

THE ROLE OF CICLOCOLECTIVOS IN REALISING LONG TERM CYCLING PLANNING IN BOGOTÁ

- A case study of Teusacatubici and Ciclopaseo de los Miércoles.



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1 Summaries

1.1 Summary (English)

This study is based on a four-month internship at Despacio conducted as a part of the master program ‘Sustainable Cities’ at Aalborg University Copenhagen, Denmark. The overall purpose of the report is to investigate how the two ciclocolectivos, Teusacatubici and Ciclopaseos de Los Miércoles, as grassroots organisations can contribute in realising the long-term cycle plan of Bogotá, Plan Bici. The report answers the problem formulation: “How can the inclusion of the ciclocolectivos, Teusacatubici and Ciclopaseos de Los Miércoles (CPM), contribute to realise long term cycling planning in Bogotá?” by applying a theoretical framework of ‘Multi-level-perspective’ and grassroots innovation. The study concludes that the characteristics of the two colectivos in question are decisive for the way they can contribute to long term cycling planning. Teusacatubici can through its local embeddedness in a specific area contribute with site specific information on infrastructure and traffic tendencies, that are essential when implementing or maintaining cycling infrastructure. CPM has through their massive network of member a great communicative potential. This both when promoting new infrastructure, but also regarding the promotion of the softer measures in Plan Bici. Both colectivos has through their different characteristics of their ciclopaseos an educational effect on the participants. Lastly the colectivos has different potentials as political tools, either through engagement with local based politics or by creating awareness of pro-cycling council politicians. In this way the colectivos contribute with intrinsic benefits to the development of the niche of cycling by strengthening the supportive networks and educating user group. Likewise, the colectivos can bring diffusional benefits by generating the necessary technical and social knowledge to implement new infrastructure or assemble political support.

1.2 Resumen (español)

Este estudio se basa en una práctica de cuatro meses en Despacio realizada como parte de la maestría “Ciudades Sostenibles” en Aalborg University Copenhagen, Dinamarca. El objetivo general del informe es investigar cómo dos ciclocolectivos, Teusacatubici y Ciclopaseos de los miércoles contribuyen en realizar el plan de largo plazo de Bogotá, Plan Bici. El informe responde la formulación de la pregunta: ¿Cómo puede la inclusión de los ciclocolectivos Teusacatubici y Ciclopaseos de los miércoles (CPM) contribuir a realizar planificación de bicicletas de largo plazo en Bogotá? al aplicar un marco teórico de “perspectiva Multi-nivel” e innovación de comunidades de base. El estudio concluye que las características de los dos colectivos en cuestión son decisivas para la manera como pueden contribuir a la planificación de largo plazo de bicicletas. Teusacatubici puede (a través de su inclusión local en un específica) contribuir con información específica sobre infraestructura y tendencias de tráfico, que son esencialmente cuando implementan o mantienen infraestructura de bicicletas. El CPM tiene (a través de su red masiva de miembros) un gran potencial comunicativo. Esto es al tiempo al promover nueva infraestructura, pero también con respecto a la promoción de medidas más suaves en el Plan Bici. Los dos colectivos a través de sus diferentes características de los ciclopaseos, ha generado un efecto educativo en los participantes. Por último, los colectivos tienen potenciales diferentes como herramientas políticas, ya sea a través de contacto con políticos locales o al crear mayor conciencia en los concejales pro-bicicleta. De esta manera, los colectivos contribuyen con beneficios intrínsecos del desarrollo del nicho de ciclismo al fortalecer las redes de apoyo y educar al grupo de usuarios. De la misma manera, los colectivos pueden traer beneficios de divulgación al generar el conocimiento técnico y social necesario para implementar nueva infraestructura o generar apoyo político.

2 Problem Analysis

The car has a tremendous effect on our society, and is in many ways decisive for the ways we live our lives, transport ourselves, and how our infrastructure and cities have been planned and will be planned (Urry and Dennis, 2009). There has been an academic consensus for quite some time about the negative consequences of car dependent societies such as high energy consumption lifestyles, unsafe and mobility segregating traffic systems (Ibid). The latter is especially the case in low income countries. Consequently, there is a need for a long term holistic approach of implementing and promoting sustainable alternatives to the car (Bannister, 2008). A central part of achieving such a change in the transport paradigm is inclusion of different stakeholders as they play a central role in implementing and manifesting changes (Ibid).

“The open and active involvement of all parties would be far more effective than the conventional passive means of persuasion. Thus, broad coalitions should be formed to include specialist, researchers, academics, practitioners, policy makers and activists in the related areas of transport... “(Bannister, 2008 p. 79).

2.1 A car dependent transport system

The reason why a technology like the car, with many known adverse effects remains dominant in most transport sectors, should be found in the rigid and comprehensive web of institutions, organisations, infrastructures and other technologies that surround and support the car (Urry and Dennis, 2009). Shared interests and to some extent mutual dependency amongst these entities and aspects regarding the technology are some of the main reasons for this interlinkage (Unruh, 2000). Such a system can be defined as a sociotechnical regime, where different public and nonpublic, physical and nonphysical elements strengthen the incumbent system. This often results in a path-dependency that makes it difficult to overcome or change the system and bring in alternative solutions (Geels, 2002). Governments, municipalities and other public institutions play an important role in both maintaining and challenging such systems. This through aspects such as economic incentives, infrastructure, legislation etc. (Ibid). Such interference in favour of alternatives to the incumbent system has in academic literature been described as strategic niche management. These niche technologies are given a protected space to develop and strengthen before engaging with the regime (Ibid).

Cycling as an alternative

There has been an increasing number of politicians and planners in cities around the world acknowledging that liveable and economic sane cities can be achieved by relying on public transport, walking and cycling as more dominant transport modes (Banister, 2008). The latter has been suggested to be the mode of transport with the highest environmental, social and economical benefits in an urban environment (Pucher and Buehler, 2008). Cycling provides benefits such as improved health, it is efficient for short distance travels, it is more safe and socially inclusive than motorised transport modes (OECD, 2004). Studies from Germany, Denmark and the Netherlands demonstrate how high cycling rates have been achieved through a vast number of pro-cycling programmes and policies, comprehensive infrastructure (tracks, parking etc.) and creation of a strong cycling culture (Pucher and Buehler, 2008). Even though the importance of genuine stable cycling rates in the studied cases are of importance for the results, it seems possible to draw some generalising tendencies for achieving impressive cycling results (Ibid). This is supported by a study done by Caulfield (2014), that is based on the case of Dublin, where a rise in cycling rates going from a low base has been achieved. The decisive factor for the success in the case of Dublin has been a strategical planning process based on in-depth knowledge about demographic, cultural and local context (Caulfield, 2014). The study also argues that some degree of transferability from Dublin to other cities, seems reasonable.

2.2 The case of Bogotá

Another city that from the base of low cycling rates has experienced significantly increases in cycling as a mode of transport, is the capital of Colombia, Bogotá. In this case, cycling rates have gone from half a percentage in 1996 to approximately six percent in 2014 (Valderrama et. al, 2015). In the period 1995 to 2001 the two mayors Antanas Mockus and Enrique Peñalosa lead Bogotá through a massive urban and traffic transformation. Peñalosa invested massively in cycling infrastructure during his term as mayor, where 231 km of new cycling tracks were installed across the city, making it the biggest cycling network in Latin America (Ibid). After the massive expansion of the the grid cycling has received significantly less political attention throughout the last 15 years with only 131 km new cycling tracks implemented (Ibid). The relatively low investments rate of 1,96 USD per capita in the same period (29 and 28 USD in Amsterdam and Copenhagen) has left many cycling routes in poor or dangerous conditions (Ibid)(Pardo, 2013).

From the period from 2008 to 2013 there was a significantly decrease in cyclist injuries (86,5%) and deaths (47,2 %) (Ibid). Despite this decrease the numbers are still alarming high, with 404 injuries and 47 deaths in 2013 (Ibid). This issue also becomes apparent in a survey done among the non-cyclist investigating why they do not use the bicycle, where both road safety (54 %) and personal safety (17 %) are recognized as significantly barriers (Ibid). Lastly the usage of the bicycle as a mode of transport seems to be socioeconomically distorted, as it is the lowest socioeconomic groups that stand for the majority of km travelled, even though bicycle ownership is evenly spread across the socioeconomic groups (Ibid). This is somewhat problematic as it is the group of citizens without a real choice of modal share (lack of economic latitude for public transport and for ownership of other vehicles) that use the bike, and not the citizens whose use of bicycles would ease the traffic situation.

2.3 Peñalosa's second term, a bright future for cycling?

In May 2015 Peñalosa was elected for his second term as Mayor in Bogotá after several failed attempts of running for mayor. Peñalosa presented the plan of development "Bogotá Mejor para Todos" (Bogotá better for everybody). In the plan investments worth 15,6 million dollars were allocated for mobility and infrastructure were proposed, with funds allocated for pedestrian and bicycle transport as well (Ávila, 2016)(El Tiempo, 2016). Furthermore, an official plan for cycling has been proposed, Plan Bici, that aims to make Bogotá the cycling capital of America by 2027 (Ibid). The plan seeks to embrace all the different cycling promoting projects across the city's planning sectors in one methodology to ensure a better and more efficient planning process (Secretaria General, 2016). It is the first time that a common cycling plan with a clear holistic approach is presented in Bogotá (El Tiempo, 2016) Peñalosa has in relation to this plan created a new position, Gerente de bici (cycling manager) who holds the responsibility of creating an overview and secure cohesiveness between projects (Prado, 2016). The plan has four main themes which are security, infrastructure, culture and inter-institutionalization. The plan has the specific goal that every bogotanos will use the bicycle as a mode of transport two times a week, and that every household should have a cycling track within a distance of 500 meters (El Tiempo 2016).

A central part of the plan is public participation, where knowledge and experience from existing bicycle users, and nonusers are to be included (Prado, 2016, a). With the characteristics of the plan it holds a potential, if implemented successfully in planning practices, to secure a consistent cycling planning in Bogotá. An ambitious and long term vision for cycling, would strengthen its possibilities of gaining influence in the incumbent transport system.

2.4 Ciclocolectivos in Bogotá

In several Colombian cities, different citizens groups promote cycling as an alternative mode of transport through social and political arrangements. These citizens groups are called Ciclocolectivos, of whom most conduct ciclopaseos (cycling rides) around the city at night both as a political statement but also as a social

activity between cyclists. Some colectivos have a strong affiliation to a specific neighborhood or area, some have strong political commitments, others solely focus on promotion of cycling (Prado, 2016). In Bogotá, there are many different ciclo colectivos, defined by their objectives, geographical location, the profile of the participants and politics within the collective etc.(Ibid). Furthermore, most colectivos have strong networks on the social medias, where they share information about their activities, general knowledge about cycling in the city along with other cycling relevant information (Ibid). In this way, the colectivos possess local knowledge and experience about the current situation of cycling in their neighborhoods. They represent a great share of the experienced and new cyclist and a huge communication potential qua their comprehensive social networks.

The oldest and biggest ciclocolectivo in Bogotá is called Ciclopaseos De Los Miércoles, CPM (Wednesday ciclopaseos). The colectivo was founded in 2006 by Andrés Felipe Vergara and started as a group of friends, but grew rapidly and today each ciclopaseo has in average 150-200 participants (Vergara, 2016b). The main objective of the colectivo is to conduct ciclopaseos where the participants in a safe and controlled manner can experience their city and the benefits of riding a bicycle.

“...in the end [of the ciclopaseo] the people of our cyclo paseo, will have more love for the city and that means they will change the way they relate to the city, the way they behave, the way they interact with the city and to become part of the solution [of traffic problems]” (Vergara, 2016b).

Besides, being the oldest and biggest ciclo colectivo, CPM has also been the foundation and source of inspiration for a several other ciclo colectivos in Bogotá (Mora, 2016). One of them is Teusacatubici, which contrary to CPM is based in a specific neighborhood, Teusaquillo, with a great share of the participants being residents in the neighborhood (Prado, 2016). Where CPM has a top down approach to their ciclopaseos, Teusacatubi has a more unrestrained approach based on the inclusion of the participants both in planning and carrying out the ciclopaseo (Mora, 2016). Furthermore, Teusacatubi has a strong connection and cooperation with the local institutions and politicians (Ibid). CPM on the other hand puts great emphasis on being an independent entity without too much attachment to either public institutions, politicians or other ciclopaseos (Vergara, 2016). In this way the two ciclo colectivos represent two different approaches to the same shared objective; promoting cycling through ciclopaseos and inclusion of citizens.

As the inclusion of cyclist and citizens is a central part of Plan Bici, it is interesting to investigate how the colectivos as citizens projects can contribute to the implementation of the programmes and projects mentioned in the plan.

3 Problem formulation

As discussed, the long term cycling plan of Bogotá has put emphasis on the importance of including cyclist and citizens when implementing the plan. As the ciclocolectivos are citizens projects deeply rooted in the cycling environment of Bogotá, this study aims to investigate how colectivos can contribute to a successful realisation of the plan. It is therefore necessary to pose research questions that allows for an in-depth analysis of what types of benefits the colectivos can be bring to long term cycling planning.

How can the inclusion of the ciclocolectivos, Teusacatubici and Ciclopaseos de los Miércoles, contribute to realise long term cycling planning in Bogotá?

Two sub-question have been formulated to answer this question. These allow for a theory based analysis of the different aspects on the potential of inclusion of the colectivos. The first question is regarding the contribution that the colectivos can deliver to the specific element of Plan Bici. In addition to this it will be investigated what barriers that could delimit the possibilities of inclusion of the colectivos, both from the perspective of the colectivos themselves but also from the perspective of the planning entities responsible of the plan.

1. **How can the ciclocolectivos contribute to the four different elements of Plan Bici?**
2. **What potential barriers arise when ciclocolectivos are included in public planning processes?**

4 Methodological framework

As this report is based on issues and aspects from the real world, there is a need to construct a research design that can define the how data collection and processing are to be done in order to grasp the complexity societal issues. A research design ought to ensure that the data collected are capable of answering the problem formulation in a unambiguous and scientifically sane manner (De Vaus, 2001). Thus, it is essential that the research design takes into consideration whether the problem formulation, the applied theories and the data handling create the necessary basis to address the study in question (Ibid).

This study concerns the possible benefits that ciclocolectivos can bring to the niche of cycling in Bogotá. With the significant numbers of ciclocolectivos in the city, and the differences between these colectivos, a case study on the basis of two colectivos has been chosen. Regarding the delimitation of the niche of cycling, the holistic and long termed cycling plan, Plan Bici, will constitute the main scope of niche development. Thus, the methodological approach of case studies has been chosen for this study. What considerations and rationales that has been decisive for choosing this approach will be clarified in the following section.

4.1 Case study based research

An essential benefit of case study based research is that it allows for an investigation of processes and practices in a specific case that can be used to generate new knowledge that brings insight into a broader societal context (Richards, 2009). Thus the results and knowledge obtained through case studies can potentially be transferred to other context facing a similar issue. It is however important to have in mind that generalisations should only be done carefully with the complexity of every context and issue in mind, why the findings from this study can solely be used as indicators (Ibid).

The question of generalisation and the lack of reliability of the findings due to the depth of data in a case study based research are some of the most frequent critics of the methodology (Flyvbjerg, 2006). In addition critics has been pointed towards the risk of subjectivism from the perspective of the researcher as personal opinions of the researcher affect the results of the study (Ibid). Flyvbjerg (2006) challenges these perceptions of case studies, by emphasizing that only through case studies a researcher can move from being a beginner within the topic to be an actual expert.

The difference in size, objectives, structures and values of Teusacatubici and CPM allows somewhat of generalisation to other colectivos in Bogotá, when studying what benefits they potentially can bring to cycling as a niche. Beside the delimitation to the two colectivos, it has also been necessary to specify how this study defines the niche of cycling in Bogotá. Plan Bici is not only the most recent political cycling initiative in the city, it also a long term plan with the goal of assembling all cycling related projects and programs in the city, why it seems to reasonable to argue that the plan is somewhat representative for cycling as niche in Bogotá.

4.2 Field studies

In order to obtain an in depth understanding of how the colectivos can contribute to the realisation of Plan Bici, it has been necessary to investigate what values the colectivos are based on, how they conduct their ciclopaseos and lastly what perception the participants have of the colectivo. Comprehensive field studies has been conducted, by attending to ciclopaseos, cycling conferences and other events organised by the colectivos in question. More specifically the approach of participant observation has been applied, by attending to ciclopaseos through a longer period, through general attendance in cycling milieus and by using the cycle as a mode of transport. The main purpose of participant observations is to go beyond the barriers of being an outsider, in order to obtain further understanding of internal practises and processes within the community. Furthermore, it allows the researcher through personal experiences to investigate aspects, that by the members of the community, are taken for granted or not seen as relevant, but potentially could be of great importance of the study conducted. Thus, data or findings are available that would not have been revealed through questionnaires or semi-structured interviews or other similar investigation methods.

The disadvantages of this data collection approach is however, that some milieus or demands high level of confidence and trust from the communities before the researcher are allowed to engage. Thus, it can be an extremely time consuming and long term data collection process, that questions the usefulness of the available data depending on the size of the study. In this study this has however not been an issue, as the ciclopaseos are open arrangements where one of the main purposes is to attract new participants. As the colectivos are based on social solidarity and the sharing of interest, it has been of great value for the study to experience the ciclopaseos and their social settings, also to understand the values that participants seems to obtain by attending.

Lastly it can be mentioned that maneuvering in the transport system of Bogotá, either by public transport or by bicycle, on a daily basis for four months, has generated an important embodied understandings of the struggles that cyclist and pedestrians are facing in their everyday mobility. Knowledge based on this experience and the attendance in various ciclopaseos has been utilized as a supportive source of information for the analysis of this report.

4.3 Semi structured interviews

Seven interviews has been conducted in relation to the data gathering of this report. The interviews was of a semi-structured character, allowing for in depth understanding from different perspectives delivered by cycling related actors. The semi-structured interview form was chosen to obtain a diverse understanding of the subject in question, by allowing the different interviewees to express their beliefs and understandings. The inputs from each interviewee has opened for new perspectives, understandings and dilemmas, and thereby allowed the research to reshape and adjust as more detailed data was obtained (Kvale, 1996). The interviewees represent different perspectives and opinion from both the side of the colectivos and from the planning departments responsible for the execution of Plan Bici. Thus, it has been necessary to cross reference statements from interviews and compare to related literature to ensure the reliability of the data.

Two background interviews were conducted to obtain the sufficient background knowledge and understanding to engage with the study. The first was with previous staff member of Despacio, Juan Manuel Prado, who has his expertise in cycling planning and citizens projects. Through this interview basic knowledge on the planning hierarchy of Bogotá, challenges of cycling and the concept of ciclocolectivos. The second interview was with Jorge Acevedo, who has a vast knowledge to the transport sector of Bogotá through his previous experiences as professor in planning, employee in both local and national planning offices and lastly as researcher in planning related NGOs. This interview contributed with a historical description of the development of traffic planning in Bogotá, the dilemmas the incumbent transport regime is currently facing and what future challenges that awaits.

When the case of the study was defined along with the research design, different employees within the nontraffic department was interviewed, along with central members of the two ciclocolectivos. Contact to these were mainly established through the organisation Despacio, from where this study mainly was conducted.

Fig. 2. contain information about the different interviewees, with focus on current profession along with a short description of their relevance for this report.

Name	Position and profession	Contribution to the study.	Comments to interview
Juan Manuel Prado - First	Planner in Despacio with non-motorised transport with a focus on cycling	Background interviews, introduction to the planning	This interview was conducted in Despacio, when Juan

Name	Position and profession	Contribution to the study.	Comments to interview
		hierarchy, Plan Bici and colectivos	Manuel still was an employee here.
Jorge Acevedo	Retired professor in planning from Los Andes Universidad. Experience from local and national planning. Researcher as various NGOs.	Background interview, with special focus on the incumbent transport regime of Bogotá, historical development of the city and futures challenges and possibilities.	
Andrés Felipe Vergara - First	Founder of Ciclopaseos de Miércoles.	Understanding of the objective, practices and structures of CPM.	Andrés arranged an interview with his colleagues within the non-motorised department in SDM.
Sebastian Negret	Gerente de Bici with the overall responsibility of the implementation of Plan Bici	Understanding on potentials and issues of the inclusion of colectivos in realization of Plan Bici.	This interview was a part of collective interview with the non-motorised department.
Luis Gonzalez	Civil engineer in the nonmotorised department with focus on cycling tracks	Insight into planning practices of non-motorised department and the interrelation to other planning entities.	This interview was a part of collective interview with the non-motorised department.
Francesco Victoria	Civil engineer in the nonmotorised department with focus on pedestrians and walking as a mode of transport	Insight into planning practices of non-motorised department and the interrelation to other planning entities	This interview was a part of collective interview with the non-motorised department.
Andrés Felipe Vergara	Cycling expert in the nonmotorised department	Understanding of how the increased prioritization of cycling has affected the nonmotorised department.	This interview was a part of collective interview with the non-motorised department.
Juan Manuel Prado - Second	Cycling planner in nonmotorised department, with the responsibility of gathering all cycling project and programmes in Plan Bici.	Understanding of the content of Plan Bici, along with what challenges implementation of the plan is facing.	Juan Manuel resigned from Despacio to get a job in relation to Plan Bici.
Juan Camilo	One of the founders of Teusacatubici, and hired in	Understanding of a specific pilot project conducted by Teusacatubici (Will be	This interview was a part of a bigger conversation in

	non-motorised department in		
Name	Position and profession	Contribution to the study.	Comments to interview
	the national ministry of transport.	elaborated further on in the analysis)	connection with a ciclopaseo
Jesus David Acer Mora	Active member of Teusacatubici, local council member of Teusaquillo	Understanding of objectives and structures of Teusacatubici along with a description of the of the cooperation between Teusacatubici and the local council.	Conducted during a ciclopaseo.

Most of the interviews was conducted in an untraditional manner, as it was difficult for several of the interviewees to allocate time for the interviews during work hours, why these was conducted during lunch. This was the case of the interviews of the non-motorised department, the first interview with Andrés Vergara Felipe and the last interview with Juan Manuel Prado. The two interviews concerning Teusacatubici were conducted during a ciclopaseos. Furthermore, the duration of the interviews varies, with the shortest being approximately 10 min and one interview lasting more than one hour. The attendance of multiple interviewees and the delimited timeframes of some of the interviews made it necessary to specify the question on the basis of qualities, knowledge and position of each interviewee. All the interviews was recorded with the Voice Memo function on an Iphone 5. Transcriptions of the interviews has been made after every interview.

5 Theoretical framework

As this report aims to investigate how the *colectivos* can contribute the realisation of the objective of Plan Bici, there is a need for a theoretical framework that grasps the interrelation between *colectivos* and the niche of cycling. Therefore there is need for analytic tools to highlight the role of the *colectivos*, and how and if their respective objectives, organisational structure and practices can strengthen the niche and attribute to the desired transition process. The latter without compromising with idealistic visions of the *colectivo* itself and the visions and ideas of the participants. The possibilities of the niche development is to a great defined and structured by the incumbent regime, in which the cycling initiatives are to manoeuvre. Thus an analytical approaches is needed on how to understand the obstacles and limits cycling as a niche is facing, but also which possibilities a strategical navigation within the structures of the incumbent regime poses for the niche. The framework need to contribute to an understanding of what mechanisms and practices that structures the regime, in order to understand how niches can obtain a bigger influence.

Seen in the light of this, a theoretical vocabulary consisting of elements from transitions theory is needed, with a special focus on the engagement between community projects and mainstream niche management.

5.1 Socio technical regimes and multi-level perspectives

Socio technical regimes can be understood as a layout of multiple heterogeneous entities situated around a given technology, in this case the car, where they altogether manage to align practices and developments in favour of the regime (Schot and Geels, 2007). When a regime is established it remains more or less stable as the different actors within the regime are linked together in mutual dependency, why potential innovation within a regime often remains only of a incremental character (Geels, 2002). One of the leading researchers on niche management and socio technical regimes, Frank W. Geels, has proposed that a socio-technical regime is constituted by seven dimensions: Technology, user practices and markets, symbolic meaning of the given technology, infrastructure, industry structure, policy and techno-scientific knowledge (Geels, 2002). Even though these dimensions are linked and their interlinkage is key for the regime, internal conflicts within the dimensions can emerge and result in some uncertainty and instability (Ibid). Such internal conflicts are however often triggered by external pressure put on the regime, that if persistent can force the regime to undergo more radical changes or even displace the regime in favor of alternatives and other desirable solutions (Schot and Geels, 2007).

In order to understand how this external pressure is exerted on the regime, a new concept should be introduced: multi-level perspective (MLP). Basically this perspective differs between three levels, niche, socio-technical regime and the socio-technical landscape, where the latter is a set-up of overarching societal arrangements that defines the environment in which niche and regime is navigating (Geels, 2002). In this study the incumbent socio-technical regime is mainly constituted around the private car and the bus rapid transport system (BRT), as these are seen as the decisive technologies in the transport system of Bogotá (Acevedo, 2016).

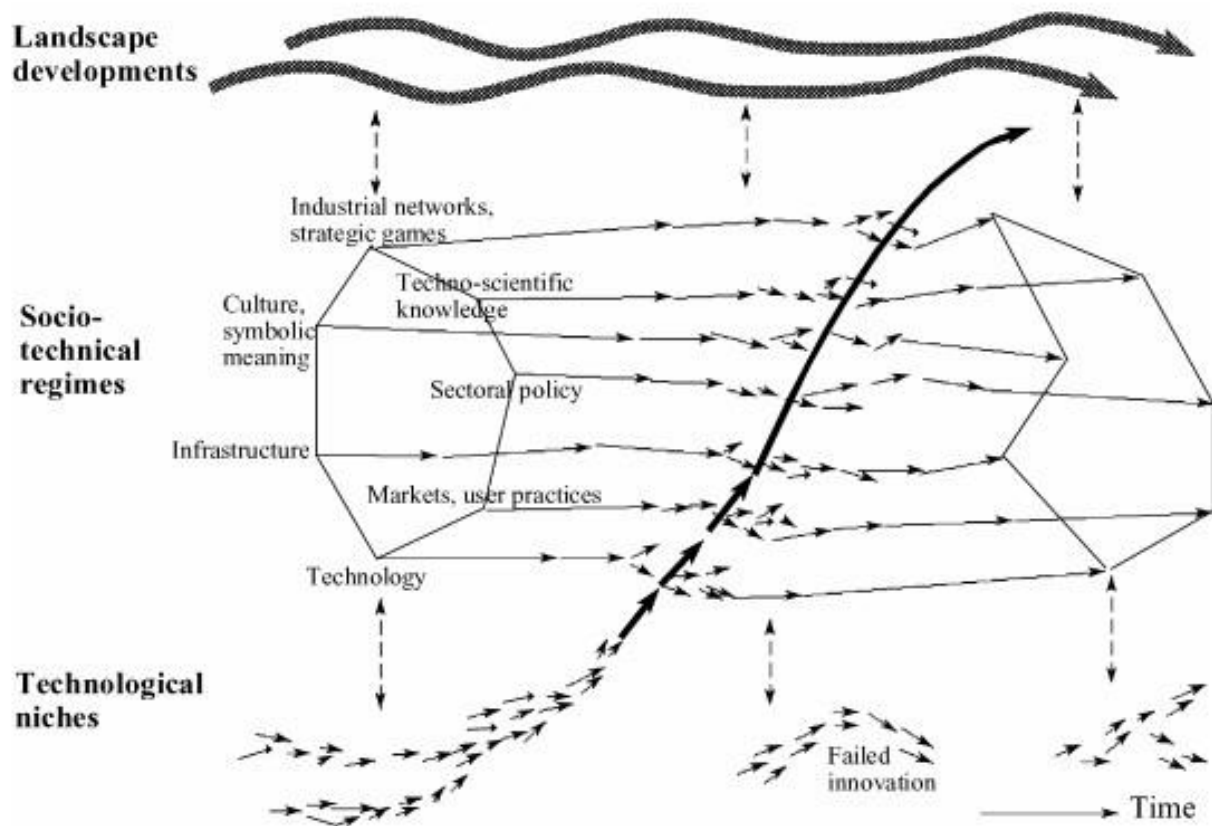


Fig. 3. Illustration of the Multi-level perspective (Geels, 2002)

Elements as growth paradigms, state of the market, climate change and societal trends are part of the landscape. Changes in the landscape can have tremendous effects on regime and potentially give an opportunity for a niche that has been struggling to find its way into the market, a so called window of opportunity (Geels, 2002). As an example the oil crisis in the 70's can be mentioned, and how the insecurity of future supply and oil prices redefined the socio-technical dimension of the existing energy sector, allowing niche technologies as renewable energy sources to gain ground. The landscape is however even more stable and slow changing than the regime, why the concept strategic niche management becomes even more pertinent (Schot and Geels, 2007).

Where innovations within the regime is mostly of a incremental character, the more radical innovation originate in the niches, as the niches are protected from the traditional market criterias of the regime (Geels, 2002). In this way the niche is often home for novelty technologies, that have low technical performance or are to expensive. Instead these technologies can use the less restrictive selection environment of the niche to drive learning processes on how to improve the performance given technology. Further they can strengthen social networks to potential user groups and lastly create supportive structures as infrastructure or production chains (Ibid). If a technology is capable of strengthen itself through these processes within the niche it can potentially gain the foothold to challenge the incumbent regime. This especially if the development is adjusted to address issues and conflicts within the regime (Ibid). An outcome that can be assisted by a strategical handling of the niche, by improving conditions such as legislation and economic incentives to make it easier for the technology to manoeuvre in the selection environment of the regime (Schot and Geels, 2007). Where such initiatives are mostly driven by public entities in a top down process, a great deal of niche development and innovation comes from bottom up developments. In this study cycling as a mode of transport is constituting the niche in question, where Plan Bici due to its long terms and strategical approach is seen as decisive for future niche development.

5.2 The impact of grassroots innovation

Seyfang and Smith (2007) argue that there exists great potential for niche development by creating a greater linkage to local grassroots innovation working with sustainable development. Dedication, local knowledge and strong connections to specific user groups are mentioned as some of the main gains that can be achieved by more institutionalized innovations processes (ibid). Grassroots innovation are in this case defined as:

“... networks of activists and organisations generating novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interest and values of the communities involved.” (Seyfang and Smith, 2007 p. 585).

Moreover, traditional innovation processes are operating on conventional market conditions, which also implies that they to a certain extent has to align with these and meet some kind of profit to be sustained. For grassroots innovation the two main goals are meeting social needs and ideology, which can create limitations when linking with mainstream practices, but at same time liberates the innovation process for the setbacks of not meeting market conditions (Seyfang and Smith, 2007). This disengaging from selection pressures in favour of the regime, can deliver yet another protected space where aspects of the mainstream niche development, that normally would have been neglected, for either being too long termed or radical to engage with the established norms and practices, can thrive (Ibid). This however also presents some weaknesses of grassroots innovation, as they face difficulties to engage with more conservative policy initiatives or projects, why large scale influence is hard to obtain for the grassroots innovation.

5.3 Theory in the project

In order to answer the sub-question posed in continuation to the problem formulation, it is necessary to specify how the theoretical elements posed above will be applied and how they will ease the analysis necessary to answer to questions. The theory presented does not present a linear approach to analysis whether and how the *ciclo colectivos* can contribute to the niche of cycling in Bogotá. The theoretical framework does however contribute with concepts and a vocabulary that makes it possible to interpret actions, roles, values and relationships between regime, niche and grassroots innovation. Following this each sub-question will be presented along with a description of the theoretical elements necessary to answer these.

1. How can the *colectivos* contribute to the objectives of Plan Bici?

In relation to the interaction between grassroots innovation and mainstream niche management, Seyfang and Smith (2007) defines two types of benefits that the grassroots level can contribute with: intrinsic benefits (within the niche) and diffusion benefits (spreading the niche).

Intrinsic benefits

Even though grassroots innovation are unlikely to achieve city scale or above influence, the aggregated number of them can possess a great impact on policies and development strategies (Seyfang and Smith, 2007). Exactly, quantity is one of the great intrinsic benefits of grassroots innovation, and along with local engagement quantity possess a unique opportunity to spread normative and cognitive knowledge among participants and local neighborhoods (Seyfang and Smith, 2007). Moreover the grassroots organisation have familiarity with what works in the given local community, what values that are highly rated, two things which can make communication between niche and users smooth and confidential (Roberts, 2005). In this way, grassroots innovation can be “a world within a world” allowing demonstration and construction of alternative socio-technical dimensions, that then to the extent translation allows it can be transferred to an intermediate niche level (Seyfang and Smith, 2007).

Diffusion benefits

Grassroots innovations offers individuals an opportunity to move beyond the feeling of being powerless individuals greening a given market, that are defined by the very same socio technical regime they wish to

change. A collective effort to change the system, gives individuals social and to some extent financial resources that they would not have had access to as individuals (Seyfang et al. 2014). The presentation and demonstration of practices on grassroots level, can put pressure on more mainstream niche management entities to be more ambitious in the transition process and reflect critically on the measures initiated (Seyfang and Smith, 2007). The grassroots innovation can be predecessor on trying out practices and technologies, where both failure and success depending on the context can be extracted by mainstream niche management (Ibid).

Another approach of strengthening the niche is what Smith (2007) defines as translation between mainstream niche levels and the incumbent regime. Smith argues that traditional niche promotion literature and practices put a great deal of emphasis on the internal processes and qualities of the niche in preparation for facing regime, an approach that overlook the potential of interaction between niche and regime. This has to do with the paradox of niche development, where green niches is created with a wish to reconfigure the regime, but meanwhile the influence of the niche is dependent on a certain alignment with the same elements it wishes to change (Smith, 2007). This paradox can partly be resolved by obtaining in depth knowledge between regime and niche, and a translation of socio-technical practices (the seven dimension of a socio-technical regime) between the two will reveal spaces and links, that will ease adaption of the niche (Ibid). Likewise, such knowledge can also give guidance to the niche, in which aspects small configurations of existing practices will make it more adaptable to the regime. This approach is of a more strategical character than the grassroots innovation, and an approach that probably is intended for actors and entities located at niche or regime level. However, it is assessed in this theoretical framework that the colectivos can contribute to this processes due to their extensive role in the sector of cycling in Bogotá.

2. What potential barriers arise when colectivos are included in public planning processes?

As the colectivos are based on strong local anchored values on a local community level, it differs from the more mainstream cycling planning presented in Plan Bici. Furthermore, Plan Bici is a part of a public planning methodology, that has to take into consideration a broader traffic perspective. This difference in perspectives and values, can present some limits for the inclusion of the colectivos both for the executors of Plan Bici and the colectivos themselves. Seyfang and Smith (2007) present a number of challenges, that one should be aware of when if a niche management approach should be applied on grassroots innovation level.

The main risk is the deterioration of the greatest value of the grassroots innovation form: the ambitious core values (Seyfang et al., 2013). This dilemma is apparent both in relation to intrinsic and diffusional processes within grassroots innovation. Divergency about whether to focus on greater diffusion of the practices to mainstream niches or regimes, or to remain faithful to the course and values by solely focusing on the local community, can create unambiguous expectation and development trajectories (Seyfang and Smith, 2007). As the qualities of grassroots innovation to a large extent is based on sharing of core values, and the willingness among participants to overcome potential setback of the innovation, changes and adjustments of values and priorities must be aligned between grassroots entities and community (Seyfang et. al, 2014).

On the basis of above mentioned benefits Seyfang and Smith (2007) argue that there are indisputably great potential to be harnessed by mainstream niche management in the grassroots innovation, but that there at the same time are several pitfalls when translating practices and processes between the two (Seyfang and Smith, 2007). The context and scale of the grassroots innovation can make it hard for governance entities to utilize it in policies and strategies, where broader societal requirements must be taken into consideration. At the other hand mainstream niche management need to be more flexible and careful when engaging with community innovation, acknowledging that what makes grassroots innovation different is also what makes it a great potential for mainstream niche management (Ibid).

6 Analysis

To answer the problem formulation of this report it is necessary to understand that there according to the theoretical setup of this report are two different aspect in which the niche of cycling planning can be strengthened. One aspect is how the niche is to position itself within the structures and practices given by the incumbent traffic regime. This in a way that allows the niche to take advantage of the internal conflicts in the regime and the external pressures that are put on the socio-technical elements of the regime. The second aspect is to look at internal elements and processes, such as increased robustness of the niche, create networks of support, develop and spread innovative knowledge and technology within the field and create linkages to mainstream practices. The thesis of this report is that the ciclo colectivos as a form of grassroots innovation can contribute to both aspects of niche development based on the objectives in Plan Bici.

Therefor the following part of the analysis will focus on each objective of Plan Bici. It aims to analyse how the colectivos can contribute to achieving the objectives of the plan, through intrinsic and diffusional benefits within the niche, and thereby strengthen the niche itself. Furthermore, the analysis will focus on how the colectivos can translate issues and conflicts within the incumbent transport regime, that if addressed probably can be turned into an advantage for cycling. Lastly this part of the analysis will focus on two underlying aspects, that are not directly mentioned in Plan Bici, that potentially can contribute to Plan Bici and bicycling in general.

6.1 Plan Bici

6.1.1 Infrastructure

The existing infrastructure

The first element of Plan Bici is infrastructure, which again can be split into three different approaches: Adding new cycling infrastructure, maintaining existing low quality infrastructure and locate intersection posing great security issues for cyclists (Prado, 2016, b). The stated objectives related to infrastructure are to maintain 100 km of existing infrastructure, and expand the network of cycling lanes to an extent that all citizens of Bogotá will have a lane within a distance of 500 m (Ibid). Beside adding new cycling infrastructure and improving the existing network it is also acknowledged in Plan Bici that there is a need to look at what type and quality of infrastructure that is implemented (Ibid). As the majority of the existing cycling infrastructure was implemented more than 15 years ago, at a time with very low cycling rates and a total car dominant planning approach, the infrastructure was mainly designed in a way that had the smallest impact on motorised transport (Ibid). In this way 62 % of all cycling lanes were located at sidewalks, 11 % on segregated cycling lanes located between wider roads and only 2 % of cycling infrastructure on street level (2013) (Valderrama et. al, 2015). The mindset was that infrastructure ought to be separated from traffic, and cycling rates were low, it was assessed that shared sidewalks and cycling lanes was the best solution (Pardo, 2016, b).

This has resulted in a situation where overcrowded sidewalks and poorly maintained cycling lanes are shared which generates dangerous situations for both groups especially in rush hours (Victoria, 2016). The quality of this type of cycling infrastructure has caused that a significantly share of experienced cyclist prefer to cycle at road level even if there is cycling lanes on the sidewalks in the same road (Own experience, 2016).



Fig. 4. An example of a constellation of shared sidewalk and cycling. The lack of space makes the pedestrians use the cycling lanes as well (Mike's Bogotá Blog, 2011)

The distribution of the different types of cycling lanes and the low prioritisation of both cyclist and pedestrians gives a picture of the weak position of bicycle planning within the car favoring traffic regime of Bogotá, at the time of implementation at least. Cycling infrastructure was allowed to be implemented, but only to an extent where it would not interfere with either Transmilenio or private vehicles, as these are the dominant modes of transport in the regime.

New infrastructure

There has however been a change in cognitive and normative understanding of what constitutes good cycling infrastructure among planners responsible for implementing cycling infrastructure. Meaning that the methodology of cycling infrastructure at street level is now gaining its foothold amongst planners (Prado, 2016, b). This type of cycling lane is believed to bring better facilities for cyclist and pedestrians (in the case where sidewalk and cycling originally was shared), an increased flow of cyclist and better road security between motor vehicles and cycles as a result of increased visibility (Ibid). It should however be noticed that the choice of cycling infrastructure is still based on the physical features and traffic flow of the given road. These features are speed limits, width of the road and numbers and types of vehicles (Ibid). Thereby it is still the needs of motorised transport that are decisive for the design of cycling infrastructure. However, the fact that cycling infrastructure at street level with the same rights as cars is even considered witness of a strengthened position of the niche in relation to the regime.



Fig. 5. An example of cycling lanes at street level (Despacio, 2016)

With the reversed approach of cycling planning in mind, local bound knowledge about infrastructure and traffic behavior gets essential. This is an important potential for the colectivos to gain influence when new infrastructure is to be implemented, especially for the ciclocolectivos grounded in a specific local area, as it is the case of Teusacatubici. Thus the colectivo holds local bound knowledge about infrastructure and traffic patterns, based on everyday experiences of riding a bike, which can reveal aspects or tendencies that an assessment done by an outside traffic planner would not identify.

Furthermore, Teusacatubici has experience with implementing cycling infrastructure in Teusaquillo, as a result of a self-directed pilot project based on the local perceived needs. After a longer period of pleading SDM for cycle lanes at street level along a park located in the heart of Teusaquillo, central actors of the colectivo decided to implement the lanes autonomously (Camilo, 2016). The implementation of the project was given a specific date, and the colectivo used its network on social medias to gain support, which resulted in more than 300 participants when the intervention took place (Ibid). Despite being an autonomously pilot project, there was put great emphasis on the importance of the infrastructure meeting official standards and requirements given by Instituto de Desarrollo Urbano (IDU) (Institute of urban development, which is the planning entity responsible for implementing all types of infrastructure in Bogotá). The meeting of official standards would increase the likeliness that the project could be permanently implemented (Ibid). As various members of Teusacatubici are possessing positions within public planning entities, they had technical knowledge of the requirements which was combined with own experiences of bus, car and taxi traffic in the area (Ibid). As the road was placed in 30 km/h zone, they knew that the lanes would not need the same width, why space could be relocated to give space for a cycling lane at street level. Further they knew that conflicts between buses and cyclist would be minimized if the lane was located in the left side of the road, which was unusually at the time (Ibid). As the infrastructure complied with official requirements and had broad local support it was difficult for IDU to refuse a permanently implementation of the lanes (Ibid).



Fig. 6. Employees from IDU making the pilot project of Teusacatubici permanent (IDU Bogotá, 2015)

This case exemplifies the potential that local based colectivos represent in relation to the forthcoming expansion of the network of cycling lanes in Bogotá. Furthermore, it is line with Smith (2007) emphasising the likelihood of successive and disruptive implementation of niche elements if these are adjusted according to translations from regime given practices and structures. By considering how to minimize conflicts with dominant modes of transport and align with standardized planning practices, the colectivos managed to implement high quality cycling infrastructure on behalf of vehicle infrastructure. This case also exemplifies what Seyfang and Smith (2007) identify as diffusion benefits provided at a protected grassroots level. The demonstration of successful technologies or practices put pressure on mainstream niche management to raise standards to same levels (Seyfang and Smith, 2007).

A different and slightly less disruptive way the colectivos can aid, when new infrastructure is to be implemented, is by creating awareness about these among participants and through social medias. This is already the case with CPM, where founder Andres Felipe Vergara through his position in the non-motorised department in SDM gains first-hand knowledge of new infrastructure and use this when organising the route for the ciclopaseos (Negret, 2016). In this way new infrastructure is visited by the 150-200 potential new users, which is an incredible efficient communication tool, that the planning department in itself cannot provide (Ibid). CPM conducted likewise ciclopaseos during this year's Semana de la Bici (bicycle week, an annual 7 days cycling conference held by SDM) in correlation with the SDM under the title "conoce tu ciudad" (know your city) where several participants from the conference attended (Own experience, 2016). This is what Seyfang and Smith (2007) defines as intrinsic benefits, which strengthen the internal elements of the niche by creating linkage between mainstream niche and the user groups. A greater demand for the given niche technology or practice is creating a stronger administrative and political mandate to expand the network of infrastructure and related services. The interesting feature of CPM in relation to this is that the participants of CPM to a greater extent than Teusacatubici are inexperienced cyclist that are yet not using the cycle as their preferred mode of transport. Through the ciclopaseos the participants are gaining confidence and skills moving them towards being regular cyclist.

Maintaining existing infrastructure and identify insufficient intersections

For some of the same reasons as mentioned above the ciclocolectivos can also contribute when Plan Bici is to identify what infrastructure to maintain and what intersections that are critical and further what measures

that need to be supplied (Negret, 2016). At this moment different ciclocolectivos have already participated in various workshops arranged by the Plan Bici administration working with infrastructure maintaining (Ibid).



Fig. 7. An example of the poorly maintained cycling lanes in Bogotá (El Tiempo, n.d)

A central part of Plan Bici is that initiatives, programmes and specific schemes should be based on involvement of private actors, citizens organisations and the general public, which opens up for inclusion of ciclocolectivos (Ibid). Cycling planning in Bogotá has traditionally not been including public and interest organisations, which among other aspects have resulted in low public confidence and acceptance of planning administration (Ibid). As a part of this new including planning approach a digital inquiry was launched in the summer 2016 encouraging citizens to come with inputs for the four elements of the plan, including identifying good and bad infrastructure (Secretaría Distrital de Movilidad, 2016). This type of interaction with user groups based on knowledge extraction is another aspect where the colectivos present a significant potential of providing intrinsic benefits to cycling, related to expansion and mobilisation of networks within the niche. The colectivos represent extensive networks on social medias, forums and other types of communication (Mora, 2016). On Facebook the CPM and Teusacatubici have respectively 8.300 and 10.700 followers, while they on Twitter have 12.000 and 6.300 followers. With most of these followers being individuals with different degrees of cycling experience and involvement, they represent a broad range of cyclist from different parts of the city. Cooperation with the colectivos in both collecting and sharing information will undoubtedly give a boost to the public involvement in Plan Bici, specially with the above mentioned low level of confidence in planners and politicians taken into consideration. This is one of the strengths of grassroots innovation, where the quantity of ideological engaged participants create a strong social network. A network where professional and practical knowledge can be shared and potentially translated into mainstream niche terms (Seyfang and Smith, 2007).

6.1.2 Culture

The purpose of this element of Plan Bici is to create a healthy and strong cycling culture in the city where cyclists are respected and respect other modes of transport in the existing traffic system in the city (Prado, 2016, b). The latter is specially related to the way cyclist are engaging with pedestrian on the shared sidewalks, as increasing cycling rates have lead to a more dominant cycling behavior (Vergara, 2016, b).

“What is happening with cycling in Bogotá is that the good news is that the number is increasing, the bad thing is that I do not want cycling to become a part of the problem. Many times I see on the street that cycles are doing what the cars used to do to us [cyclist]... Now I see cyclists acting like they are the center of

universe, so we have to work with the education in sharing the space [with pedestrians] and respecting the norms.” (Vergara, 2016, b).

This aggressive cycling culture seems to arise from an adaptation of motorised behavior, that cyclist due to the incomprehensive network of cycling infrastructure has been compelled to adapt. There is a great difference in behavior between cyclist having protected high quality infrastructure and cyclist maneuvering on heavily trafficked road with norms, rules and speed levels dictated by motorised transport (Own experience, 2016). The latter has to adapt to its milieu by being aggressive, demanding space and constantly demonstrate his or hers presence on the road which is basically to behave like a car. This style of aggression and speed does however not comply well with the scale and tempo of the shared sidewalks (Ibid). A problem that risk creating a negative cognitive understanding of cyclist among pedestrians. Pedestrians ought to represent a supportive practice and user group, that together with cyclist articulate pressure on the ‘common enemy’ of motorised transport. This is a critical development as high user demands and supportive networks are some of the cornerstones in a strong niche (Schot and Geels, 2007).

Plan Bici contains programs with the aim of calling attention to the hierarchy of transport modes in Bogotá called “Ellos primeros, tu primero” (Them first, you first) going from pedestrians as the priority, then cyclist, public transport and lastly the private vehicles (Prado, 2016, b). This education of cycling culture and norms is yet another aspect where the colectivos with their distinctive characteristics and objectives can address different challenges and types of cyclist. CPM does not only conducts the biggest ciclopaseos in Bogotá, but it is also one of the ciclopaseo with most inexperienced cyclist or participants that only use their cycle during ciclopaseos (Prado, 2016, a). This is linked with the way that CPM is organised and the emphasis that the colectivo puts on safety, comfort and structure (Vergara, 2016, a). There is a small group of three people in CPM that handles logistic of ciclopaseo, a bigger group of 25 volunteers that during the ciclopaseos guide participants, block traffic and help in the case of technical issues (Ibid). All volunteers wear the same reflective vest and are carrying walkie talkies to communicate throughout the ciclopaseos (Ibid).



Fig. 8. The crew of CPM with their matching reflective vests (Ciclopaseo De Los Miércoles Cpm, 2015)

By creating a safe environment where the participants only have to focus on cycling and socializing the hope is to generate confidence among non-cyclist to start using the bicycle as a daily mode of transport (Vergara, 2016, a).

“We want the people that does not cycle at the moment to come to us and experience the cycle and the city with us... People are going 5 times to the ciclopaseos and then they become cyclists” (Vergara, 2016).

In this way CPM is “producing” a lot of the new cyclist and holds the opportunity to educate these norms and practices that aligns with the programmes of Plan Bici. A process that the colectivos in Bogotá in general have experience with, as it was the colectivos who taught their participant to use reflectors, lights and helmets (Negret, 2016, a). Teusacatubici is to a far greater degree based on the inclusion of the participants both in relation to logistics of the ciclopaseo, but also conducting it (Mora, 2016). Some decision are taken amongst a smaller group of individuals, but several decisions are also taken when people are assembled before the ciclopaseo (Ibid). One of the characteristics of Teusacatubici is the casual atmosphere, with a strong solidarity among the participants, of whom a great share are citizens from the local community (Ibid).

The experience as a cyclist when participating in ciclopaseos conducted by the two colectivos is also substantially different (Own experience, 2016). At CPM, members of the colectivo are blocking traffic in every intersection, driving up and down the column of participants to ensure that people stay in the lane, giving the feeling of being on a stroll (Ibid). At the ciclopaseos of Teusacatubici participants themselves are expected to block traffic, or create awareness of which lane to stick to and to keep up with the group (Ibid). As the skill levels of cyclist in the latter are genuinely high this does not seem to cause problems (Ibid).

This self-dependency of the participants of Teusacatubici is not just a result of a casual ciclopaseo, it is also an intentional way of preparing cyclist to engage with the reality of the traffic system in Bogotá, where cyclist very much need to claim space and security (Ibid). As an example of this is one ciclopaseo focussed on driving in hilly terrain to adjust to the high speeds of both cyclist and vehicles. This was a preparation as several members of the colectivo were to cycle to a yearly cycle conference in Ibaguè (200 km from Bogotá), where hilly roads and high speed traffic is a part of the route (Ibid). Even though the latter example is due to a specific event, the objectives and characteristics of Teusacatubici seem to have an educational effect towards cyclist on how to navigate among motorised traffic. CPM and their “production” of new cyclist provides strong intrinsic benefits by increasing the user demand in the niche. The autonomously approach from Teusacatubici has more diffusional benefits, as it increases the domain of the cyclists to go beyond cycling lanes and protected cycling environments of the ciclopaseos. By redefining where and how bicycles can behave in the transport system the colectivos have made a strategical translation and adaption to the incumbent regime. Acceptance of cycling only being suitable at cycling lanes would make it more or less impossible to use the bicycle as a mode of transport and increases in cycling rates would be less likely to appear.

6.1.3 Inter-institutionalisation

A consistent element of Plan Bici has been to ensure a coherent and efficient cycling planning in Bogotá based on a greater alignment of understandings between cycling related projects and promotion programs (Prado, 2016, b). The subject of cycling is divided between different planning entities in Bogotá. SDM is responsible for strategic planning and Gerente de Bici is officially employed here. IDU manage maintenance and implementation. Instituto Distrital de Recreación y Deporte (Institution of recreation and sport) IDR are responsible for the ciclovías. Secretaría de Educación del Distrito (Secretary of Education) has operated an educational program called “Al Colegio en Bici” (To school on bicycle) to introduce children to the bicycle as a mode of transport (Prado, 2016, a). The division of cycling planning amongst different offices with diverse institutional settings, is one of the biggest challenges of Plan Bici (Prado, 2016, b). Differences in budgets, priorities, skills and planning practices, especially between IDU and SDM creates gaps of understanding between the two entities and complicate implementation of new infrastructure or maintenance of existing ones (Ibid). A mismatch of competencies and understandings that are one of the biggest barriers when cycling projects and programs are to be aligned across planning entities (Prado, 2016, b).

This is also a question of creating a greater inter-institutional awareness of both the need for bicycling infrastructure and the benefits of cycling in the existing transport system of Bogotá. A process that the

colectivos already have contributed to in an indirect manner through recruitment of central actors from the colectivos in public planning entities. Juan Camilo from Teusacatubici was hired in the Ministry of Transport and Andres Vergara from CPM was hired in the non-motorised department within SDM (Prado, 2016, a). The creation of the non-motorised department was initiated by former mayor Gustavo Petro in 2012, before Plan Bici was put into place (Vergara, 2016, a). Previously it was mainly engineers with little cycling related experience being responsible for the cycling planning, why it was important to add first hand knowledge and experience of being cyclist to the department (Ibid). The need for inter-institutionalization became apparent for Vergara as it was like the engineers spoke another “language” when he proposed cycling initiatives. As positive results started to emerge from the cycling projects, the mindset however changed in the department (Ibid). Even though Vergara stresses the importance of separating work and his role in the colectivo, he has indisputably brought knowledge and experiences from the colectivo. This process is in line with Seyfang and Smith (2007) arguing that the knowledge created in the unrestricted and ideological environment of grassroots innovation can contribute to a lifted level of ambition in the mainstream niche through demonstration or knowledge sharing.

Furthermore, the creation of a common language and a broader acceptance and understanding of the bicycle spreading from the inside of the planning entities is an important step in challenging the incumbent transport regime of the city. More specifically the process is contributing to an altering of techno-scientific knowledge and policies/strategies, which are some of the dimension that constitute and stabilize a socio-technical regime (Geels, 2002).

This process of spreading knowledge and experience from within the planning entities are however not a choice that are given to the ciclo colectivos, as it needless to say depends on whether the entities employ members from the colectivos. The element of inter-institutionalization in Plan Bici however also includes cooperation with actors from the private sector. This opens yet another opportunity for the colectivos, both through inclusion of the colectivos themselves, but also through their extensive network to citizens projects and cycling initiatives from the private sector. Both CPM and Teusacatubici use the ciclopaseos as an opportunity to promote external cycling initiatives or products. Each ciclopaseos of CPM has a different gathering point, which CPM utilise to promote different bicycle shops around the city, by locating the gathering point at these shops (Own experience, 2016). In return the shops get a opportunity to advertise for products and services.

Teusacatubici has in several ciclopaseos given the opportunity to small scale cycling initiatives to present their purpose, objectives or even to ask for contribution (Ibid). Both these types of promotion can be seen as intrinsic benefits from a grassroots level, nursing even smaller scale innovation, social initiatives and products. Furthermore there is an important network sharing and creation as a result of this, especially in Teusacatubici, where there is a genuine high share of activist amongst the participants. The extensive network and protected environment of the colectivos allows for a strong idea generation and strengthening of existing initiatives that potentially can be useful at mainstream niche level.

6.1.4 Security

In Bogotá security for the cyclist, or the lack thereof, is one of the main barriers for further increases in cycling rates. As mentioned in the problem analysis the lack of security towards other modes of transport and the fear of getting robbed are amongst the main reason why non-cyclist do not use the bicycle as a mode of transport. These issues are also acknowledged in Plan Bici, where traffic safety mainly is addressed through improved infrastructure, especially intersections, and personal safety through a number of softer measures (Prado, 2016, b). The former aspects is somewhat similar with the element of infrastructure in Plan Bici, where the objective is to identify the intersections that not only are badly maintained, but also where security issues towards cyclist are apparent (Ibid). The colectivos have already engaged in the identification of intersections, where implementation or maintenance of infrastructure could benefit the traffic safety of cyclist (Negret, 2016).

Regarding the second aspect of security the initiatives in Plan Bici is mostly based on a cooperation with the police force of Bogotá. The aim is to improve the perceived safety for cyclist and discourage potential thefts, by a increased police visibility in the streets and on sidewalks (Prado, 2016, b). A specific programme called “Onda Bici Segura” (Safe bicycle vibe) identifies cycling lanes or passages with high frequency of bicycle thefts, in order to intensify police attendance at these locations during peak hour (Ibid).

Beside launching initiatives of increased police attendance, it is complicated for SDM to address bicycle theft in, as it is an organised crime, where stolen bicycles rapidly are disassembled and distributed abroad (Negret, 2016). Which is complicated further as the police processing of reported robberies are too timeconsuming, why many cyclist do not report if they are robbed (Ibid).

This is problematic as programmes and initiatives like “Onda Bici Segura” is based on reported incidents and cyclist experiences. Therefor a new website is to be launched, where cyclist can report easy and fast, and SDM get the data instantly (Ibid).

Some colectivos have already taken part in the process of locating the intermediaries that are distributing the stolen bikes, and likewise the colectivos have aided in pinpointing the locations where bicycles are stolen (Ibid). The extensive social network of the colectivos could also be used to create awareness of the new website, and the importance of reporting incidents. This seems beneficial especially if there is a perception amongst cyclist, that there is no purpose in reporting robberies, something the good credibility of the colectivos could assist to alter (Negret, 2016). Likewise the colectivos can share information about the cycling infrastructure or roads, that are a part of the “Onda Bici Segura” or introduce participants to these through ciclopaseos. If the colectivos can aid in increasing both the perceived and actual personal security, it would be an important intrinsic benefit for the niche. It is however a complicated issue, where a great deal of the problem is related to aspects that stretches beyond the impact of niche level, and perhaps even beyond regime level. Aspects such as prioritization of police resources, crime tendencies and income levels making organised bicycle theft profitable are beyond the scope of the transport sector.

6.2 External elements

Beside the elements of Plan Bici, there are a number of other elements in which the objectives and characteristics of colectivos evidently can contribute to a long term cycling planning in Bogotá. The first element is related to the user practices in the incumbent transport regime in the city, where socio-economic developments, transport policies and person preferences have created a scenario that potentially serve the bicycle well. The other element is more of a political character. A forthcoming reevaluation of the land management plan of the city, can potentially strengthen the position of bicycling beyond the term of the current pro-bicycle administration. Likewise, the potential of engaging with local politics and planning entities will be elucidated in this section.

6.2.1 Bicycling in the incumbent transport regime of Bogotá

The transport system in Bogotá is mainly based on motorised transport with bus 26 %, Transmilenio 12 %, private car 14,5 % and motorcycles 3 % (Jirón, 2013). The number of trips done by public transport has decreased with 8 million annual in the last decade, despite an annual growth of 30.000 in trips with Transmilenio (Bocarejo et al. 2015). Most of the lost trips can be assumed to have transferred to private cars or motorcycles (Ibid). This tendency becomes apparent as car ownership in the city that has grown with 56 % in the period from 2008-2014 (Ibid). This is mainly a result of the increase in income levels of Bogotanos in the same time period, creating a market for private cars (Acevedo, 2016). Furthermore public satisfaction levels regarding public transport has decreased in recent years, due to exceeded passenger capacities and low maintenance (Bocarejo et al. 2015)(Acevedo, 2016). Like the car, the number of motorcycles has undergone a tremendous increase in the period from 2008-2014 (193 % growth) (Bocarejo et al. 2015). The motorcycle has become very popular among middle/low income families in Bogotá as it is relatively cheap, easy to manoeuvre in congested roads and can cover the transport needs of both adults in a traditional household

(Acevedo, 2016). The present price level of motorcycles makes it profitable to change from public transport to motorcycles in a relatively short time frame (Ibid). The increased use of motorcycles is however not relieving the pressure on the transport system of the city, as it contributes to congestion, poor air quality and traffic safety (Bocarejo et al. 2015). The latter is especially problematic, as the motorcycle despite being a motorised mode of transport is vulnerable, which also is apparent in statistics of injuries and casualties. Motorcyclist are the second most frequent victims in traffic injuries and casualties, only surpassed by pedestrians, accounting for 25 % of the casualties and 32 % of the injuries in the city (Ibid).

The massive issue of traffic safety related with the use of the motorcycle, seems to represent a certain potential for the bicycle as it posses many of the same benefits that has made the motorcycle so popular, but without the same degree of safety issues. The bicycle is cheaper than the motorcycle and there is high ownership rate (171 bicycles per 1000 habitants versus 28 motorcycles per 1000 inhabitants in Bogotá) spread evenly across the different socioeconomic groups of the city (Valderrama et. al, 2015). The bicycle is fast and easy to manoeuvre on congested roads, it would however represent the same traffic safety issue as the motorcycle to use the bicycle without protected infrastructure. The matter of protected infrastructure is however the great potential of the bicycle compared to motorcycles, especially with the goal of Plan Bici to ensure that every bogotanos will have cycling infrastructure within a distance of 500 meters of their homes. It would however take further and more detailed studies of the transport practices and routines of both motorcyclists and cyclist to clarify what initiatives that could create incentives for the motorcyclist to change.

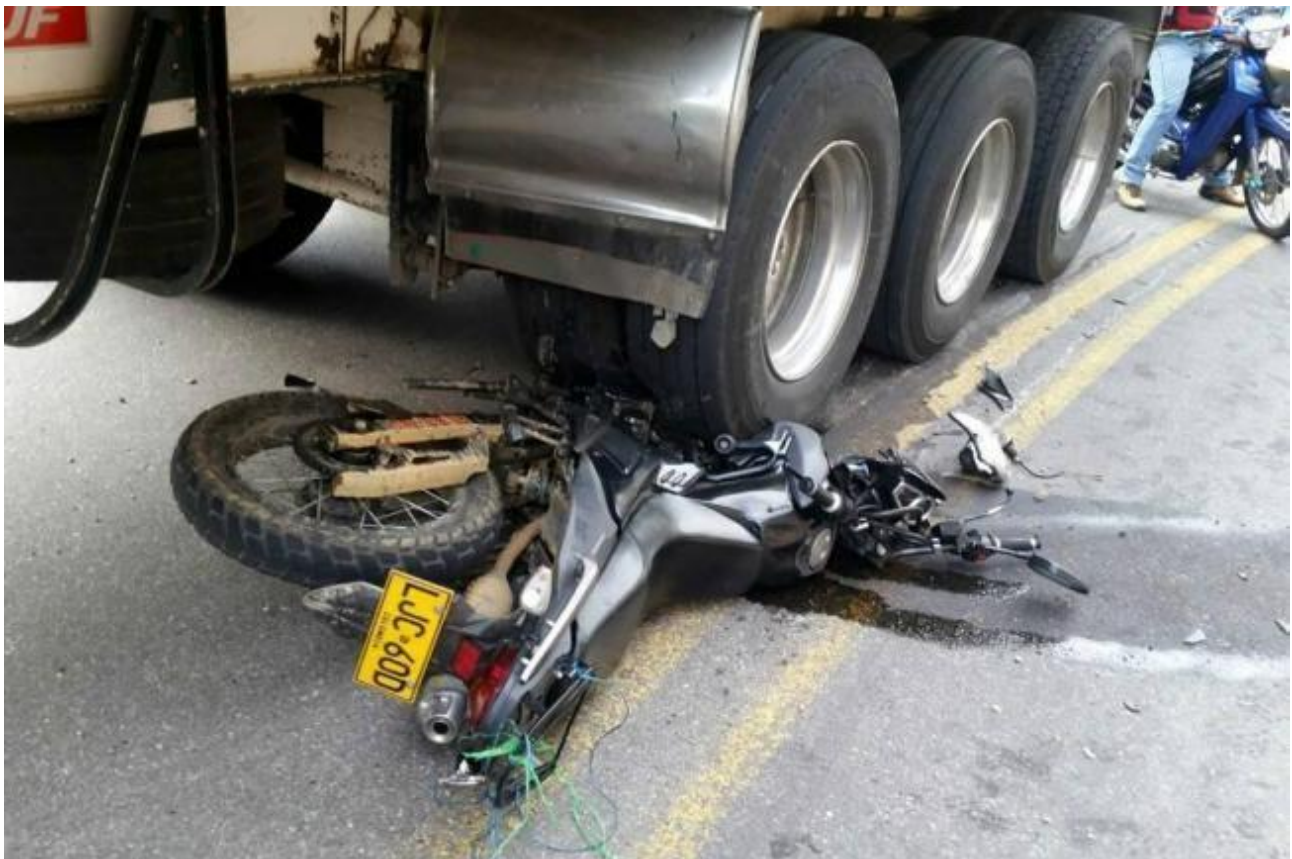


Fig. 9 Motorcycle accident (vanguardia.com, 2015)

This way of target initiatives and practices towards specific population groups is something the colectivos deliberately or undeliberately have been doing through the objectives and characteristics of their ciclopaseos. CPM has tried to target their ciclopaseos towards middle age individuals belonging to higher income groups (Vergara, 2016). This group of people are more likely to use the private car as a mode of transport, why new

cyclist created in this groups holds a great potential in easing traffic problems (Ibid). Likewise, this groups is more likely to possess a job position that would allow them to make decision or get influence on traffic related topics (Ibid). By adjusting their cicloaseo towards this social group, CPM has made what Smith (2007) characterize as a translation between the incumbent regime and the niche to identify potentials for the niche to explore. In this case the translations has related specially to the regime dimension of user practices and symbolic meaning (Geels, 2002). The same approach could be imagined by adjusting cicloaseos, or even public cycling initiatives, to focus specifically on the social groups that are in the pitfall of choosing the motorcycle. One could even imagine a public private cooperation, where mobility trends on motorcyclists are delivered by planning entities, and the actual cycling promotion on the basis of this data could be conducted by the ciclocolectivos.

In this way the initiatives are based on the internal conflicts in the regime such as dissatisfaction of public transport and traffic issue of pollution, congestion and traffic safety. Furthermore, the translation gets even more specific when focusing on a specific mode of transport that is somewhat comparable to the bicycle.

6.2.2 Ciclocolectivos as a political tool

Create political backing for cycling initiatives

This section aims to identify the potential of using the ciclocolectivos politically to create decisions in favour of cycling in the city. The first aspect is regarding the city's land management plan Plan De Ordenamiento Territorial (POT). The plan is developed for a 12 year period, and contain a number of long term strategic spatial planning initiatives related to housing, building mass and traffic (Prado, 2016, a). The POT is described as “*A navigation map that allow our city to prepare itself to actual and future urban challenges*” (Own translation) (Secretaria de planeacion, 2013, 2013 p.2) handing out guidelines and strategic consideration more than providing specific goals and initiatives (Ibid). The POT is to be renewed by 2017, why there is a big potential to secure a long term pro-cycling perspective going beyond the term of Peñalosa and his pro-cycling administration (Prado, 2016, b). Thus, it has been important for the department working with Plan Bici to ensure that guidelines, standards and strategies are manifested in the POT, as it will ease the implementation of future Plan Bici programs and initiatives (Prado, 2016, b).

Although it is the current administration that are to develop the POT, it is the city council who are to finally approve the POT, which potentially, if there is a lack of political backing, can create barriers (Ibid). Even if the pro-cycling elements of the POT are accepted by the council, there is still a need to implement more specific laws and political agreements to support the POT as the content of this is broad and not to specific (Prado, 2016, a). Thus, it seems necessary that there is a genuine political backing for cycling in the council. In relation to this, there is already a group within the council called Banca de Bici that have publicly declared themselves as pro-cycling, but there is need to expand the political backing (Ibid). Before the last election in 2015 a group of cycling enthusiasts produced a cycling plan with 15 initiatives and asked the politicians running for council to declare that they would work to achieve the initiatives of the plan if elected. (Ibid). 20 politicians signed the plan, of whom only two was elected for the council. This indicates that there is a need to create bigger awareness of which politicians that are pro-cycling and in general to collect more votes for these politicians (Ibid). A process that the colectivos could contribute to, with their massive networks on social medias, experience with promotion and a high credibility amongst cycling interested individuals (Ibid).

If the colectivos managed to strengthen the political backing of cycling in the city council, it would be an important process of strengthening the niche, where supportive network can aid in realize practices and structures in favor of the niche (Smith, 2007). The comprehensive network of ideological engaged supporters and a genuine credibility in local communities that characterize grassroot innovators like the colectivos are important qualities in the process of institutional embeddedness. Qualities that the public planning entities and Plan Bici in general does not posses, why it is important to involve the colectivos in this process.

Roots in the local community

A more direct way of gaining political influence for the colectivos is to engage in community based politics. Teusacatubici has since its foundation had a strong relationship with the local council of Teusaquillo (Mora, 2016). Jesus David Mora is, beside being a regular participant in the ciclopaseos of Teusactubici, a member of the local council. He explains how Teusacatubici has been strongly involved in developing the upcoming Plan de Desarrollo (A political plan guiding the development of the area) (Ibid). If the local council approves the plan, the district will be working towards implementation of public bikes, cycling lanes, cycling parking and general promotion of the bicycle as a mode of transport (Ibid). A process in which it would be obvious to include Teusacatubici as they represent the majority of cyclist in the community. Teusacatubici have knowledge of the territory seen from the perspective of the bicycle and have experience with implementing infrastructure (the pilot project) (Ibid). Grassroot innovators are good mediators of sustainable solutions, as they not only poses social credibility in the communities, but also the ability to base solutions on values, cultures and perceived needs of the local population (Roberts, 2005).

Such a close cooperation with the local council and general political commitment in the community are however somewhat rare amongst ciclocolectivos in the city (Mora, 2016). The political engagement and autonomy approach are also some of the central characteristics of Teusacatubici and what distinguish them from most other colectivos (Ibid). CPM on the other hand has deliberately made the decision not to engage with politicians to maintain it as a friend-activity (Vergara, 2016,a) In this way the colectivo can sustain the objective of the ciclopaseos on solely being a citizens initiative with the focus of introducing people to the bicycle and the city (Ibid). This prioritization is also reflected in the numbers of activist and political engaged members in the two colectivos, where both participants and leaders in Teusacatubici are more politically engaged than CPM (Ibid).

6.3 Limitations and barriers for inclusion of the colectivos

This part of the analysis will concentrate on which barriers and limitations that exist in relation to a further inclusion of the colectivos in Bogotá. In continuation thereof, the analysis aims to bring forward possible initiatives or changes in practices from both the perspective of colectivos and planning entities that could ease limitations. Thus this part of the analysis will also serve as a discussion of the problem formulation regarding how the colectivos can contribute to the implementation of Plan Bici.

Alignment of communication and understandings

Even though the case of the pilot project on cycling lanes in Teusaquillo exemplifies the great potential for the current Plan Bici administration in exploiting the knowledge and qualities of the colectivos, it also serves as a valuable lesson for other colectivos. The successful implementation was not only a result of demonstration, strong engagement with local communities and ambitions, core values for most grassroot innovation. It was just as much a result of a project that had identified what institutional structures, rules and standards that were essential to comply with in order to make the infrastructure permanent. This alignment of institutional settings and understandings of IDU by complying with technical standards and safety procedures is essential if the colectivos want to engage in the public planning process (Prado, 2016, a).

According to Juan Manuel Prado, the colectivos has shown that they possess the ability of promotion, which also by far is the most common objective of the colectivos (Ibid). This is probably also a result of a time with little attention from planners and politicians on the needs of cycling, why the colectivos mainly had to use their promotion to get attention and demonstrate the existence of a cycling culture. There is still need for promotion, but with Plan Bici and the later years of political attention and willingness in actually improving cycling in Bogotá, the situation of the colectivos has altered (Ibid). The colectivos could bring even bigger benefits to cycling planning if arguments, projects and communication towards planning entities to a greater degree was based on studies, data and technical specification (Ibid). In this way the planning entities could take proposed projects, streamline them with technical standards and present these to the city council, making the projects more likely to be realised (Ibid).

Beside aligning with technical specification of IDU and SDM, there is also a barrier to overcome by adopting to a more holistic perspective on the transport system of the city when cooperating with planners. One of the main shortcomings of the suggestions that the colectivos has brought to various workshops in relation to Plan Bici has been missing consideration of other modes of transport (Negret, 2016). In this way some suggestions have had harmful consequences for the accessibility for other modes of transport, or even being directly dangerous for both cyclist and other road users (Ibid). The latter is the dilemma that according to Seyfang and Smith (2007) arise when knowledge, experiments and practices are to be transferred from grassroot level to mainstream niche level. The restrictions and obligations of being a part of the incumbent regime can limit the possibilities of inclusion of grassroot innovation if the latter is not adjusted (Seyfang and Smith, 2007). This even in the case where the grassroot innovation in question would contribute to the development and strengthening of the niche.

The risk of altering objectives and practices at grassroot level.

The colectivos are also presented with a dilemma when engaging with the mainstream niche level of Plan Bici. Most of the colectivos have in one way or another been founded as a demonstration towards the existing transport system of Bogotá. Some were founded on the basis of local autonomy as Teusacatubici, with great emphasis put on activism and political influence. Others solely as social activity with focus on creating new cyclist through demonstration and education as it is the case of CPM. Despite being the same system they demonstrating against, and the same cause they are promoting, the differences in objectives and practices are however extremely important for grassroot innovators. It is these that the participants identify themselves with and are thus basically the colectivos' reasons of existing (Seyfang and Smith, 2007). Hence the dilemma is whether to engage with mainstream niche planning with the hope of delivering substantial benefits for cycling or to stay loyal to the concept and contributing to cycling through activism from grassroot levels. The illegal implementation of the pilot project, and the political engagement with the local council is based on a activism and localism amongst the participants of Teusacatubici, that does not exist in CPM, why such practices would not flourish in this colectivo. Likewise Teusacatubici does not possess the structures or resources to conduct ciclopaseos with the quantity and educational character of the ciclopaseos of CPM, that is so important when promoting cycling towards non-cyclist. On the basis of this it seems that objectives and practices of the colectivos is determinant for the character and depth of engagement with the mainstream niche level. Why the question of maintaining the qualities of grassroot innovation does not seem to be a matter of too much or too little engagement. Instead it is a question of adjusting engagement, both towards niche and regime, with ideologies, expectations and characteristics of the colectivo and its participants.

7 Conclusion

Through an analysis of the elements of the long termed cycling plan, Plan Bici, it became apparent that the colectivos through their ciclopaseos and other cycling related citizen projects has nurtured a strong cycling culture, at a time where the political attention was absent. Hence this pre-existence of cycling communities has created a basis of technical knowledge and practice experience that potentially can benefit several elements of Plan Bici. This both in relation to harder measures as infrastructures, and softer measures as promotion, culture and security. Differences in objectives, practices, composition of participants, values and structures of the two colectivos have shown to be decisive for which types of benefits the colectivos as grassroot innovators can bring to the mainstream niche of cycling.

With local embeddedness in a specific area Teusacatubici holds great potentials to deliver site specific information about cycling tendencies, the interaction with other modes of transport and location of dangerous intersection and poor quality infrastructure. Information that due to changed planning practices and the need of maintenance will be useful for Planning entities when realising the element of infrastructure in Plan Bici. The autonomously milieu of Teusacatubici and the great share of experienced cyclist, has allowed the colectivo to educate cyclist to engage in traffic environments dominated by motorised transport and thereby enlarged the domain of cycling. Both these types of benefits have been of a diffusional character, as they have contributed increase the influence of cycling in the incumbent transport regime of the city. The strengths of CPM lays in the quantity and structural approach of their ciclopaseos, both when 'creating' new cyclist and as communicator of initiatives launched by Plan Bici. Regarding infrastructure the colectivo has utilized their ciclopaseos to introduce new infrastructure to their members, and thereby linking improvements within the niche with the user group of the niche. In relation to user groups the colectivo has due to the structure and focus on safety been able to 'produce' a massive amount of new cyclist. Furthermore, the colectivo has focussed on educating their participants in the importance of using reflexes, light and helmets. Likewise they have stressed the importance of cycling culture with respect for other modes of transport, especially pedestrians as sidewalks are shared between the two.

General for the two colectivos have been benefits as extensive network to the user group with a high credibility amongst this user group. This is important communication tools when creating awareness of especially softer measures of Plan Bici, but also as way for the planning entities to engage with the existing user groups.

Beside contributing directly to the elements of Plan Bici, the analysis has clarified how the colectivos can serve somewhat as a political tools. The extensive network of both colectivos, and in special CPM, could be utilized to gather votes for cycling pro council politicians in order to pass laws, programs and budgets in favor of cycling. Likewise, the case of Teusacatubici demonstrated how affiliation to a local community allowed the colectivo to get influence in the development of political development plans.

These characteristics are however also somewhat limiting in what type of benefits the colectivos can bring to the niche development, as it is crucial for the colectivos to stay the concept of their ciclopaseos in order to maintain the strengths of them as grassroot innovators. The latter is important if further engagement between grassroot level and mainstream levels are to be realised in the future, such as partnerships, knowledge sharing or a strategical usage of promotion. The latter is important to have in mind, when addressing the transferability of this study to other types of grassroot innovation concerning the topic of cycling.

It can however be concluded on the basis of the analysis that there are several formal and informal ways in which the colectivos of Bogotá can engage with public planning entities in strengthening the niche of cycling in the city.

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