Cycling towards Sustainability: the path runs through Malmö

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Abstract: Set in the sustainable urban development context, the purpose of this work is to depict cycling as a powerful mean to improve social, environmental and economic conditions in our cities. Moving from a qualitative analysis, the work has been conducted by analyzing a series of initiatives that take place in Malmö (Sweden) aimed at raising cycling awareness and practices. The city serves as a model for discussing sustainable development in general. The results show that, even when practicing good cycling policies, public authorities need to adopt broader and more inclusive approaches in order to avoid inconsistencies and divergences. In the diversity of urban cycling dynamics, learning processes and social innovation thrive: if on one hand they help to fill gaps left by public policies, helping to overcome hindrances in cycling promotion, on the other they also set the possibility for a progress in economic and social urban life.

Key words: Cycling Promotion. Social Innovation. Sustainable Transportation. Sustainable Development.
# TABLE OF CONTENTS

1.0 Introduction
   1.1 Problem Statement and Research Questions 4
   1.2 Aim 4
   1.3 Background 5
   1.4 Malmö and Sustainability 7
   1.5 Previous Research 10

2.0 Method
   2.1 Qualitative Research 11
   2.2 Limitations 13

3.0 Theory
   3.1 Cycling and Social value 13
   3.2 Public Authorities’ Responsibilities and Strategies 14
   3.3 Participatory Design and Social Innovation 16

4.0 Analysis
   4.1 Cycling and Society: The Role of Social Inclusion, Gender and Advocacy 18
   4.2 Public authorities’ role in cycling promotion 21
   4.3 Participatory Design and Social Innovation in Cycling Promotion 24

5.0 Discussion 28

6.0 Conclusion 30

7.0 References 31

8.0 Appendix 35
When I see an adult on a bicycle, I do not despair for the future of the human race. ~ H.G. Wells

1.0 INTRODUCTION

1.1 PROBLEM STATEMENT AND RESEARCH QUESTIONS

Malmö, Sweden, represents an example of a city that is radically changing from an ordinary car-oriented urban planning towards declared sustainability goals, and mobility is key-important. In order to reach this goal, the contribution from the civil society, business and public management is needed and is seen as a whole. To reduce car usage, in fact, means implementing walking, cycling and public transportation measures at the same time.

A good way to problematize cycling and assess its status in a city is not to regard it as a mean of transport as such, but as a crucial agent able to empower an urban area to undergo an improvement. The transition phase in which the city find itself at the moment is rather evident especially considering on the one hand the intentions, and on the other the factual practice. The spectrum of possibilities, initiatives, commercial activities and general efforts aimed to promote cycling is very wide and articulated. The hard measures decided and built by city planners such as infrastructures, facilities and so forth are surely central in order to reach higher cycling rates, with a shift towards sustainable transportation. But it is important to go deeper, to consider also a wide spectrum of different situations that live and foster in cities at the same time, allowing for numerous activities to have an active role in the inhabitants daily life, mobility and mentality. Because of their added value in the mobility issue, such further initiatives need to be analyzed first, then supported, finally improved and implemented. However, investigating, categorizing and understanding come first. Differences and similarities entwine continuously within this ensemble, triggering the research questions that are at the core of this work.

- Which initiatives beyond hard-planning are helping Malmö to achieve the goal of an ideal urban cycling city?
- How are these initiatives working in a Sustainability context?

1.2 AIM

The aim of this work is threefold:

- to give a portrait of cycling in the city of Malmö as of 2013, putting into focus different manners in which cycling is being promoted, performed, utilized.
- to elaborate a qualitative assessment for possibly one of the best cycling city in the world.
- to assess the potential for the future cycling set in an urban sustainable development context.

Although an extensive analysis on this issue remains beyond this work’s purpose, it is only in the wider context of sustainability and sustainable transportation that cycling as one of the main actors can be correctly understood.
1.3 BACKGROUND

Before Sustainability: the traditional neoliberal planning

With the neoliberal doctrine widely dominating the economic life and the development following WWII of Europe and North America, most urban areas of industrialized countries began to reflect their capitalistic core, particularly between 1960s and 1980s. Still cities nowadays are the place where economy is conceived, developed and put into practice. The business fabric is of utmost importance for urban areas, as Baeten (2012) put it “cities are first and foremost locational products for investors and should be sold and marketed as such”. If on the one hand western cities have surely contributed to widely improve the living conditions of most of their population, on the other, they largely failed to positively address social and environmental concerns, actually creating new or worsening the already existing ones (Harvey, 2006). On the environmental angle, the enormous amount of soil consumption in favor of hard surfaces has severely threatened the cities natural environment, with alarming data given by the calculated ecological footprint (Wackernagel, M. and Rees, W., 1996)

Towards Sustainable Urban Development, contesting dominant urban planning.

The unbalanced importance given to economy, always meant to represent the spine of society and the mean to solve every possible issue, has sparked various social downsides in western cities: segregation, displacement, gentrification, polarization of wealth (then of possibilities, which in turn lead to wrong zoning), for those who could or cannot keep the pace of the economy (Harvey, 2006). This urban problems mainly derived from a view that intends planning and administration of public policies as utterly grounded on neoliberal perspectives. However, although with remarkable differences among them, western countries have in the past decades reached a same awareness that a balance between a sound economic wealth, human and social rights to be underpinned by well-established and developed democratic govenances, and environmental awareness is of utmost importance for cities’ existences (WCED, 1987). Some pioneers such as Jane Jacobs (Jacobs, 1962: 17) had started already in the sixties to harshly contest such planning practices and began to write about different possible paths that were to be vouched for.

“How can you know what to try with traffic until you know how the city itself works, and what else it needs to do with its streets? You can’t.”

In her work “The death and life of great American cities” (1962) Jane Jacobs has been perhaps the first critical voice scrutinizing in details how American cities were actually built. She concentrated her writing on the disruptive relationships between the inhabitants’ living conditions and the current planning practices. She analyzed buildings, sidewalks, the rebuilding of slums, parks, road networks and the stunning gap between their use practiced by the inhabitants, with their needs and status on the one hand, and the practical reality that planners operated when enlarging and bulldozing American cities neighborhoods. Jacobs laid the fundaments of new ways of conceiving urban development: pulling together concepts
such as diversity, mixed primary uses, small blocks concentration, fighting the erosion by automobiles, Jacobs advocated for an urban planning which could breed from this close-grained diversity and create the necessary door-to-door social-economic conditions as the base of well-planned cities, opposing her view to the supposedly innovative modernity as intended by planners at the half of the twentieth century who were progressively destroying such diversity (Jacobs, 1962).

With revolution urbain Lefebvre argued for an urban steer which could build better environments for urban populations, after the dramatic mistakes that have affected cities as conceived by neoliberal planning. These mistakes have grown out of industrialization and growth processes that occurred in Western urban areas after WWII (Lefebvre 1970).

Following this line of focusing on how people live and use cities, that is how cities should be built to create good economic, social and environmental living conditions, in more recent years the Danish architect Jan Gehl has prompted for an urban design which foster sociality through the ways physical space is built: continuing the work of Jane Jacobs, he writes about how to organize zoning, outdoor and indoor spaces, sidewalks, pedestrian and cycling areas, density of buildings and their capacity, and their overall relationships-dynamics which can avoid typical urban areas concerns as described above (Gehl, 2010).

An official standpoint to underpin the sustainable development efforts has been stated by the World Commission on Environment and Development, so-called “Brundtland Commission”: established in 1983 by the United Nations General Assembly, headed by Gro Harlem Brundtland (former Norwegian Prime Minister), it worked extensively to form the most commonly participated and accepted program on how to address sustainable development, defined as “[...] development that meets the needs of the present without compromising the ability of the future generations to meet their own needs.” (WCED, 1987)

**Sustainability: the triple bottom line balance**

Sustainability is a broad concept and it can be seen as sustained by three pillars: social, economic and environmental. As cited here above, many countries are pursuing a balance between the three cornerstones of sustainability as the only way in which a fully sustainable development can be followed. A number of characteristics of sustainability have been identified as fundamental: minimal use of non-renewable resources, social equity, protection of the natural environment, community self-reliance, individual well-being and economic vitality (Maclaren, 1996). Therefore, the attention has to be raised on solving the issues already present, such as pollution, global warming, deforestation, species extinction, ocean acidifications, poverty, marginalization, social exclusion, wealth polarization and so forth. At the same time it is crucial to put forward sets of actions that do not further compromise these themes in the future generations’ world. Sustainability concerns are often boundary-less (especially the environmental), but cities are where people, funds, ideas are gathered and then thus they become workshops in which the development is invented and put into practice. The past mistakes can be analyzed, corrected and, resting upon the three pillars, effective sustainable development can be aimed.
1.4 MALMÖ AND SUSTAINABILITY

Before

In the last century, Malmö was an industrial town, based on its important shipyard industry located in Västra Hamnen (Western Harbor). The city significantly grew after WWII, expanding at the expenses of the surrounding agricultural land acquired in order to meet the Million Program\(^1\) needs of buildable terrain. Like every city in Europe, before motorization increased the city transportation was carried out by walking, cycling, horse carriages and trams.

![Fig.1: Gustav Adolf Torg around 1920. Sustainability “ante litteram”. Source: malmo.se](image)

When automobiles possession grew remarkably during the sixties, new neighborhoods were built outside the inner city (Million Program areas such as Rosengård), previous roads were widened, new large boulevards were paved, then walking and cycling greatly decreased. Malmö was welcoming motorization (Malmö stad, 2013). Saab and Scania were also located in the city, contributing to shape its industrial character and forging Malmö as a Social Democrat stronghold.

Present days

Malmö has undergone a profound change in the last two decades:. After the crisis of the sector, the shipyards closed down in 1987 and the city fell into a deep economic and social

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\(1\) The Million Program was a governmental project aiming to build one million new dwellings between 1965 and 1974 in order to provide improved housing conditions to Swedish cities (Baeten, 2012).
crisis faced in the early nineties (Baeten, 2012). The city decided to aim for a post-industrial nature and steered prominently: the introduction of the University in 1998, the attraction of IT firms and redevelopment of the former docklands area of Västra Hamnen into a sustainable housing neighborhood have dragged the recovery of city’s social and economic status out of the swamp, towards an aimed fully sustainable status in the future (Malmö stad, 2013).

Future aim

The present position of Malmö is set within the general Sustainable Development discourse, as municipality is focused to become a world leading Sustainable City. In fact the Miljöprogram för Malmö Stad (Environmental Program for Malmö City) of 2009 clearly states the next years’ scope in the triple-bottom line of Sustainability, social, economic, environmental:

“Our goal is to make sustainability real for all of Malmö. This work must be based on how socio-economic differences affect the environmental work. Green space, air quality, noise pollution varies across the city. Urban qualities density and diversity offers opportunities. […] The goals are both global and local perspective, but also over time. The choices we make now must leave space for future generations to make their choices. The target year for the program 2020, a date that figures in the environmental context in many quarters, both nationally and internationally. EU’s goal is to reduce greenhouse gas emissions by 20% by 2020 (compared to 1990)”

(Malmö Stad 2009: 3, translation by the author).

The intentions that the municipality declare are well tuned with the sustainability description in chapter 1.3: it specifies that one sustainability pillar cannot be considered without the others, as well as that the challenges and perspectives are both local and global.

Moving down to the traffic step it is stated:

It is claimed that walking, cycling and public transport should ‘form the norm of the city’ and that these travel modes are complementary and should therefore be collectively planned (Malmö Stad, 2012: 2). This norm of ‘green’ travel modes needs to be attractive alternatives to the car if the aim of reaching a ‘long term sustainable transport system with high accessibility for everyone’ is going to be reached.

(Malmö Stad, 2012: 22).

Stating that this planning should “form the norm of the city” present Malmö’s intentions as clearly identified and agreed.

Concerning the mobility problem, the city is working hard. In a worldwide context, in fact, transportation is considered to be responsible of around 30% of total greenhouse gas emissions (Newman and Kenworthy 1999) and it is a highly determinant issue for cities correct development; consequently, Malmö is truly committed at encouraging alternative transport modes instead of automobiles. The progresses on public transportation have been remarkable in the last ten years after the opening of the bridge over the Öresund strait
connecting Denmark to Sweden. This prompted the ridership of public transport, with Malmö and Copenhagen as central cores. The expansion of public transport networks operated by Skånetrafiken, public transit authority serving Skåne Region, counts now around 250 thousand trips per day and 140 million per year (skanetrafiken, 2013). With a population of over 1.2 million people, it is a significant result.

Malmö has actually achieved a good international reputation of being very cycle friendly, ranking the seventh place worldwide in an index by Copenhagenize.com in 2013 (copenhagenize, 2013). Not surprisingly, 467 kilometers of bicycles paths runs around the city area and the connections with nearby municipalities are provided as well (Malmö stad, 2012). Having around 300 thousand inhabitants, that is more than 1.5m of bike lane per capita and considering that not every single citizen use the bike (elderly, children, pedestrians, motorists, public transit users, etc.) then the scenario for a bike commuter becomes even more positive. This has been achieved by the efforts undertaken by Malmö stad within the general sustainability objectives and the tendency is to keep on working in this direction.

The shift that the city is undertaking on the mobility side is well proved by a couple of traffic calming examples which are favoring pedestrians and cyclists:

Fig. 2: Kaptensgatan has been closed down to the traffic and now it serves as a main biking artery. The counter (left) monitors how many cyclists pass per hour.
Source: author

Fig. 3: Claesgatan is traffic-calmed, allowing safety for cyclists and pedestrian. Other streets in the inner city have had this solution implemented in the recent years.
Source: author

The municipality intends to reach a condition of being car-free within the inner/old city, with traffic to be calmed in the rest of the municipality area. The next step is defined to be an augment of cycling modal share from the current 25% to 30% by 2018 (Malmö stad, 2012).

Thus, an important steer in public policies, inhabitants’ behavior, leading views on economics and on planning in general seems to be a rather established need in Malmö, in its region and Sweden in general. Is also plain that the hard planning measures are not effective enough in themselves to reach the aimed upgrade in mobility. The whole city has to work in this direction.

Traffic calming is a planning intervention aimed at reducing the speed of cars, favouring pedestrians and cyclists, whose are given priority (Monheim, 2003)
direction and not only public authorities. Precisely because urban issues are understood as complex and interrelated, the decision to analyze the most relevant cycling initiatives in Malmö can be helpful solving urban complexity at least to an adequate extent.

1.5 PREVIOUS RESEARCH

Automobile dominance

Aiming to solve problems derived by the industrialization city expansions, such as lack of green spaces, social inequalities, poor housing living conditions, saturated road networks etc., the twentieth century planners and architects have instead set the basis for a new emerging problems cluster: building low-density urban sprains that would allow higher green ratios per capita and adequate housing (Wheeler and Beatley, 2009), they put the mobility issue on the wrong tracks: the need for a private vehicle to cover longer distances has become urgent and unavoidable. When the car industry boomed (during the 50s in North America, 60s in Europe), the dominating economic pattern was considerably fitting the needs for job markets, wealth and capital circulation, infrastructures to be built to provide the bigger urbanities with suitable accesses. This, in turn, led to progressively dismantling of public and cycling transportation which were largely present until then (Newman, 1999). Highways entered cities, parking lots substituted green areas, road networks increased intensely. All these factors have contributed to redefine mobility in Western cities as mainly automobile-based. The car-selling increased from around 50million during 1950s to circa 600million vehicles in 2010 (Worldwatch Institute, 2013). Eliot Hurst (1981) drew a link between Metropolitanization, automobilization, suburbanization, urban sprawl, suburban dispersion, slurbs, rurban areas and the automobile ‘consumption’: the capital-based economy, who promotes individualism as the main source of personal success in creating good living conditions, push inhabitants to buy, use, sell and change cars.

As argued by Jacobs (1962) and Gehl (2010), denser cities with small blocks mean shorter distances to cover during daily life: this allows for small local businesses to flourish, sociality to nurture in the pedestrian streets, green spaces to be perhaps smaller in size but more numerous and meaningful. This scenario is only possible if urban transportation sees an augment of the so-called soft mobility: namely walking and cycling.

Cycling, its various dynamics and their importance

While an efficient and capillary public transport system could cover the need for long distances which would clearly remain to be covered, even when such argued neighborhoods are built, the soft mobility promotion, at the same time of a reduced car use, represents the only way to achieve Sustainable Transportation, defined as ‘transport that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED, 1987)
However cycling is more complex and interrelated with many other urban factors than something that only needs a cycle lane to be built. Indeed, in the countries where this motorization reduction has happened mostly in favor of cycling, such as Denmark and The Netherlands, cycling infrastructures provision played a major role in how these countries have successfully raised their cycling rate to remarkable results: the capillary bike paths network has allowed to have the highest cycling rates of the total modal share: 19% Denmark, 26% The Netherlands (Fietsberaad, 2009). However, as many contributions and theories on cycling have pointed out, the concept of urban cycling has to be comprehended considering its internal diverse dynamics (listed below) on the one hand, and with the relations that it ties with the surrounding environment on the other. Beyond the infrastructures planning topic, the researchers stress that is especially important to move further and not to consider cycling itself as such, but also a number of factors that contributes to shape and greatly influence it:

- Cycling and social inclusion – Jake Elster, 2003; van der Kloof 2003
- Gender issues – Bohnam and Wilson, 2012; Lehner Lierz, 2003
- Advocacy role – Aldred, 2012
- Workplaces organization – Horton, 2007
- Integration with other means of transport – Gehl, 2010
- Theft – Mercat and Heran, 2003

The themes mentioned above will be the theoretical standpoints utilized in the analysis chapter. For the possibilities and scope of this work, only a limited number of concepts and theories can be applied to Malmö as of its status in 2013.

1.6 LIMITATIONS

Walking is part of the soft mobility as well as cycling, for discussing Sustainable Transport as a whole. And a discussion concerning planning alternatives to car traffic would necessarily require to include it in the discourse. Further, a quantitative analysis assessing the impact of the analyzed measures, initiatives, business activities on Malmö transport modal share would complete the qualitative analysis presented here. These two aspects have not been part of the work due to resource constraints.

2. METHODS

2.1 QUALITATIVE RESEARCH

I choose to contact and take into consideration the main players that can have a significant impact, create jobs, bring along innovation, give visibility to cycling and explore future possibilities; the single bicycle users, as the normal citizens-commuter, are not taken into the analysis. In fact, including them in the dissertation would have required an extensive quantitative analysis (in addition to the qualitative one presented here) in order to assess the
impact on the cyclist modal share of such surveyed initiatives. I am aware that the previous research generally adopts quantitative analysis when surveying cycling and surely it represents the most effective approach. However, especially because of the purpose of this work, qualitative analysis has been preferred.

Hence, I chose to put my focus on some sample initiatives that can be regarded generally as attempts (more or less successful) to further encourage cycling as the leading sustainable mobility choice. Innovations, attitudes, awareness and many other aspects of the analyzed situations are better framed and discussed in a qualitative work that aims to scrutinize their potential directly with the project leaders/responsible, rather than with those who are affected by its development.

This is for two major reasons: first, this work’s aim is to be seen as a preliminary research on Malmö’s cycling initiatives ‘pool’ and most of the analyzed facts are very recent. Therefore in some cases it would have not been possible to access data of the results. Second, resource constraints did not allow to complete the analysis with a quantitative research surveying the cyclists.

The selected data collection tool has been semi-structured interviews with referents of several examined activities. Numerous are the advantages provided by semi-structured interviews:

- they allow to perceive and revise the intentions that lie as foundations on which the whole project/activity/business is built on. The critique expressed in the analysis will show how important are such intentions, although the outcome might not be completely displayed yet.
- the interview guide served as a base for what sometimes became a discussion over the topic, allowing me to pick up concepts expressed earlier or later by the interviewee and go deeper into that because of its relevance. This might be beyond the interview guide.
- the flexibility of semi-structured interviews is of great importance when it comes to having little background material on which to prepare, new projects or activities that have not been started since long, when in their trial phase, when stopped by hindrances, even when the interviewee has not really prepared him/herself. All cases that occurred during my work.

(Bryman, 2008)

The following step was to base my writing on grounded-theory concepts, as the different puzzle of the surveyed activities began to find clearness and structure, after reflection and critique. Grounded theory is described as an approach that generates theory out of the data already collected. There is also some lack of agreement in defining grounded theory, in fact it is also stated than it generates concepts, rather than theory as such (Glaser and Strauss, 1967). This is what happened during my research because during the data collection some practical concepts, for example theft awareness and measure to prevent it, originated out of the interviews. The utilized literature has mainly borrowed from the sustainable mobility discourse. Academic Search Elite was the main utilized database as it allows a wide freedom to the researcher, yet picking very significant contributions.
2.2 LIMITATIONS

The limitations of such an approach are self-evident: not every cycling-related situation happening in a medium-size city can be discussed and put into discussion; furthermore, the risk of preconception and biased analysis are always close when it comes to tie together, in a sort of pattern, situations that can be particularly diverse, different in scope, practical means through which they operate, ultimately in their reach.

The limitations are represented by the fact that urban cycling literature is mainly focused on its relations with infrastructure and with motorized traffic planning discourse, and their re-thinking. This was not central to my work, but only in the background and in the analysis part related to the municipality’s promotion initiatives, so it has proven to be tough to find appropriate scientific contributions which could reflect the diversity of my data.

As described in the Introduction chapters 1.1 and 1.2, contemporary urban managers are nowadays sometimes dramatically recognizing and raising their awareness on how essentially wicked urban challenges are. Thus, an important limitation of this study is that I surveyed only some of the bike-related examples of how Malmö is addressing cycling and sustainability.

Researches and other types of contributions (website like worldwatch.org, etc.) that frame and discuss Sustainability applied to the cities are enormous. As stated above, the possibility to let the theory ‘emerge’ out of the depicted scenario presented in the following chapters (Analysis, Discussion) has been regarded as the most fruitful approach. For the simple reason that, apart from the clear cycling-based existence, often there are no evident theories that in the small scale roots the different analyzed cycling initiatives, precisely because of their diversity in scope, organizational status, practice and so forth. But, as stated in 1.3, seeing the wider picture of what sustainable urban development is and how is articulated, the connections can be seen.

3. THEORY

This chapter establishes two main theoretical standpoints that will support the Analysis chapter: Cycling and social value – Public authorities’ responsibilities and strategies. Both contain a number of different concepts that support the analyzed initiatives at times they interrelate each other.

3.1 Cycling and social value

As mentioned before in the introduction chapter, if cities aim to reach adequate of sustainable development, transportation has to be planned taking into consideration broader arrays of themes than what planners typically do. If the environmental sides of cycling are generally present in policies and mentalities (low gas and noise emissions, less material usage, etc.), the social values are less granted. It can happen that certain groups of inhabitants do not cycle, for example, and most of them might have reasons that could fall outside urban planners’ perceptions or it might not be given the sufficient consideration (see first two points below).

Three concepts have been identified from the data collection and will be used in the analysis at chapter 4.1.
CYCLING AND SOCIAL INCLUSION/EXCLUSION: Jake Elster (2003) brings out the significant issue of cycling as a helpful mean of transport for low-income housing estates, which often are poorly served with connections to the rest of the cities. This implies difficulties to access the city productive system (job, facilities, services, etc.), therefore it may lead to social exclusion. Cycling courses play a determinant role in social-inclusion too, and van der Kloof (2003) explains how foreign women in The Netherlands have successfully enhanced their sense of integration and emancipation after having taken cycling-classes. Being in a high cycling rate country without being able to adapt, it can be problematic on a personal self-confidence and emancipation level, than trigger social exclusion issues.

GENDER ISSUES: moving from social exclusion, gender on bicycle usage and maintenance is crucial as well: women often drop cycling for some dozens years and return to it later, often with a specific reason such as fitness, hobby while retired, etc. (Bohnam and Wilson, 2012); women transport needs are different and have not been acknowledged enough in the cycling discourse and conferences debate: Lehner Lierz, (2003) claims that basically the transportation discourse is male-centered, and so is the planning. Showing data that motorization is dominated by men and that women walk and cycle more, she argues that transport planning should take more into account the women transport pattern. Taking care of the house and children is still largely a women duty, thus often the needs for daily transportation are different from men. Furthermore, bicycles maintenance and fixing are also largely considered a male affair. (Lehner Lierz, 2003)

ADVOCACY: advocacy’s role has always been regarded as constantly connected with social identities, groups and local contexts (Aldred 2012). During the rise against the car-based planning happened in Europe between the late 1960s and 1980s, several forms of cycling advocacy activism emerged out of already defined societal groups working classes, anti-capitalistic movements, left political parties, feminists, etc. Nowadays cycling advocacy is less fragmented between social groups that want to promote it. As stated in the introduction 1.3, a general agreement that cycling can sustain the future transportation is widely reached among most of society. The social conflicts of the seventies that exploded around the United States and Europe are behind, and after social rights have been widely improved with important reforms, cycling is now endorsed by common people with no specific aggregation intent (Aldred 2012), as displayed in chapter 4.1.

3.2 Public authorities’ responsibilities and strategies

The importance of long-term and short-term policies aimed at raise cycling shares is crucial for achieving sustainable transportation first, development after. If is plain that people decide which transport mode they choose, public authorities have the responsibility to put the inhabitants in the state of having alternatives. There are different ways of reaching high cycling rates, and they should be carefully considered by city officials and planners when planning facilities, advertising, generally proposing alternatives to the automobile.
“PUSH AND PULL”: Rietvald and Daniel (2004) stress that policies adoption by public authorities remains at the crucial stage of cycling implementing and policy makers should use a “push and pull” inclination: cycling attracts commuters if made cheaper and more convenient but at the same time driving has to be made more expensive and less convenient. In the long run, rising car-parking costs is proven to augment bicycle use (Noland and Kunreuther, 1995) because inhabitants eventually will find out that cycling suits better their needs to move around inner cities where pedestrians and cyclists are fully prioritized by the planners. Congestion can lead to delays in travel time for every mean of transport (Rietvald and Daniel, 2004). For this reason, cycling routes needs to be direct and with less frequent stops. Then long hauls can be covered in a shorter time than what a car would take, and this is highly counting in how people decide to commute.

HOUSING AND WORKPLACE ORGANIZATION
Horton (2006) claims that some pro-cycling efforts paradoxically produce fear of cycling. This is due to the fact that transport mode choice is often strictly connected to a certain polarization of identities (cyclist-motorists) that should be avoided (Skinner and Rosen, 2007), local context and rhetoric of “self and society” that should be taken onboard, as well as the workplace structures and their pro/anti cyclist organization (Skinner and Rosen, 2007). A wide range of factors contributes to the modal choice: “individual, domestic and work-based assumptions, obligations and priorities”. Sometimes all these factors contribute to depict cycling as dangerous or a risky activity and this is often unconsidered in cycling urban plans and policies. Organizing domestic and working spaces in the way they can match with cycling commuting has to become intrinsic in the building/facilities planning (Rosen and Skinner, 2007).

INTEGRATING TRAVEL SOLUTIONS
Integration with other means of transport should be necessarily provided, especially in the large cities/metropolis. Gehl (2010) proposes Copenhagen as one of the best examples of successful cycling-transit integration on regional and local transport networks, bringing the example of Copenhagen taxi equipped with a rack than can allocate two bicycles. Furthermore, the local-regional train can host several bikes, making it easy to commuters to cover long distances. This, put forward with a walking-cycling prioritization of the city center, is proving to be very successful in reducing car trips even in a medium-big size city such as Copenhagen. This side of cycling promotion by public authorities is crucial because it operates a fruitful joint between sometimes very disconnected means of transport (Gehl 2010). Building infrastructures that can put commuters in the condition of finding a spot where they can combine different solutions make them feel prioritized and taken care of, acting as an encouraging factor in establishing the route home-work without having necessity of an automobile.
THEFT AWARENESS
Mercat and Heran (2003) argue that theft is the principle factor against cycling raise and that theft awareness is still too limited. Even in north European countries were cycling rate are the highest (Netherlands, Denmark, Sweden), the theft rate is the highest too. The research claims that this is due to a combination of two factors: bicycles left on the sidewalk because of their daily use (in contrast with southern European countries were cycling is still more a leisure activity, so bikes are secured in private properties) combined with a certain lack of awareness of theft risk and low ‘bicycle-status’, i.e. poor care and maintenance. They further stress the importance of informing the cyclists, especially the new ones, about the problem and campaigns should be enhanced in April and May, the period of highest theft rates. Furthermore, safe parking facilities in proximity of stations and apartment buildings is essential (Mercat and Heran, 2003)

3.3 Participatory design and Social Innovation

The cycling related factors discussed above can be regarded as a multiple series of ‘voices’ that needs to be considered when planning urban spaces. A prominent contribution given by MEDEA – Malmö Living Labs, is helpful in trying to organize such a variety of voices. The researchers are not focused on cycling projects, but generally on projects design. Indeed the vast majority of cycle promotion policies take place in the form of short or long term projects and most of these are undertaken by public authorities because often they are the only subject able to put the required budget to run them. Cycling projects involve a wide array of stakeholders who of course tend to want their interests to be satisfied: for example, a supermarket management would prefer to have parking lots instead of a cycle path on one side of the street, whereas commuters indeed the opposite. Conflict then might arise and jeopardize the eventual success. Nonetheless, both their views should enter a constructive discussion.

The following reviews should be read bearing in mind the fact that they provide tools to be used later in the analysis chapter.

Participatory design: start things, let them roll, and listen

Björgvinsson et al. (2011) argue for a shift from the concept of project design to Things design for better addressing Sustainability concerns: as innovation has become more available to the mass society, through technological and information-access widespread, participatory design is now changing towards a more inclusive and relational environment. The traditional participatory design had fixed time and set-goal frames, whereas Things are now open-ended, long term, fruitful relations between a broad scope of stakeholders which are often gathered through an agonistic public space, a place where instead of being antagonist hence unproductive, different instances are raised and intertwined, with the common goal of

3 Medea Living Labs exists within Malmö University. Since 2007 it has carried out around 30 design experiments and bottom-up long-term collaborations with different constellations of stakeholders.
providing new solutions to particular sustainability challenges, mainly linked to social and democratic issues (Björgvinsson et al., 2011). The designers now organize these set of actions (experiments, workshops, meetings) in which very often unforeseen positive outcomes arise from this arena of differences. Therefore, to “democratize innovation” (Björgvinsson, Ehn and Hillgren, 2011) in a sustainable transportation context is clearly a challenge: top-down projects are largely common (public transit networks, biking lanes, parking facilities) and most of the time their design process does not involve the final beneficiary, such as travelers. The re-thinking of traditional solutions posed to Urban Development problems should consider antagonist voices as possibilities, not anymore as concerns (Björgvinsson, Ehn and Hillgren, 2011). According to the authors, planners and designers have the role of setting up such environments, coordinating and evaluating outputs, enhancing this social and democratic innovation: this is called infrastructuring.

Social innovation and Prototyping

On this premises, Hillgren et al. (2011) drew the concept of social innovation as the gathering of ideas and solutions in order to address present concerns by encountering societal needs and sparking a will-to-do into the actors who previously were excluded by the problem solving design practices. Social innovation is put into practice by prototyping: drawing from the previous research, prototyping is testing and refining ideas through iteration, trial and errors. This allows to add strength to the coalition and solve conflicts (Murray et al. 2010). The Young Foundation (2011) argue for slow prototyping “as a process that can be used in situations where new capacities are necessary for a new model to succeed and where a more organic evolution is preferred” (The Young Foundation, 2011). Closing the loop, Hillgren et al. (2011) believe that prototyping should not remain focused on a rapid test of users’ experience of a future service, but it should evolve into long-term collective moments where multiple voices are heard and take actively part in the projects, Things as called by Björgvinsson et al. (2011). Thus, social innovation using Things represents the only effective tool to address Sustainable planning problems that are inherently wicked, because they trigger from heterogeneous societies which are getting increasingly diverse (Hillgren et al. 2011).

4. ANALYSIS

The chapter 1.2 (Problem Formulation) contributed to problematize “cycling”. As this chapter will demonstrate, complex and diverse dynamics take place within an urban area. In fact mobility affects almost every single citizen daily, it is a considerable share of the economic fabric (consider the enormous budgets that it moves), it creates numerous jobs, it prompts social connections (chatting on buses, arguing at traffics lights, cycling in pairs on bike lanes, etc.). Cycling is not an exception. It includes these macro-aspects but adding more complexity. To explain why, let’s briefly consider public transit. Taking a bus, tram or train does not require particular skills, it doesn’t spark any possible social conflict. Precisely for the reason that users do not take actively part in the travel but are just being carried, complexity is reduced. It’s rather hard in fact to try to problematize a bus user’s identity and behavior,
he/she simply needs an initial good compromise between his/her need and the offered service (trip costs, frequency, route), then he/she will just hop on the bus and ride (rather) happily or not. Cycling, instead, can be observed by many different angles: does every social group ride or not, which bikes do people ride (scraps/regular/pricey artworks), what behavior is kept on the street, is the infrastructure adequate to support cyclists, is there conflict or positive integration with other means of transport, do the cyclists have a say in the planning, is theft a deterrent and so forth.

Combining these questions with the theory expressed in chapter 3 will allow us to go deeper into Malmö bicycle related initiatives.

4.1 Cycling and society: the role of social inclusion, gender and advocacy

**Hilda and social inclusion**

Malmö is determined to work collectively towards a sustainable future. Although some progresses in this regards have been clearly achieved, as stated in the Introduction (1.2), significant pockets of general social concerns remain. In the city outskirts neighborhoods of Rosengård, Lindängen, Holma and Krösback unemployment is around 70% (Malmö stad, 2012), non-native Swedes constitute the large majority of residents and a successful economic and social integration with the rest of the city is rather lacking.

Hilda is a large housing renovation project set in Rosengård which aims to refurbish the 50 years old dwellings of the area, built during the Million Program. This will improve inhabitants living conditions, then social and economic status (HSB, 2013). Run by HSB, one of Sweden biggest housings corporation, it is described as “a ground-breaking project driven by its members’ commitment to economic, social and environmental sustainability” (HSB, 2013). In addition to the buildings renewals, an electric bicycles sharing pool has started in order to encourage residents to bike and reduce carbon dioxide emissions as specified in the objectives (HSB, 2013). Robin Cluley is a Hilda board member and he was interviewed about the bike sharing project. It was initially asked about the degree of importance that this project has within whole Hilda program:

*Fairly important but the building refurbishment is the top priority. This has almost finished, we just need some exterior renovations that would take approximately one or two years to be completed. We’d like to get started on the bike projects but we have economic constraints.*

As seen in the theory chapter 3.1, Elster (2003) argued about cycling being a crucial asset to help inhabitants of low-income housing zone to access the city. Furthermore, the triple-bottom line of sustainability matter pursued by Malmö municipality (see 1.2) is seen through the general awareness that cycling can simultaneously reduce emissions, providing access to employment, save budget. In this case cycling is not regarded as having the same importance degree as the buildings renovation. Despite the municipality objectives coincide with Hilda’s ones, the electric bikes have been leased but currently they are stored in a room, not given out
yet. In addition to the budget priorities which disadvantage the project to kick-off, also organizational hindrances exist:

> We need good solid and safe storage rooms and that is a cost as well, as well as a system with which a user can take only one bike and not more.

The general intentions but not the practice support Elster’s point, because a possible solution to local inhabitant problems has been identified, but many hindrances are still on the way. The quotation also ties to theft issue examined at the end of chapter 3.2. Mercat and heran (2003) maintain that theft awareness is crucial and needs to be prompted. As we will see further in this chapter, this is true for Malmö city as a whole, but at least Cluley secured Hilda bikes safely, realizing the risk.

As described in chapter 3.1, the gender issues are very actual in the cycling discourse: the need to include women in the same rate as men in bicycles usage and fixing is high (Lehner Lierz, 2003; Bohnam and Wilson, 2012). This is for the reason that often they tend to self-exclude or being indirectly excluded by the different dynamics expressed at 3.1 e.g. not being able to ride bicycles, being unable to use cycling for their daily necessities and so forth.

An issue that Cluley raised is that foreign women (mostly from Iran, Iraq, Somalia, Yugoslavia) living in the area often are not able to cycle because of the traditions of their belonging countries, so the project should aim at them especially, however the board has not clearly identified the stakeholder structure, as the following question-answer display:

- “Have you pointed out who might be the most participative, collaborative or active in the project (youngsters, elderly, families) or the hardest to involve?”
- “I can’t really answer that. Anyone who could ride a bike safely. Even elderly people could be interested, because it’s a way to make it easier to cycle. We haven’t really targeted yet.”

Again, the project leader is aware of what could be a deterrent for a cycling implementation in Rosengård but, because of the constraints expressed above, he cannot correctly prioritize the steps and identify who could be in need of such a project the most.

**Cykelköket as a social value creator**

As van der Kloof (2003) claimed, cycling courses can be decisive in the perspective of removing social disadvantages. In this regard it is interesting to mention the Cykelköket (Bike Kitchen) organization in Malmö. Bike kitchens are “do-it-yourself” bicycle workshops widely spread around Europe and North America. Generally free of charge (but every local workshop sets its own access procedures), they are usually run by volunteers who provide physical space, tools and knowledge to anyone who wants to fix or build his/her own bike. Set in the context of a recycling attitude, gender equalities, criticism of the current capitalist socio-economic system, bike kitchens generally aim to raise the people’ self-knowledge about bikes as a practical mean to put this critics into practice⁴. Malmö’s bike kitchen is located in the

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⁴ For a more extensive look into the subject see “Shift happens! Critical Mass at 20” Carlsson, Elliott, Camarena, 2012
Västra Hamnen newly developed area mentioned in chapter 1.2; being regularly attended it is widely contributing to render the area lively. The project’s responsible Bertil Björk was interviewed and he stated that one of the aims of the initiatives is to involve more women in the cycles fixing environment. In fact, several efforts have been undertaken in this regards:

- We arrange courses. We have seen that that many women want to have this form of introduction to the workshop. We will not tolerate any form of sexism in the workshop. [...]
- We prefer to recruit female employees when we can. We try to keep the shop clean and tidy because we see that it is appreciated by women. We have an encouraging attitude, "it's clear as hell that you can! Try!" We have a close look at the percentage of women vs. men and talk constantly about what makes the numbers change. A typical example is that we have a higher percentage of women in outdoor workshop. Therefore, we increase the opening hours there in the summer. We did try to have only-girls-nights, but it was no success.

The fact that Cykelköket in Malmö is seriously committed to the extent expressed by the above citation can be evaluated as a very positive asset in general for women in the city. It provides a place where women can attend totally free of prejudices of bike fixing being acted as a masculine activity. Comparable to the punctual problems’ identification in Hilda (budget, women participation, theft), Cykelköket has successfully identified what is one of the issues that society and cycling face and the way to positively address it (higher percentage of women in outdoor workshop – increased opening hours, as just one example).

The last concept surveyed here is Advocacy. Over history cycling has always been forged upon social classes and groups, as reported in 3.2. Feminists, leftist and environment activists, working classes, etc. were, in a way, opposing a status-quo during the various phases of the twentieth century (Aldred, 2012) forming parts of the backbone which radically contested urban planning neo-liberal practices as reported in 1.1.

In Malmö’s Cykelköket this classification does not happen. A peculiarity of the bike kitchen is that there is no membership required and, as for the gender issue quoted above, it does not turn to any particular group:

The public of Cykelköket is not a special group, it’s just everyone...cyclists. And one of the reasons, I think, is that we are located in an area that is like a city center, it belongs to everyone... you have the skate park close by, expensive houses over there, the university, all the industries that still exists so...it’s very mixed.

Many years have passed since class struggles of the past century and this inclusive environment is developed in the absence of social conflicts. The mixed use planning of Västra Hamnen permits to have a situation in which firms’ offices are located next to residential areas (one of which will be analyzed later), to the University, to a few industries left, to leisure locations such as the skate park and boulder facilities. If an attendant for each one of these situations was to be imagined, a bicycle surely could represent one common denominator. A flat tire too.
4.2 Public authorities’ role in cycling promotion

As presented in 3.2, the discourse on public authorities in cycling promotion is wide and in a general agreement on a major point: within their prime role they need to adopt a broader perspective when involving stakeholders and/or identifying obstacles (Rietvald and Daniel, 2004; Noland and Kunreuther, 1995; Horton, 2006; Mercat and Heran, 2007). Their role is prime because they have to perform a task and have resources to do so, before people start cycling: building proper infrastructures and services. But as stated at 1.3 an analysis of the hard measures put into practice by the municipality is not in this work’s scope and possibility. However, it is interesting to look at one of the cycling facilities built by the municipality, in the viewpoint of a broad perspective when providing infrastructures to cyclists. This has been identified by the researchers as a constructive approach public authorities should adopt, rather than simply paving a bike lane on the street, before turning to the ‘soft’ measures.

In Malmö an example that move in this direction are the Bike & Ride (B&R) cycle parking facilities located at the City Tunnel train stations: Hyllie and Triangeln ones are already open, at Malmo Central Station is estimated to be completed by next autumn 2013 (Malmö stad, 2013). Each B&R is intended to rationalize the high number of bicycles parked around train stations and it offers more than 2000 places for parking bikes safely, most of them are covered and they all have the possibility to lock the frame. 234 spots are available in an enclosed area accessible with the Jojo travel card for 80SEK/month. Furthermore, a workshop, air-pump and a café complete the wide service offered to commuters. Frida Beijer from the Mobility Management Office has been interviewed:

“The intention of B&R is to make it easier to change between bike and public transport and making the cyclists feel prioritized and taken care of. Also, to make it a nice place where to be, not just a bunch of parked bikes...someone has been thinking, it cost a bit of money and to state it obvious that the city takes care of cyclists. The City Tunnel is a big thing in Malmö, a lot of budgets, planning and efforts have been spent, as a part of that of course you need to think about how to connect people to the train in different ways. And bikes are of course very effective in this regard.”

Horton (2007) has long discussed about the importance of also taking into consideration the organization of workplaces as an important fraction of a daily bike ride to work. If obviously Malmö stad cannot ensure that all the commuters find suitable facilities in their workplace to help them cycle even long distances (changing rooms with showers, cycle garages, etc.), at least the B&R intervention fills one (or some) of the deficiencies that daily cyclists encounter on their way between home and workplace. Furthermore, they are modern, good-looking and comfortable and this acts as an encouraging factor. The success of this facility is definite and evident:

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5 For more information on Malmö City Tunnel see http://www.malmo.se/citytunneln
Gehl (2010) underlines the importance of having good connections between different means of transport in medium-large cities. Copenhagen’s cabs, for example, are provided with back racks to carry two bicycles and boarding local and regional trains is possible for cyclists as well. This happens on the Öresund train that connects the two cities, but in Malmö taxis are not equipped in this way. Nor are the buses (run by Skånetrafiken), which network is capillary and citizens heavily rely on. Therefore, the interviewee was asked about the possibility to load bicycles on buses providing them with a front rack following the example of Portland in the United States (PBT, 2013):

*It’s possible to take bikes on train. I guess it’s up to Skånetrafiken, it’s their buses.*

As referred to the discourse at the beginning of this chapter, the wider approach that public authorities should have in the dialogue with the stakeholders is important: Malmö Stad does not consider having a role if bikes should have the possibility to be carried on Skånetrafiken buses.

Counteracting the positive outcomes achieved such as Bike&Ride and alternative transports (good public transit and biking solutions), Malmö stad is not making car usage more expensive, as prompted by Rietvald and Daniel (2004). The parking lots are continuously built instead of reduced: for example, in Västra Hamnen much effort by the municipality is concentrated towards creating a more sustainable environment as already mentioned. However, the large un-developed areas, which will be progressively filled with housing in the next years (Malmö stad, 2012) are now serving as parking lots.
Another counteracting aspect of how the municipality is addressing cycling implementation is the theft issue managing. In 3.2 it is stressed how being aware of bicycles robbery should represent a central piece of the strategies’ pattern that municipalities adopt (Mercat and Heran 2003). Not secondary, users’ awareness is determinant as well. As most of the cycle-friendly cities, Malmö hosts thousands of bicycles on the street, often overnight, so the theft rate is rather high (Mercat and Heran 2003). In 2010 almost 6000 bikes were stolen, according to official police reports (Skanskan, 2012). Olle Evenas, traffic planner at Malmö Stad at Streets and Parks Department, was asked about possible adopted tactics about this concern:

_We have neither allocated resources nor campaigns towards fighting theft at the Parks and Streets Department. We don’t get so many reactions from the citizens. But every now and then some people write to us asking for frame lockable racks. The front wheel rack has been standard for several years and approved as a "city furniture" that goes well together with our trash cans, benches and so on._

This mentioned front wheel racks are the large majority of bike parking racks in Malmö, and they are not safe against theft. A partial solution comes from the new Bike&Ride facilities responding to the citizens’ demands for an upgrade of the parking racks. Combined with the fact that commuters can really feel that the municipality has taken care about them as mentioned in the citation above, and it complies with what Mercat and Heran (2003) recognized being a very important step for cycling promotion by public authorities. On the other hand, the fact that city departments and citizen themselves are not fully aware of bicycle theft as a major concern indeed may work against an ideal bicycle urban context.

On the soft measures side, Malmö has successfully run different awareness campaigns to encourage cycling, (see “Kampanjer”, Malmö stad, 2012). One of them has been analyzed and here briefly reported.
“Pendla med cykeln” (Commute by bicycle) was run for two weeks in May 2012. Considering a remarkable rate of commuter traffic coming from outside the cities every morning, it aimed at raising awareness in the households between Malmö and Lund about the existence of a cycle path connecting them to the two major cities. Further, it intended to show the benefits for the single commuter (economy, health, flexibility etc.). Another target were the cyclists already using the path; they were informed about the infrastructures being monitored and taken care (Malmö stad, 2012). This project shows that cooperation between several stakeholders (different municipalities, the region, European Union) is part of Malmö municipality strategy to pursue a cycling improvement. A follow up report to evaluate the campaign was filed (available in the Appendix). The project leader Joanna Christensson stated in this regard:

_The evaluation shows that our message reached our target groups to a large extent and that some of the respondents have a more positive opinion about commuting by bike and also that some, due to the campaign, have started or have intentions to start to commute by bike._

This supports what researchers have argued as key-important, i.e. adopting a broad perspective, that is, in this case, contacting again the stakeholder and see what changed and how.

### 4.3 Participatory Design and Social Innovation in cycling promotion

The last part of the Analysis tries to combine the theory of democratizing innovation through novel design tools with four cycling related initiatives in Malmö set in three different contexts: Fullriggaren cargo bike pool (Malmö stad project), Cykelköket (see above 4.1), BudBoys and MoveByBike (cyclied transport companies).

As mentioned previously (1.2), the Västra Hamnen area in Malmö is undergoing a lot of attention by the municipality. Fullriggaren is a recently built part of the area and 40 cargo bikes have been introduced in the buildings by the municipality, in cooperation with the housing firms BoTrygg-ByggVesta-Hsb. The tenants share them in their daily life (grocery shopping, bringing children to school, moving goods, etc.) avoiding to use the car for errands that a normal bike could not be helpful with. The project started in September 2012 and it ran for sixth months as a trial phase. Frida Beijer (see 4.2 above) contributed to help analyzing the project in the preliminary evaluation stage. Being run directly by the municipality in the trial phase, the plan is to leave the housing companies fully run the project.

- “Are the developers in the area (BoTrygg/ByggVesta/Hsb) positively oriented? Will they embark in running the project? If yes, will it be 100% run by private companies or will the municipality monitor it?”

- _The bikes have been really well used. We haven’t really started to trying out ways to make it permanent solutions, we are still getting information and_

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6 The campaign was part of an EU- and Interreg IVA funded project ran between 2010 - 2012 called Öresund Som Cykelregion (Öresund as a cycling region). For details see www.oresundsomcykelregion.nu.
The shift from project design to Things argued by Björgvinsson et al. (2010) is rather well exemplified in this cargo bike pool project: the municipality has put the initial effort (planning, budgeting, dialogue with the stakeholders, evaluating), so then the inhabitants just utilize a service that has been provided to them; but later on they will have a voice in the project’s continuation. The flexibility and unstrict approach that can be recognized in the quotation confirms that this project can be seen as a Thing in the way the researchers put it: “socio-material relations where matters of concerns can be dealt with” (Björgvinsson et al. 2010). It addresses a Sustainability concern with an innovative approach such as Infrastructuring, as a responsibility of Malmö stad: the municipality ties connections between the stakeholders (tenants-owners company) with an open structure that is flexible in time and resources (Björgvinsson et al. 2010) and allows to important modifications to be potential in the future, such as who will be in charge of running the project or possible extension to other areas. One drawback of this cargo bike sharing system is that tenants have informed about some difficulties in organizing the bicycles in their garages, given that there is no single and dedicated space yet, they are forced to scatter the bicycles around different garages, so even the pickup/drop off is sometime difficult. This support both the importance of considering work/living place organization when planning for bikes (Horton, 2006) as well as a more participation of the stakeholders in the project design’s process (Björgvinsson et al., 2010): considered the strong focus of the municipality in Västra Hamnen, such a solution should have perhaps been elaborated before the building process started.

Cykelköket has been partially discussed already (see 4.1), but its activity seen through the participatory design perspective represents a potentially crucial asset for Malmö and its cycling promotion, as the project leader Björk described the core intentions that underpin the organization:

We want to upgrade the status of the bicycle here in Malmö and in Sweden as well. You know...if someone steals your bike you just say ‘It’s a pity, I’ll buy a new one or I’ll talk to my insurance company.’ But if someone steals your TV set, which is priced about the same, you go nuts right? So the status of the bike is not that big and this is also reflecting in everything...in how we plan for traffic, in how we transport bikes, how we maintain it, in how we park it and so on. So it’s a status thing, we want to raise it to a better status. We want the bikes to be on the street, to be a good transport for people.

If a such a place exists in a city, is attended by citizens and supported by the municipality, it plays the crucial role of closing a chain of optimal causes-effects loop that can undoubtedly act against bike thieves, encourage more cycling and help local economy: if people learn to
take care of their bike, they will park and lock it safer. Then they might decide to buy more pieces at the local bike-shop, and improve it with some modifications. Seen the success, a second friend or relative might show up and be willing to do the same, or to have the bike repaired by the first user. Then we will have two riders on the road when before Cykelköket would have been none. Then this too could spread the word to other friends, and so forth. This mechanism is proven to have happened in Malmö by Björk:

[When we opened] we had a goal to have 1000 visitors per year but we found out that the need is much much more, in fact we have some 6000 visitors per year now. We could double it but we don’t have the funding and resources to do that. The need is even much bigger.

This is for the reason that it also features this open-ended, long term, participatory character, as described here above in the cargo bike sharing project. It is evolving continuously, mirroring or exemplifying the city as a whole, as Bertil Björk pointed out:

...also something important is that people from different parts of Malmö can meet here. It is a quite divided city (social, economic, etc.) and it should not be underestimated that people from different situations can meet in a neutral place and help each other out. It’s in small steps... what happens here reflects pretty much what Malmö is, but in one room. And if you can get the whole city within one room, I think it’s good.

As described in the Introduction (see 1.2), Malmö is evolving and Cykelköket is constantly feeling the pulse of the city, given that with its activity it gathers together users from totally different backgrounds but united by a mean of transport that addresses issues who, as well, are common to all the citizens. Cykelköket as a Thing, then: a socially inclusive urban space where innovation is constantly democratized, polyphony of voices is a resource, and Sustainability is built night after night, tool by tool. The weight of the learning process is crucial in social innovation, as Hillgren et al. (2011) pointed out: societal needs can be filled with will-to-do attitudes performed by people who were traditionally excluded by the designing process. This happen daily at Cykelköket:

I can really see this horizontal learning working. People who don’t know each other start to teach each other what they learned maybe the week before. If somebody has a problem there are immediately some people around coming to help out saying ‘last week I had the same problem, you should use this tool..or do this first’ and so on. Watching the learning process in a workshop...to me it’s very inspiring.

Fixing a bicycle in a common, public, free of charge space can indeed be regarded as one type of prototyping (Murray et al., 2010). It can inspire much, as Björk states: both individually

All good learning processes change the way you look at yourself in this world...especially if there is something you didn’t have a clue that you were able to.
or scattering new cooperation and initiatives

We are helping the bike kitchen in Oslo (Norway) to start out and now they are doing very well. We just started to cooperate with the bike kitchen in Riga (Latvia), they are coming here in September, we are going to have workshops. We are part of the image of Malmö as a cycling town.

even business activities

MoveByBike started by two of the volunteers of Cykelköket. It came out from a discussion on how to transport donated bikes to Cykelköket without using cars.

Things can turn into economic activities

MoveByBike was founded in April 2012 and it provides transport services (households furniture, goods, newspapers) carried with cargo bikes and trailers. Again in the line of testing, trying, encouraging fruitful relations and dissension to be part of the project design process (Hillgren et al. 2011), one necessity of Cykelköket needed an idea to solve a problem. The idea was tried out (transporting bikes with bikes), nurtured and eventually turned into a successful business which is now present in Malmö, Lund, Helsingborg, Göteborg and Stockholm. Currently MoveByBike’s gross revenue can be estimated between one and a half and two million SEK, and steadily increasing. All this in one year. The two owners Nils and Johan Wedin were asked about the response from the clients, specifically whether the people using the service perceive the innovation, the wide spectrum of possibilities that bicycles arise and if this could be potentially fruitful in a changing habits perspective:

They like what we do and try to be responsible towards the environment, but there are also regular clients who want just the goods to be moved. I like the fact that there is not only ‘idealists’. After we gave him our offer, a bakery owner told me ‘it’s not cheaper than a regular service provided by car’. The day after he called me ‘I have a customer and he really loves the idea and he may pay!’. I think the baker realized fully the value of what we do, not for him but for his customers. Many clients look at us and recognize that it’s possible to bike and using bicycles for more errands than what they expected. Then in the end they stop to think and just see: it needs some time, but eventually it comes.

The fact that the bakery owner decided not to use MoveByBike, but he talked about it with another client and called back the company suggesting an opportunity is central: it again draws back the Thing concept described above. It helps in defining and designing MoveByBike’s business plan, client portfolio, business relationship in a fruitful way. Paradoxically originating from a refusal.

The last cycle-related contribute of this chapter is offered by Budboys, the only bike courier company in Malmö. Their business involves documents and small boxes pick-up/delivery. Founded in 2009, it is formed by two full-time cyclists and the gross revenue in 2012 was around 800 thousand SEK, slowly but steadily growing. The same question at the beginning of this page was addressed to Marcus Björk, rider and co-owner of Budboys:

I think the companies using us are very happy that we exist and see us as a small alternative to the big slow and heavy companies with lots of rules and protocol.
We are more flexible, more adaptive to customers’ needs and will, more personal. Always the same faces, always with a smile. We can reach places in Malmö that are restricted to cars and where the cars charge more for the inconvenience. Many customers feel that they and their product make less negative impact on the city from an environmental view but also helping to get less cars driving in the city. We have great support from the bicycle scene as well.

Bike messenger activities are not innovative in 2013. Cyclists carrying around documents and small goods were very common in Western cities, especially in the United States, throughout the whole twentieth century. But being the only bike courier company in a 300 thousand inhabitants city indeed puts forward into their clients the idea of an innovative, sustainable and competitive service. As for MoveByBike example, even Budboys can have an indirectly triggering role within the city: when a client realizes that a cycling service may have more advantages than what he/she would think, he/she may suggest it to a colleague, informally advertise it or promoting it with direct support. Every approach is in any case helping the cycling promotion throughout the city and the role of social innovation is key because it can offer solutions where normally one could see problems (locations hard to reach, congestion, etc.).

5. DISCUSSION

The wide spectrum of Malmö cycling initiatives presented in the Analysis reflects in a way how broad and long-term oriented the urban cycling issue is, and especially how important the contribution by the fabric obtained is joining together municipalities, civil society and business sector. The portrait of Malmö as one of the best cycling cities in the world gives a positive judgment of the municipality as the prime actor: a fruitful combination of planning measures, such as extensive bike lanes network, parking facilities, traffic calming zones, is combined with awareness campaigns, direct or indirect communication with the population and bike sharing projects. Among the surveyed activities, some critiques can be made: concerning Hilda electric bike sharing project, if the board is not in the possibility to solve the constraints it faces, the city administration (namely the Mobility management office) should be contacted and step in with a little budget that is needed for start giving out the bikes already in possess. Or it could be included as a part of a future cycling promotion campaign in the neighborhood. It seems that there is no or little communication concerning this bike sharing project between the two authorities and this could be due to a number of reasons: within the cycling promotion topic, the fact that Rosengård inhabitants could profit from a bike sharing project is not a top priority for Malmö stad, such as Fullriggaren in Västra Hamnen instead is. Or it could be that Hilda itself as a renovation program has not correctly positioned the project in a priority scale? The city administration is then not in the position to

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intervene because of this project being too less ‘evident’. A positive example of how to solve such hindrances is given by the cooperation Hilda had with the Cykelköket personnel who went to Rosengård and helped with bike fixing. This informal relationship networks in general work well within the Things concept expressed above: indeed they can be extremely helpful in problem solving.

Another consideration can be drawn about communication and priority: Malmö stad and the builders of Fullriggaren are positively cooperating in the cargo bike sharing project that is now appreciated by the inhabitants. As stated in the analysis chapter 4.3, Fullriggaren is a part of Västra Hamnen that has undergone a lot of attention by the city administration. Considered also the fact that the whole area is being built with traffic calming zones among the households and that is targeted to be dwelt by many families, the need for cargo bikes should have been pointed out in the first place. Especially because planners and city officials indeed are aware of how helpful cargo bikes are in reducing car trips, given that in Copenhagen cargo bikes are widely common, and the Danish capital is very close and influential for Malmö. This would help to reserve an adequate, spacious and uniform place for parking the cargo bikes and become then a real daily habit for the inhabitants. In any case, the initiative is positive especially in the scope of being a trial test and then be implemented throughout other city districts.

Instead, a decisive counteracting aspect that is not taken into account enough is the theft issue: many positive efforts the city is doing, such as Bike&Ride parkings are to an extent nullified by an inconsistency on a general level about safe bicycles parking. Concentrating the budget expenses in the Bike&Ride stations is double edged: if on the one hand most of the thefts could happen where bikes are concentrated the most (train stations), thus a safe parking is an indubitable deterrent, on the other it might happen that there is no budget left to substitute unsafe racks around the city, where anyhow thousands of bikes are constantly parked. These considerations support the theory of Mercat and Heran (2003) about an urgent raise in the public authorities’ awareness about the bike theft issue. Something further that could help could be that Malmö stad took its responsibilities as a main dialogue actor with Skånetrafiken in order to have buses equipped with front racks such as the cited Portland example. This would allow commuters to cover longer distances and not leaving the bike long unseen, supporting Gehl (2010) urgency to connect public and personal means of transport. In this regards, an encouraging approach for augmenting sustainable transportation shall be taken by other cities as a positive example: Malmö is putting the efforts towards mobility campaigns, with the objective of understanding inhabitants’ travel habits first, and then trying to point them towards collective transport or cycling: in addition to “Pendla med cykeln” presented by chapter 4.2, other significant projects were “No ridiculous car trips” and “How do you go to work?”

Further, the campaigns are completed with follow-up reports which scrutinize the effects of the projects, i.e. inhabitants gaining awareness or even changing their travel mode, as happened to some of them along the way Malmö-Lund that were the targeted by “Pendla med cykeln” (PMC Rapport, 2013).

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8 See “Kampanjer” on www.malmo.se
The importance of learning, Things and Prototyping/Infrastructuring, should be taken into account by public authorities: going back to those involved by the project and eventually implementing new projects based on the previous results can establish a virtuous cycle that moves in the right path towards a sustainable city. Further than Malmö municipality, encouraging contributions to sustainable transportation are brought by each of the analyzed initiatives in chapter 4:

Hilda electric bike sharing pool will give a sign to Rosengård inhabitants that alternatives to car can help them to gain a better social and economic status.

Cykelköket operates a vital role in the city, providing technical support, knowledge source and social cohesion. These aspects are decisive in a sustainability perspective.

MoveByBike and BudBoys show that cycling can be fully regarded as an economic agent. It make people save money in their daily routine, but it can also represent a successful job which will have a crucial role in the future cities: urban areas will grow and get denser, and such business activities will inevitably have more and more success.

Overall, this work has tried to add to the current research a new perspective on how urban complexity can be a cause of mobility concerns but this very complexity, with all its diversified aspects that urban planning should take into account, can also represent a possible set of solutions.

6. CONCLUSION

All this been said, the portrait of Malmö as a cycle-friendly city is rich, diverse and stimulating for a Sustainable Transportation discourse. The combination between good public policies, well-established social norms and fertile social fabric is rendering an image of a good city for a cyclist arriving in town for the first time. The intentions stated by city officials are not to be regarded as laws to be strictly observed, but rather an indicated path to follow.

Undoubtedly, the objectives that the city poses are often reached better (or sometimes thanks to) having an ‘unofficial’ set of cycling promotion activities that constantly works on the ground level. It fills many gaps left by public authorities and then, directly or indirectly, it encourage and raise people awareness that cycling is necessary for them and for the city.

With all their differences, these activities provide to close a loop of a potentially optimal cycling city because they fill some needs that Malmö stad as a municipality cannot (or perhaps does not want to) meet. For example, the freight topic rarely enters the sustainable urban transportation discourse, thus nor it does in cities cycling promotion policies. Then it happens that two private citizens decide to put up a bike courier company and start substituting cars in the inner city. Or, if the good to transport is too big, they might call a company who is provided with trailers and can substitute a small-medium size van. Idea like this arise from social innovation as a place where good ideas can appear too ambitious or unrealistic in the beginning, but if set in the proper fertile network of stakeholders, good planning, future aimed intentions, they can be put into practice and become very successful, personally, socially and economically.
In order to obtain the best possible bicycle city it is then vital to maintain a certain flexibility of scopes and approaches. This is to let unexpected ideas, proposal, outcomes and solution arise from general urban context in which a more inclusive way of conducing urban planning combines with an acknowledgment first, and a support after, of a rich social fabric that is in itself the expression of people’s needs. It is central that those who have the resources to build a city remember that they are users of the built service as well, even if perhaps somewhere else. Real, fruitful and enduring relationships between different urban actors can represent the only available mean able to arise concerns, find out solutions and set new future objectives. Therefore, it is of utmost importance to build connections between sometimes very distant actors and dynamics taking place in a city.

This work has showed that Malmö contains all this richness. Of course the ideal condition of a fully sustainable city needs more commitment in general, but also consistency, and this might be due to a sort of contradiction that sometimes public policies show, lacking of clearness of what hindrances affect cycling augment, missing connections between fully positive initiatives. The interesting point is to try to analyze urban sustainability in the light of what present dynamics are in place, where a city wants to go and how. If Malmö aims to be sustainable as clarified by the official plans and intentions, transportation constitutes a fundamental piece of the puzzle. Therefore the city should reckon the potential of its inner dynamics taking place as of 2013, which I believe now it does not, completely.

I have tried to draw a portrait of Malmö as a good cycling city that can utilize sustainability transportation as a fundamental mean to reach an environmental, social and economic urban development. Social values, participation and the widely inclusive approaches described in this work can represent a set of solutions for sustainability concerns in the city now, as well as an opportunity for other cities around the world which could learn from Malmö’s experience.

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8.0 APPENDIX

Interview with Cykelköket – Bertil Björk, project leader

1. Could you draw a background history (when did the project start/who were the founders)?
2. What is the legal status of Cykelköket?
3. How is it funded?
4. What are the preliminary/general driving forces that led to the opening?
5. What is the binding agent that keeps the group/board together?
6. Is the group/board open to new people entering the management?
7. How are important decision taken?
8. Are there differences/hierarchies in the board members responsibilities?
9. What are the core intentions on which this place is founded?
10. The bicycling culture in Malmö/Copenhagen is rather strong and well-rooted and the efforts by the municipality to continue improving cycling are remarkable. How important is also the presence of your activity here? How do you think the two “forces” (municipality/CK) combine together?
11. Do you feel having a role in the city? Is Cykelköket, providing its service, filling a gap that should be instead another authority’s responsibility?
12. Do you think that a part of the growing cycling modal share happening in Malmö during the last years is also a result of CK activity?
13. The cycling stores in the city are numerous. Do you feel there is any tension with their business activities? Did they ever protested or acted against this place?
14. Is the engagement with the local territory crucial? And with the city’s inhabitants?
15. What is the relationship with Malmö Stad?
16. Going back to the previous question (n°9), is the bike kitchen about fixing bikes as such or does the scope go beyond it?
17. Do you think the attendants consider Cykelköket simply as a place where to grab bike pieces for free or something more?
18. How important is the horizontal knowledge exchange when relating with the people coming?
19. Do you believe that this attitude acts against or as opposite to the typical market relationship “customer-business”? that is: “I pay you for applying your knowledge to solve my problem”?
20. Can a growing in self-confidence and self made work address any social issue? Weak categories of citizens can spend time more positively here, learn and grow positive attitudes. Is this happening at Cykelköket?
21. Have any positive further collaboration happened because of positive relationships established here?