings of suburbia, will therefore be dull and limited in range.

It should be borne in mind, however, that Jane Jacobs wrote her book in the 1960s, when the suburbs were even more dominated by housing. Besides, the population density argument may also be countered because the minicities of Asker and Sandvika, together with their suburban hinterlands, may be regarded as medium-sized Norwegian towns (with 20,000-50,000 inhabitants). Our point is that the minicities increasingly develop a more diverse shopping experience and a wider range of cultural activities, and may pose increasing competition with the big centre. Many facilities and activities which previously could only be found in the big city centre are now offered in the minicities, while new niches and trends continue to appear in the big city.

But catering for a variety of cultural tastes may be more difficult for a minicity, e.g. very specialized taste in music. There might not be a sufficiently large audience in suburbia for hip-hop (you might find a hip-hop course in a minicity, as in Asker, but no clubs specializing on this genre), black metal, noise or grime to ensure regular music clubs. Such clubs are located in the big centre. It is also unlikely that a new opera house would be localized in a minicity. This resembles Ebenezer Howard's (in Hall, 2002) vision of a network of garden cities, where some nodes had more of these institutions of regional importance than others. On the other hand, the minicities do seem to offer a variety of concerts targeting more popular tastes and, in particular, middle-aged audiences. An example of this is the increasing number of classical concerts taking place in the minicities of Asker and Sandvika. In Sandvika, as well as Asker, there are clubs that are regularly visited by well-known artists playing mainstream pop/rock. However, unless there is a sharp decline in the facilities in the big city, there will most likely be limits to the extent to which the minicities can compete with the urban specialties. But for the new middle class consumers with young children, who do not have the time to pursue "experimental shopping" or

avant-garde cultural expressions, this may be sufficient.

The counter-hypothesis may be that the development of minicities may in fact increase the amount of travel. When shopping facilities as well as cultural attractions are easily accessible by car for the suburbanite, the consumption of goods and services may increase. The alternative for the suburbanite may not become choosing between a theatre visit in the big centre or in the minicity, but rather between a theatre visit in the minicity or staying at home. In a car-based suburban travel pattern, this may lead to an increase in the number of trips to the suburban centre. Another problem may arise if minicities become serious competitors to the big centre. This may lead to a high level of transport across entire urban areas. A hierarchical system of centres may be preferable. In this sense, neither Sandvika nor Asker has advanced so far.

The urban morphology and mixed uses in the minicity may affect the mode of travel

What are the preconditions for the minicity becoming an alternative to the big centre in terms of urban morphology? Jane Jacobs' recipe for successful, vital urban areas is mixed use, high-density neighbourhoods, small apartment blocks, and buildings in various stages of repair/disrepair offering opportunities for small businesses to operate from low-cost rental premises.

The minicity falls short in many of these requirements. With regard to mixed use, there is certainly a tendency towards an increasing mixture of uses in the minicity, particularly with regard to combinations of culture, entertainment and shopping. There is also a clear tendency towards establishing a high number of workplaces in the minicity, some of which take the form of offices for highly skilled branches, but many of which are jobs created by the enormous increase in retail and other services. However, Jacobs' recommendation of a high and fine-grained mixture of dwelling are only met to a certain degree in the minicities of Asker and Sandvika. They mainly function as centres for shopping, culture, entertainment and access to transport rather than as full-fledged urban areas that are well integrated in dwelling areas. Although situated in residential areas, they function more as relatively isolated urban cells within huge residential areas than as integrated areas with the dwellings, shops, workplaces, schools (which naturally lay spread out in suburbia, where most people live), theatres, restaurants, cafés, churches, parks and public streets that we know from traditional city structures. Admittedly, the number of dwellings (mostly urban apartments and apartment blocks) in both Sandvika and Asker is increasing within these cells, also above street-facing shops. In this respect, the cells become increasingly more diverse and have at least some of the qualities that Jane Jacobs seeks.

On the other hand, they may also become urban fragments poorly integrated in the surrounding housing areas. This morphological characteristic of an isolated cell may not only affect their degree of urbanity, but may also have environmental consequences. It might also be expected that the design and integration of the minicities with surburban building structures and road patterns will influence the choice of mode of travel. If the minicity area is served by high-speed motorways ending in huge parking spaces in combination with difficult access by non-motorized transport, it may increase the possibility of the car becoming the preferred way to travel to the minicity. On the other hand, carefully designed access routes for non-motorized transport which links the minicities to the surrounding suburban street patterns may permit accessibility by foot or bicycle as well. In Asker and Sandvika both access by car with good parking facilities as well as access by foot and bike have been provided.

The competition between the minicities to attract visitors and customers must also be taken into consideration. Suburban areas are usually designed with a high degree of accessibility

by car and plentiful parking facilities near dwellings. This means that many trips may start by car. It also means that the suburban resident may not choose the nearest minicity if travel costs are low and if competing minicities and their shopping centres have good accessibility by car and plenty of parking spaces.

In this respect it is interesting to note that the effect on travel modes seems to be quite different among minicities in the Oslo city region. The analyses made by Engbretsen (2003) clearly show the differences between Asker and Sandvika on the one hand and Strømmen, and Lillestrøm in particular, on the other (Strømmen and Lillestrøm are two minicities at the eastern side of Oslo). In Lillestrøm and parts of Strømmen the percentage that uses bicycles from home is several times higher than in Asker and Sandvika, indeed the highest in the whole urban area. The reasons for this are not clear, but Engebretsen's tentative explanation is the more traditional street pattern found in Lillestrøm. Lillestrøm is a minicity that more closely fits Jane Jacob's recipe for a vital, urban area, with small apartment blocks in its street pattern as well as a more fine-grained combination of dwellings, shops, cultural amenities and schools. Another explanation may be the high number of two-car households in the municipalities of Asker and Bærum, which are amongst the wealthiest in the country. However, the role of physical structure and socio-economical variables remains unclear and needs to be further investigated.

Suburban concentration around nodes in the public transport system may increase the public transport share

While the literature on edge cities (Garreau, 1991) and minicities (Muller, 1976) in the US stresses the surrounding suburban inhabitants' independence of the big centres, the development of minicities in Norwegian suburbs may be seen as a development towards decentralized concentration where the big city remains the main attraction. Such a development may be positive in terms of reducing transport activity. The "best" location for many activities seems to be in the big centre, if we consider the study of travel in Greater Oslo (Engebretsen, 2003). But it would never be possible, or even desirable, to concentrate everything in the big centre. Egebretsen shows that workplaces are often located in suburban areas which are not easily accessible by public transport. Viewed in this light, concentration along nodes in public transport systems is a better option, even if the minicity cannot compete with the big city in all respects. Engebretsen (2003) sums up his empirical study of urban transport as follows:"Because it is difficult to operate a public transport network than can compete with the flexibility of the car for trips to the existing scattered destinations, the challenge is to work out a land-use policy for concentration of new industries and other activities in the outer city to a limited number of nodes that can be more effectively connected by an upgraded public transport system." (p.vi). Further development of minicities may be a good strategy. This viewpoint is supported by an empirical study of transport behaviour in Copenhagen (Næss, 2006). Næss found that the main urban structures influencing travel behaviour are the location of the residence relative to central Copenhagen, thus underlining concentration. But his other three findings support the theory that decentralized concentration is a good strategy for reduction of transport. These include: i) the distance from the centre to the closest second-order urban centre (a sub-centre with a concentration of regionally oriented retail stores); ii) the distance from the dwelling to the closest urban railway station; and iii) the density of inhabitants and workplaces within the local area surrounding the dwelling (Næss, 2006, p. 219). Asker and Sandvika can fit in these indicators for reduced transport. The first point discusses the importance of proximity to the second-order regional centre. Both Asker and Sandvika have developed into centres of regional importance.

The concentrated development of a mixture of jobs, shops and dwellings fits with the proximity to regional centres. The second point is: The development in Asker and Sandvika is close to the urban railway station, thus favourable from a travel reduction point of view. It still is rather few that live within 800 meters from the station relative to the municipality's population. But the trend is a development towards concentration. Næss's third point also fit the minicity. The dwellings that have been built there are within a high density area, compared to the rest of the suburban area, and with a number of work places close by. But, of course, all this is relative to the low density pattern in suburbia, and still not comparable to the concentration in the big city.

The long-term resilience argument: Increased capacity for adaptation

In the environmental debate, the notions of risk and vulnerability are gaining increasing prominence as we have to deal with unintended consequences, complexity and large knowledge gaps (Beck, 1992; Berkes, Colding, & Folke, 2003). We may not know the exact answer to what sustainable urban development is. It may be important to understand the complexities of the social and ecological systems' dynamics, and to investigate how we deal with change. In this perspective, building a capacity for adapting to change is a goal. The question in this perspective is how to develop our urban and suburban structures so that we are able to cope with changes without reducing our options to deal with them.

Investments in such material spatial structures are usually long-lasting. We do not know what future transport systems or mobility practices will be like, or whether the steady increase in mobility can continue. In a long term perspective it may be wise to develop local centres that can provide a population with the necessary services without the need for long travel distances. Increased "localism" is, together with new social structures for mobilities and mobility techniques, highlighted in literature (Dennis & Urry, 2010; Newman, Beatley, & Boyer, 2009) exploring possible futures after peak oil and climate change. Thus the development of the minicities into viable centres catering for a whole range of facilities and services may increase our capacity to deal with unexpected changes and unknown challenges, facing an urban and suburban fabric which only may be restructured slowly. Asker, Sandvika and other minicities or commercial clusters and transport nodes in the suburban Oslo region may be staring points for spatial transformations and social restructuring needed to make suburban districts more resilient to changes stemming from the depletion of oil resources.

Conclusion

In this paper we have tried to launch a more nuanced discussion of suburban sustainability, countering the dominating discourse that suburbs in general are no good. We have argued that the enormous suburban variation in form, function, social characteristics and culture makes it difficult to generalize across suburbs, cities and countries. It is necessary to discuss different types of suburbs in different contexts. Besides, the use of distinctions between cities and suburbs and between the urban and the suburban may cover important dynamics between cities, minicities and suburban forms which are important when considering how to develop urban regions as a whole in a more sustainable direction.

Minicities may have two roles to play in the quest for sustainable mobility. First of all, minicities with excellent bus and rail connections may contribute to a greater public transport share of commuter trips (mainly to the big city). To what degree this happens depends on how attractive it is to use a car. Car use as social practice is interwoven with social, cultural and political aspects of society at both the macro- and microscales. Reduced car use must be treated

as a societal change which involves different parts of society, gasoline prices as well as cultural distinctions, and road policies as well as social networks. The minicities have the potential to contribute if other (future) societal changes are to come, but their function as nodes in the transport network is not enough alone.

Secondly, the development of minicities and the strengthening of their role as urban centres may to a certain degree serve as a substitute for the big city, and thereby reduce long-distance travelling (and possibly increase walking and bicycling from nearby dwelling areas). In this paper, we have argued that there is a "cultural turn" in suburbia from a mainly domestic space towards one of traditionally urban activities and lifestyles. The new minicities, supported by local government policy and planning, are developing into centres that serve households, including the new middle class gentrifiers, who are "relapsing" into the suburbs when their children reach school age. To avoid increasing social segregation, minicities and their surroundings should offer different types of housing, including affordable housing, attracting different social groups. Only then could they also contribute to a social sustainability. Regarding the transport aspect of sustainability, the new commercially diversified, culturally improved and, to a certain degree, cosmopolitan minicities may reduce the tendency to travel into the big city for business, shopping and pleasure activities. However, this is only sustainable if there actually is a substitution (of big city activities) taking place, or if these subcentres do not attract people living in other parts of the urban area (closer to the big city), because of their diversity and good parking facilities.

One could argue that, without the growth of minicities, there would be even more travelling to the big city, from the suburbs. But this again is not true if the diversification and differentiation of minicities make people less reluctant to move further out, into exurbia. Such a spatially splintering (sub-)urbanism could lead to a more dispersed settlement pattern, resembling what Dolores Hayden (2002) has termed "e-space fringes", where commuters to the growing minicities and suburban workplaces are scattered into the rural areas beyond. The growth of jobs in these minicities, a goal for their municipal governments resembling North American edge cities, combined with increased telecommuting, could pull suburbia in that direction. The increase in suburban jobs, better communications, flexible working arrangements and low housing prices in exurbia are already making people less reluctant to move beyond the traditional suburbs. Planning regulation could slow the building of new housing units, but could hardly stop the conversion of farmhouses to first or second homes for suburbanites. However, this is also a cultural issue, related to how far out from the city people would prefer to live and still be identified as Oslo-urbanites.

These questions need to be investigated through empirical research. Such research should uncover the hidden dynamics of everyday practices in suburbia, and how people relate to the developing minicities. This research should be both quantitative and qualitative, but always contextual, because suburbs and the emerging minicities are increasingly differentiated.

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[1] The secondary information is collected from planning documents and reports by the municipal authorities, and research publications presenting empirical results mainly on travel practices.