Hypocritical transitions?
The challenge of urban sustainable mobility transition.

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Abstract

This paper addresses the issue of sustainable urban mobility and the still persisting problems of implementing this objective, illuminated by current planning practice in the municipality of Fredericia in the so called Triangle Region of southern Denmark. The core questions are whether any imprints of a sustainable mobility discourse can be traced in the policy documents, how mobility is framed, and which arguments are used to legitimate or envision strategies and planning practices. Is Fredericia performing a transition towards low-carbon mobility? The paper will draw on concepts from transition theory in order to provide a framework to structure the analysis and to illuminate its contribution to explain possible path dependencies blocking more radical changes as well as identifying indicators for paths taken for the future development of the city. The paper aims to contribute to the discussions around urban complexity within transition processes. Transitions are always taking place, but the question is which direction they take and if these directions are in line with a planning approach for sustainable mobility.

Key words: Sustainable mobility, Ambivalence in planning, Complex city, Transition theory, Multi-level perspective

1. Cities' challenges of sustainable transitions

This paper analysis the challenge of cities to fulfill their aspiration for sustainable urban development with a focus on urban mobility planning in the case of Fredericia and the Triangle Region in southern Denmark. Identifying the transitions actually taking place and linking these to the main drivers behind current development will contribute to the discussion of ambivalent planning practice, the given gap between policy and planning practice, and creates more clarity for opportunities and necessity of intervention for more sustainable urban mobility. Dynamics and interrelation of general trends of growth and climate change pressure (landscape) and what generates and is translated into hegemonic practices and norms in urban mobility development (regime) as well as possibly opponent or supportive niches are discussed and will shed light on opportunities for change.

There is a general increase in the awareness about climate change and its consequences and the role of cities being prime generators of pollution and

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responsible as well as having opportunity for facilitating transitions towards more sustainable futures (Newman, 1999; Bulkeley et al., 2011; Graham et al., 2001; Hodson et al., 2010). Sustainability concepts are common in a lot of current planning policies and probably an obligatory 'section' to legitimate today's planning documents in general. However, questions arise if such concepts hold true or if they become 'empty, green promises' that are rarely fulfilled. "Our common future" - the Brundtland Report of 1987 - was path-breaking for many further formulations and understandings of sustainable development. Two main concepts are characteristic for the concept of sustainable development used in this report, such as: 1) the *concept of 'needs';* especially concerned with the world's poor and 2) the *concept of limitation*; regarding the state of technologically and socially conditions. These concepts should help to organize life here and now without compromising possibilities for future generations to meet their needs. This global contextualization of sustainability has to be scaled down to local contexts and explicit actions have to be taken.

In this paper, some possibilities and constraints in pursuing a transition of urban development into a more sustainable direction will be illuminated, using the Danish town of Fredericia as an illustrative example. The transition-theoretical concept of the multi-level perspective (MLP) will be used as a framework for analyzing the complex dynamics and diverse factors that affect urban development and (ambivalent) planning practice to map the transitions actually going on, and to identify drivers behind these transitions and possible interventions that may evoke changes in development paths (Geels & Schot, 2007; Rotmans & Loorbach, 2009, Geels, 2011). However, being interested in more radical changes to reach desirable futures of sustainable mobility, this paper will include a normative standpoint of transition from a sustainability perspective based on planning theory for sustainable urban development and political economy literature (Næss, 2012; Harvey, 2010). Hence the paper includes also the identification of directions of transition and the aspect of change versus reproduction or continuing of business as usual. Moreover the context within which one uses the analytical understanding or methodology of transition is crucial. The urban and its complexity will define transition in this analysis (Næss & Vogel, 2012).

The next section (2) introduces the theoretical and methodological context (transition theory), some challenges when investigating urban complexities of transition, and the analytical use of the multi-level perspective. In Section 3, the case of Fredericia will be introduced and key traits of its spatial development will be analyzed using the multi-level perspective, including a discussion of the main dynamics of the niche, regime and landscape levels. In the final section (4), main lessons drawn from the study will be presented.

2. Theory and methods

Generally speaking transition theory is considered to be of interest comprising issues of complexity and attempts to explain systemic change. For the research of transitions towards sustainable mobility the understanding of dependencies of socio-

technical processes and artefacts, such as the building stock, its utilization and the transport systems and especially how automobility is influencing and influenced by urban land use and transport infrastructure provision, will be essential. Moreover, transition theory can help to identify possible drivers for sustainable transitions such as key actors, resources available or pressure to for creating regime change.

Bertolini (2011) for example describes transition as *transformative change in complex systems*. Others define transition as "*a long-term process of change during which society or an important sub-system of society fundamentally changes*" (Rotmans & Loorbach, 2000: 2). Both of these definitions describe rather incremental change processes even though they sound quite profound being structural system changes. Nevertheless, to adapt to new conditions with e.g. optimizing through replacing or adding new components to a system can keep the basic system structure intact. The electrification of the car would be such an example, continuing on the main system infrastructure with maybe more efficient and less polluting artifacts. Moreover pace plays a role too especially when we are experiences a pressure to act now to avoid even worse climate disaster as already occurring. Other authors point towards the embedded contexts of technological change when describing: "*Transitions […] as shifts or 'system innovations' between distinctive socio-technical configurations encompassing not only new technologies but also corresponding changes in markets, user practices, policy & cultural discourses and governing institutions*" (Geels & Schot, 2007).

However it remains a challenge to define the urban mobility regime. Multiple causes and factors affect the given conditions and direction for urban development and its mobility patterns and systems, including e.g. different sectors of land use and transport planning, contested political structures, contemporary mobility culture as well as locally bounded socio-economic circumstances (Næss & Vogel, 2012).

2.1 Urban transitions

Gullberg and Kaijser are not explicit transition research scholars, but are interested in the urban and its transitions. They relate more to e.g. theories around the network and the complex city such as Marvin and Graham introduced these concepts in *Splintering Urbanism (2001)*. Moreover the spatial conditions of the urban (the building sites) and the network activities of actors are explicitly included. These elements are repeatedly criticized of being insufficiently included in transition theories of socio-technical regime change. Gullberg and Kaijser developed an own approach, called the City Building Regime Approach (CBR Approach), to analyze and define urban transition with its stabilization and change phases. "*By a city-building regime (CBR) we mean the set of actors and the configuration of coordinating mechanism among them, which produce the major changes in the landscapes of buildings and networks in a specific region at a given time*" (Gullberg & Kaijser, 2004: 18). They underline the institutional legacy of the city and describe the design of coordination mechanisms such as consensus, hierarchy, networks, trust and cooperation. The latter is interesting regarding responsibilities and political

action being formed and reproduced in cities and reflects a necessary discussion around legitimacy and normative dimensions in transitions.

The spatial dimension, its physical mass and inertia of the urban built environment, is crucial when dealing with cities' transitions. The ways in which cities grow reveal the type and potential of sustainable transition. Urban structures (e.g. infrastructure, housing) have a relative permanence and persistence to fast change. To analyze the geography of transitions helps to contextualize transition more concretely, to be able to compare different cases with varying transition pathways, different pace and direction of transitions (Coenen et al., 2010). Central questions are concerned with the explicit physical condition that creates and limits mobility patterns and also about relational space of cities that points towards the strategic interventions of transition actors and action. This represents exertion of power and possible influence on transitions from a niche level perspective.

The previous authors all relate to processes of change when defining transitions and some are more precise with their references than others. The normative dimension or question of legitimacy is relatively faint, but should be more in the forefront when aiming at steering transitions (e.g. Transition Management, backcasting as normative scenario tool). Moreover the complexity of transition processes and the difficulty to define and identify the explicit transition points and loci based on multi-causalities could be counteracted with a normative standpoint. Such an approach would help to filter and direct actors' goal setting, strategy formation, explicit planning practice and might be even able to estimate interaction mechanism of different systems.

To give an example from the field of planning: multiple actors can agree on the strategies and visions formulated for cities' potential development to describe desirable futures. They may fulfill the necessary 'sustainability agenda' in their goal formulations, but they often do not translate these overall goals into explicit, integrative and sensible measures. Planning goals and planning practice contradict each other, as exemplified in the case of Fredericia. This can be related to simultaneous growth approaches, which lead to a liberalization of planning and are reluctant to regulative measures that would help to develop towards their desirable futures (seen from a sustainability point of view), but might reduce the chance of fast profit. A more regulative as well as integrative policy arrangement would limit planning practice such as location and zoning in land use decisions and could thereby also reduce the amount of transport infrastructure needed for accessing new development sites as well as the distances actually traveled in daily life. Conversely transport infrastructure could be oriented more towards reducing individual motorized traffic, which would correspond with more dense development with different demand structures (Næss, 2011; Holden, 2007). However, based on a development away from formal planning to more informal planning practice, often ad hoc and developer led planning, these forms of regulation do not take place. Therefore the defined futures in form of vision or strategy documents as well as policy papers have little coherence with planning practices, they are missing an anchoring or outset in given challenges and become of a hypocritical character.

2.2 The multi-level perspective (MLP)

The multi-level perspective (MLP) is a theoretical transition concept that aims at describing transition pathways on three main analytical levels, socio-technical niches, socio-technical regime and socio-technical landscape, which reflect micro, meso and macro level respectively. Main transition pathways are 1) transformation, 2) de- and re-alignment, 3) reconfiguration and 4) technological substitution (Geels & Schot, 2007). The pathways differ in their intensity of the regime change and if the force is more internally or externally driven. The MLP is primarily concerned with reconstructing transitions around technologies, their interrelated, historical-evolutionary development within society and is often quite sector oriented.

The socio-technical regime is central and comprises the dynamically stable, established and hegemonic practices, discourses, institutions and artifacts. Or according to Rip and Kemp (1998: 338) a regime is defined as "*the coherent complex of scientific knowledge, engineering practices, production process technologies, product characteristics, skills and procedures, established user needs, regulatory requirements, institutions and infrastructures*".

Niches are relatively similar in their basic characteristics to regimes, but do not have the same pervasiveness and power in societal systems. Niches can support regimes or can be opponent in their approaches. Many transition scholars believe that niches are the main loci for transition or innovative development, being able to 'think outside the box', to use other resources and maybe having the ability to react more easily on pressure and change than the regime, which is considered to be more path dependent and locked in.

The landscape level could be described with: *"Developments [that] […] include largely exogenous processes that neither regime or niche actors can influence, or just very partially, such as broader developments in the demographic sphere (e.g. the transformation of family relationships, aging of society), social sphere (e.g. the growth of travel mobility and virtual networking), economic sphere (e.g. the globalization of production and consumption), cultural sphere (e.g. the surge of individualism), or environmental sphere (e.g. the depletion of natural resources)."* (Bertolini, 2011: 6)

Especially the landscape level includes crucial factors and developments to arrive at moments and processes of change. However, the MLP describes the interplay of niches, regimes and landscapes with main interest in opportunities for regime change. The analysis will be used for identifying important dynamics between these levels and to arrive at a better picture of crucial parameters for change in the case of Fredericia's urban mobility development.

3. Analysis

Based on an interest in understanding current development and its deviation from sustainability goals set, transition theory can be useful to explain possible path dependencies, which deny more radical changes as well as identifying indicators for paths taken for the future development of the city. The case study of Fredericia builds on document studies such as municipal planning documents, policies, visions and strategy papers of the Triangle Region, an interview with the director of the Triangle Region in 2011 and further relevant reports and sources of references illuminating case related circumstances.

3.1 Planning context

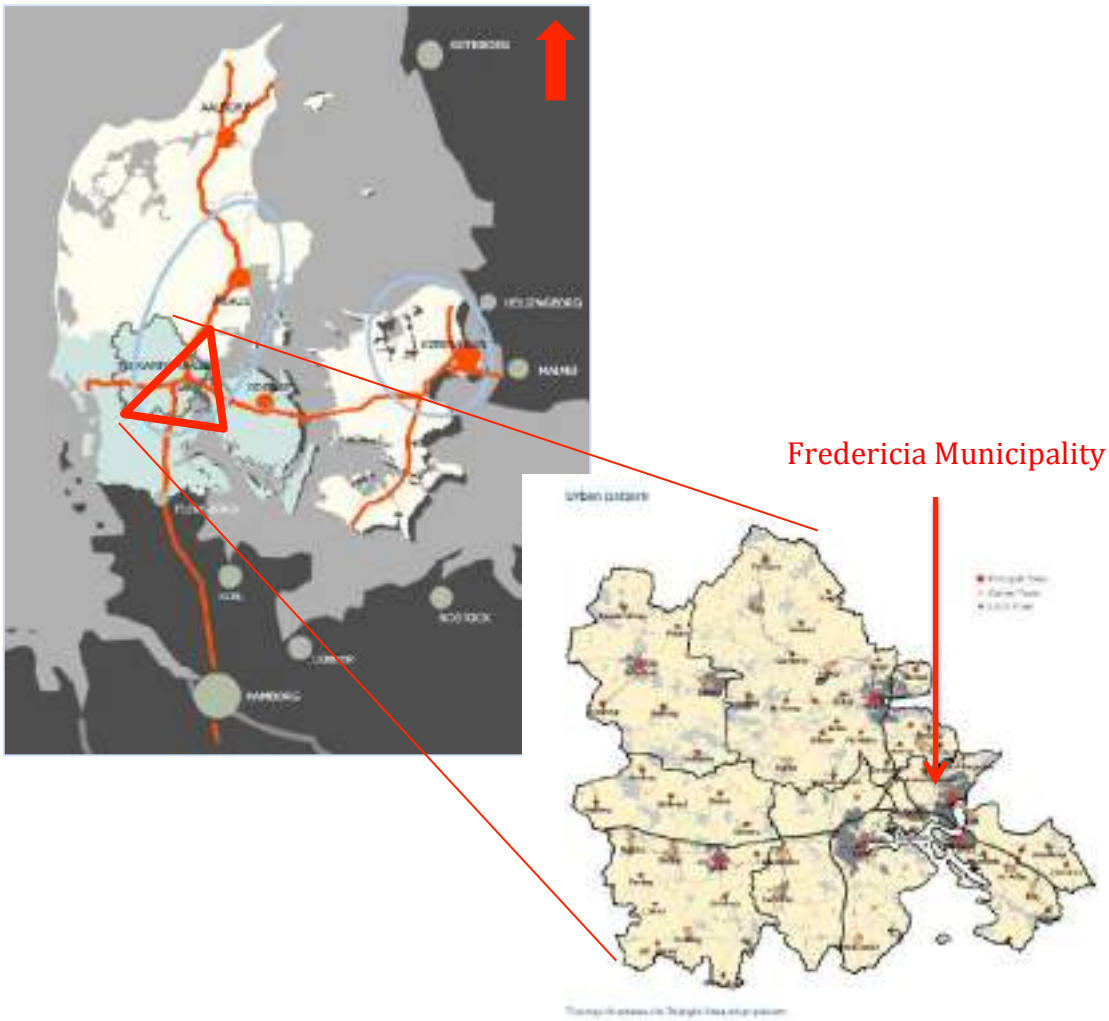

Figure 1: Location of the Triangle Region in Denmark and urban pattern of the Triangle Region (based on: Trekantområdet Danmark, 2007; Fredericia C, 2011)

The municipality of Fredericia has a population of approximately 50,000 (of which 40,000 in the continuous urbanized area of Fredericia) and is a part of the so called

Triangle Region. This polycentric region is a network of six municipalities, which account together for around 350,000 residents. The name *Triangle Region* originates from the three bigger cities Vejle, Fredericia and Kolding, which form a triangle when connecting these. In this network Fredericia is one of the most urban municipalities, covering a relatively small area and with less rural land within the municipal borders than what is the case for the other municipalities of the Triangle Region (see figure 1 above).

The Triangle Region is part of the so called East Jutland Growth-Corridor, stretching from Randers in the north over Aarhus to the Triangle Region in the south, including 17 municipalities. Since the national planning report 'The New Map of Denmark' (Ministry of the Environment, Denmark, 2006) this corridor has been given attention for investment and development strategies to be a growth center along with Copenhagen Metropolitan Area. Such belonging reinforces the general strive of municipalities for inward investment and they do compete with each other for attracting business and people. Consequently land use and transport planning practices appear to be of rather liberal character with less emphasis on objectives to e.g. reduce transport emissions and expansion of the built-up areas.

Nevertheless, there is a general increase in the awareness about climate change and its consequences and many Danish cities are aiming to take responsibility to tackle causes and adapt to conditions and so is Fredericia. Fredericia wants to be *one of the leading climate municipalities in Denmark* and is expressing its endeavor with plans to reduce its CO_2 emission by 25% in 2015 (with reference to 2006). Especially within the Triangle Region's network climate initiatives were launched. Fredericia participates in the following projects that can influence its urban mobility:

a) a partnership agreement with the DONG energy company, which addresses the high ambition of becoming also energy producer,
b) a pilot project introducing electric cars, which is part of a nation wide project, where in cooperation with Designskole Kolding a report with key parameters to introduce electric vehicles was developed (Etrans, Designskolen Kolding, 2011), and
c) buses running on alternative fuel are introduced (Triangle Region Denmark, 2009).
d) The so-called Formel M mobility management project is approaching the critical fact of the high amount of personal car travel to work within the municipal boundaries concentrating on the industrial park Danmark C (www.formelm.dk). This appears to be a necessary approach, as the Triangle Region is one of the Danish regions with an outstanding high automobility and highly car-depended land use structures (Krawack, 2011).

As an example, Figure 2 represents one of the most important arguments of travel time and distance within transport planning discussions as well as personal mobility decisions. The region-wide accessibility by car is clearly demonstrated in this comparison of areas accessible from Fredericia by car and public transport within certain time limits.

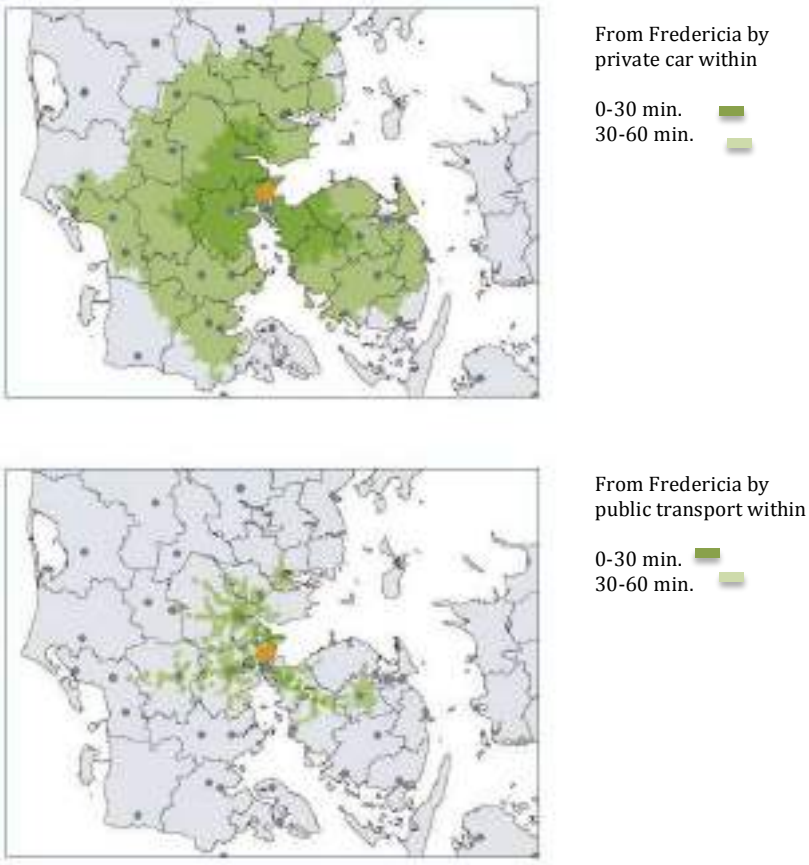

Figure 2: Travel time and distance by private car versus public transport (Region Syddanmark, 2010: 8)

However, the land use and infrastructure plans of Fredericia reflect no clear development strategy. The urban development is kind of two-fold, continuing a trend of sprawling development with expansion of the urban area demarcation, while simultaneously planning for inner-city densification, notably the new 'sustainability flagship' city district 'Fredericia C' (see illustration in figure 3).

Figure 3 represents the current land use in Fredericia municipality. As introduced above, Fredericia does have a relatively urbanized spatial structure with reference to other municipalities in the Triangle Region. However, this map illustrates the quite high amount of space available in-between the built-up areas such as green spaces and derelict as well as current low-density industrial zones. The map also illustrates the planned urban expansion, which seems to be spread rather randomly within the municipal borders. Danmark C as the biggest Danish industrial park with 600 ha, Fredericia C as new (sustainable) development project of 20 ha and the 140 ha sized new development site towards the west will be dealt with more in depth in Section 3.2). Moreover the relatively high amount of industrial space reflects the city's historical identity and it may evoke the impression of an industrial city even today. The representation in the municipal plan though is somewhat indistinct and might

give the impression of a need for expansion of the mapped demarcation. There is a gap between the actual used areas and the visualization in the planning document.

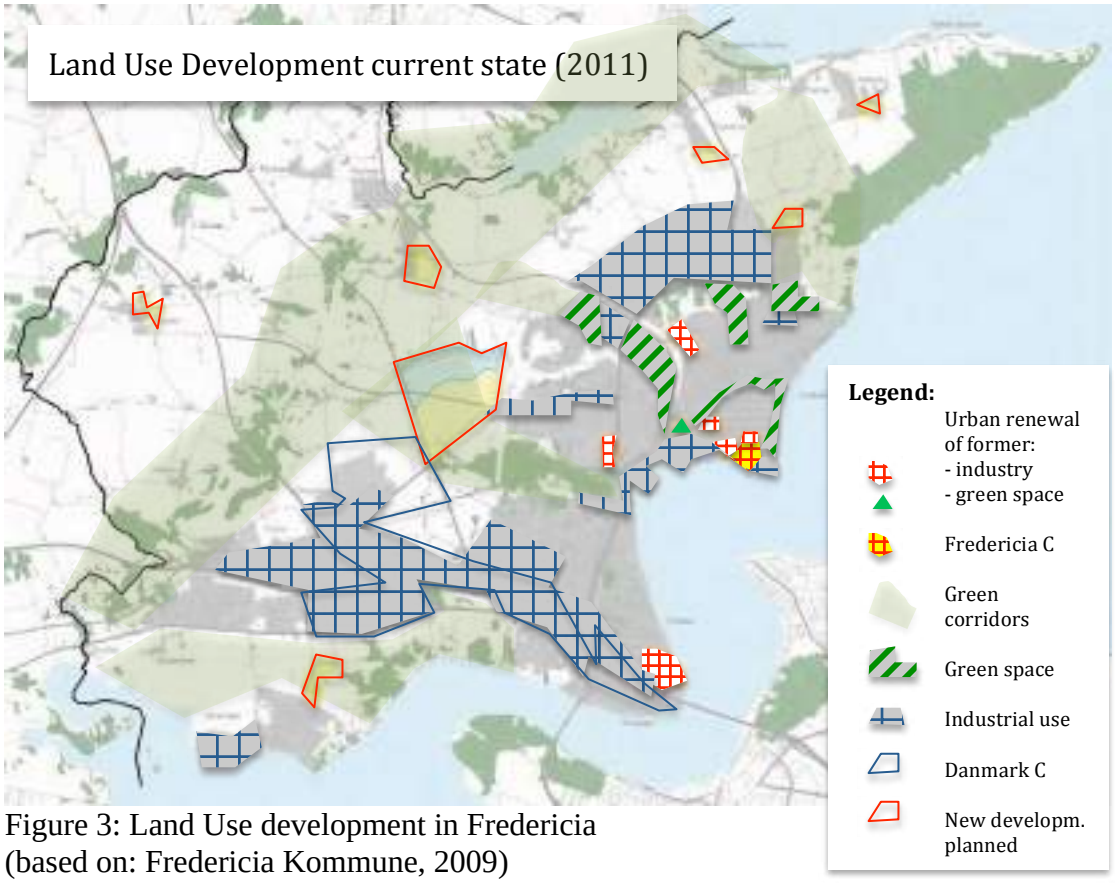

Figure 3: Land Use development in Fredericia (based on: Fredericia Kommune, 2009)

3.2 Chances for transition?

Applied to the context of urban and mobility planning in Fredericia, the landscape level comprises dominant trends and pressures that are more omnipresent such as the broad discourse about climate change and the need for cities to meet given and evolving challenges. Also a prevalent high level of competition within the polycentric region and between cities in general, accompanied by a liberalization of planning practice and strong promotion of growth strategies and couplings of growth to transport as well as a general need for a high mobility demand would account to this analytical level.

Ecological modernization is one of the most dominant paradigms around climate change and attempts to counteract the negative environmental impacts of higher consumption. Trends of individualism and mobility as freedom, materialistic lifestyles, continuation of a high exploitation of resources, however, are not as such altered, but rather adjusted to meet the numbers e.g. appointed in visionary documents. That also means there is a strong belief in technological solutions and innovations that will reduce emissions in transport for example to continue a level of

consumption and production patterns compatible with continuation of or increase in the present high amount of transport. A closer examination of demand, lifestyle and moral questioning tends to be excluded in such discussions.

Another important landscape-level feature is the general trend of increasing competition between cities, which may be even more pronounced in a polycentric region such as the Triangle Region. The notion of competition between urban areas internationally, nation-wide (the East Jutland Growth Corridor versus Copenhagen Metropolitan Area) as well as the inter-municipal competition in the Triangle Region (especially between Fredericia, Kolding and Vejle) exercise pressure.
The Triangle Region as a municipal network has no authority power on municipal planning practice. Relevant though are the mediations of planning approaches for the overall region and what is understood as valuable and necessary development.

One of the consequences is the municipal planning practice in the western part of Fredericia with an over-dimensioned zoning plan for urban expansion of 140 ha assuming the need for around 850 new housing units and retail development. Beyond a strong cultural value in Denmark of living in one-family houses influences such planning preferences. General reluctance to regulative measures of the spatial consumption of land prevails as with land for the industrial park Danmark C. Next to expanding the urban demarcated area infrastructural concerns are crucial. The highway infrastructure is understood as a logistic necessity for the industrial park and more generally as a major growth-generating asset of the region. The geographical context of the case municipality is used as argument for being an important Danish transport hub legitimating the expansion and construction of transport infrastructure (Fredericia Kommune, 2011).

The regime level comprises dominant modes of transportation, main infrastructures and actual spatial development, leading professional and institutional discourses around planning practice and its main tasks, prevailing political agendas as well as the dwelling types and locations, transport modes, shop designs etc. preferred by broad population groups. This comprehensive list of issues assign to different segments that are approached by planning practices and influence mobility developments. Especially the heterogeneity is crucial, which is favored by liberal political landscapes and reflected in regime structures. Market economy fosters such conditions to increase competition (Harvey, 2010). There is interplay between a multitude of actors, practices and structures, which are under constant formation and reformation and which have formed prevalent *multi-segmented regimes* within land use as well as within transport infrastructure development (Næss & Vogel, 2012).

The city authority is conscious about the need to transform towards more sustainable urban futures. Currently a main focus is directed toward the urban transformation project Fredericia C, where a former industrial area at the harbor is redeveloped into a dense and multi-functional city district. Fredericia C is a redevelopment project that started already in 2009 and was among other things initiated with an international idea competition on how to develop the former harbor area into a

economically, socially and environmentally sustainable city district. Connectivity to the given city was an important aspects as well as historical values and overall a distinct focus on multi-functional and dense development with 50% housing, 40% retail and 10% cultural use. Noticeable is a so-called *sustainability process tool* intended to lead and ensure the project's sustainable character throughout the competition as well as in further formal development phases. This appears to be a positive transition towards more sustainable structures in urban spatial planning. Additionally, local mobility management projects concerned with travel to work, parking policies or pilot projects introducing electric vehicles try to address a change in travel patterns towards more sustainable conditions. However, it is questionable how powerful these developments are in a long term and structural perspective. I would, initially, locate them on the niche level in a MLP perspective. They do not yet show any pronounced regime characteristics and it is questionable if a checklist with sustainability indicators can shift a political primary goal of growth.

Certainly the ambition is there to develop these niches to be part of the future regime in Fredericia but this is seen as challenge under current conditions of a general lack of an integrated approach of land use and transport planning towards more sustainable mobility. The inertia of the existing built environment is a different complexity and severity for transitions, which has to be accounted for when planning new development. The given planning practices do not reflect a clear awareness to the latter fact of relative permanence and path dependency. For example, the workplaces already located in the large sprawling industrial and commercial districts in the western part of the municipality will for a long time ahead make up a strong incentive to car commuting even if urban development in the next decades takes place mainly as densification. Besides, Fredericia has set aside an area of 140 hectares as a future development site for new dwellings and retail development. For one thing, this is an over-dimensioned expansion of the urban demarcated land that is unreasonable, judged against current needs. Secondly, this rezoning of land takes place in the outskirts of the city with poor access to public transport facilities, which will most likely create more car-dependency for its future dwellers and visitors (Fredericia Kommune, 2009).

The above descriptions point towards certain attempts by the regime to include some niche developments in the regime structures. Niches though can be of different character seen from a sustainable mobility perspective. Niches can support given regime formations or act in the regime's shadow without necessarily pushing for change, such as businesses favoring location in Danmark C as logistically central industrial park with direct highway connection and little regulations. Then there are niches that oppose the regime structures and practices and even try to tackle these. In this case, Fredericia C as a development project reflecting an integrative planning approach (at least as it is promised by the current documentation of the idea competition and plans), general densification plans for the inner city, promotion of bicycling as well as the attempt to introduce forms of mobility management could be considered as niche initiatives pointing towards a sustainable transition. On the other hand: unless these niche approaches are being backed up sufficiently, they risk to be

inefficient or outweighed by more dominant practices of daily mobility patterns, car-lobbies or businesses in general that would lose profit through major changes. Finally, the underlying driver for municipalities to support such niche projects is inherently the same, namely attracting people and businesses to the municipal territory. Sustainability initiatives thus run the risk of being subordinated to or coopted by a dominating strategy of increasing the city's economic competitiveness (Fredericia C, 2011).

3.3 Dynamics and barriers preventing sustainable transition

One of the key conditions preventing Fredericia and also other cities' from developing towards more sustainable mobility is the overall lack of an integrated land use and transport planning approach. The Triangle Region is addressing this gap in their agenda for the plan strategy currently being developed. Nevertheless, actors are struggling to approach this challenge and there are barriers that hinder the value and awareness for better land use planning as well as an integrated approach in planning. The above mapping of the different levels and their dynamic interaction reflects this basic problem. The landscape pressure or trends do affect the regime's segments differently. Taking into account the relative stability of the regime, which supports and facilitates multiple lifestyles and subsequent housing types and transport patterns, this leads to disconnected responses, which then in turn also explains the ambivalence in planning practice due to trying to satisfy 'everybody's needs' or performing rather hypocritical practices to reduce pressure. The regime seems to be ruled by the landscape trends and there is limited focus and support of challenging niche development.

One of the barriers is the missing political willingness to really deal with land use planning. The land use plan has developed into a massive list of regulative procedures, exceeding its limits of being able to cover all the issues stated and has ended up being neither read nor followed up and finally having no impact in planning practice (Krawack, 2011). This reflects a relative vulnerability of the regime, meaning it is sensitive towards general landscape trends of e.g. growth and attempts to offer prospects for urban development, but does this, however, with limited steering ability. Keeping the two main concepts of *needs* and *limitations* in mind, introduced by the Brundtland Report, the policy documents (e.g. land use plan, municipal plan) should, from a sustainability perspective, translate these concepts into locally anchored measures and aims. It could be questioned though to what extend these concepts are understood or used profoundly. Often short and superficial definitions are to be found in policy documents, which do relate mostly to the so called 'triple bottom line' introduced by the World Bank, namely the economic, social and environmental dimension of sustainability. However, this dominant concept of sustainability does not ensure a balance of these dimensions. Instead the economic sustainability often outweighs the other two.

This is tightly connected to another barrier, the planning system itself and has more of a structural character. Institutional responsibilities and organization hinder each

other in progressing towards more sustainable and integrative planning practice. Again, this is mainly a regime representation. A regime that is arranging its dynamic stability due to different structural segments with different practices, actors, discourses, values and norms. Also the region's strong external focus, rather than on improving internal conditions, determines to a high degree the planning discourse. The region's affiliation to the so called East-Jutland-Growth-Corridor as new national growth area is reinforcing competition in the regime from the landscape level.

Additionally the physical planning alone is questioned to have any impact as long as no explicit improvement in providing better public transportation infrastructure is given. Only an interaction of different measures can offer a development towards more low-carbon and generally more sustainable mobility patterns. So in MLP-terms it would translate into a more pronounced interplay of niche and regime to strengthen the niches to prosper, to network and to exercise power in an integrative approach. Furthermore the strategic relation between niche and landscape could exercise more specific pressure on the regime, such as creating a counter discourse to the coupling of growth and transport, frictionless mobility or general to reveal contradictions of the regime practices.

4. Main lessons drawn

The fuzzy transition processes taking place in Fredericia represent some first cracks in the regime structure and the beginnings of desirable niches that could by and large be up-scaled to the regime level. However, the power of rather unsustainable landscape trends on the regime dominates. The initiating and promoting of niches pointing towards more sustainable urban development is not enough and might loses momentum if no general landscape trends change as well.

In this context both opportunities and obstacles for Fredericia's sustainable transition in urban development and mobility can be seen. I will point out three main obstacles on landscape level as being crucial for the urban transition prospects:

1. Dominant discourse of ecological modernization, which translates and is accompanied by technological fixes in approaching solutions,
2. Spatial conditions in the municipal and regional area that create challenges for transport infrastructure and land use zoning,
3. Liberal political arena that is willing and compelled to create growth, which most likely impedes regulative planning approaches.

These landscape trends and paradigms are again translated into structures and practices on the regime and niche level and are used as legitimate arguments for rather unsustainable development.

Responses of the regime in form of expanding infrastructure and urban built environment or initiating competition processes around new sustainable city districts

are reflections of the regime ability to keep ‘in place’. The transitions taking place may slightly adapt the regime structure to an increasing pressure to act more sustainable, but in the main the regime prevails. This means that planning policies for sustainable mobility reflect a general acceptance of the region’s car-dependent structure, focusing on car-pooling, mobility management and zero-emission vehicles rather than aiming to reduce the amount of transport, which would integrate also land use planning into the policy measures. To influence the ‘mobility culture’ of the Triangle Region would definitely call for greater transitions on the landscape level including regional-scale land use planning and changed priorities in transport infrastructure development.

Nevertheless, opportunities on niche level can also be identified, such as:

1. A relatively transparent and participatory process of the redevelopment project Fredericia C that created a discourse around the sustainability of this flagship project
2. Nation-wide mobility management projects that take a closer look at the local circumstances in the Triangle Region or
3. Public transport and non-motorized forms of transportation get more attention (bus system in Fredericia, promotion of bicycling).

However, these niche initiatives will not have any bearing on environmentally sustainable and low-carbon urban mobility if a planning discourse is dominant that credits spacious areas for commercial and housing development due to a consideration of these elements as being competitive advantages or necessary to meet cultural needs. The same applies to a planning discourse depicting expansion of (road) infrastructure and also increases in the amount of transport as inevitable trends.

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