Planning for resourcefulness: exploring new frontiers for participatory transport planning theory and practice in Rio de Janeiro and L'Aquila

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Submitted in accordance with the requirements for the degree of
Doctor of Philosophy

The University of Leeds
Institute for Transport Studies

September 2016

The candidate confirms that the work submitted is his/her own and that appropriate credit has been given where reference has been made to the work of others.

Acknowledgements

Abstract

Contemporary urban environments are being affected by a serious mobility crisis. This crisis is intertwined with broader environmental and social crises that are assuming critical magnitude. The concepts of sustainability and resilience have been informing transport planning theory and practice, providing initial instruments to challenge those crises. However, they have not yet enabled the change required. This thesis aims to explore new frontiers for transport planning, critically approaching the idea of resourcefulness. Resourcefulness is a property and a worldview that, with a specific focus on participatory practices, aims to inform the way we approach the crises, nature, and change, towards ecological solutions. Having developed this worldview, building on the literature that aims at complementing sustainability and resilience, this thesis explores how its theoretical and practical elements can improve the ability of transport planning to address the current mobility crisis. It does so by critically analysing the practices and vision of two resourcefulness-aligned actors working towards improving transport planning processes in the cities of Rio de Janeiro and L'Aquila. From those experiences it draws out an agenda for a resourcefulness-based transport planning that, via knowledge-based and ethically-grounded participation, can guide the construction of ecological and just mobilities.

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Preface

In 2009 I discussed my last University exam for my degree in Maths, in a tent, at the edge of the ruins of my hometown, L'Aquila. I was confused, tired, scared. It was hard to understand how, with a few equations, I could have done what everyone said we should do: stay and help. I was seeking certainty in Maths, but the only certainty I had left was that my hometown was in ruins.

I think the story of this thesis started there. It is fundamentally grounded in my efforts to understand how, with the things I learned in years of studying, I could help the reconstruction of the town.

It took me a few years to be able to understand that Leeds was possibly a good place to start. And moving away from my hometown, coming to UK and then visiting Brazil, made me also realise that our small earthquake was only a tiny part and only one face of a broader crisis. That what in L'Aquila we though was the exceptional, for the people in a favela in Brazil was normality; the police could come anytime and demolish their homes.

And those disasters, coming from humans more than nature, those crises, demanded something more complex than the certainty that I was seeking in Maths or modelling. In the process of asking how could I help, and how other people help, I started a dialogue that took me very far from equations and towards other forms of knowing, learning and acting.

After four years of PhD research, if I have one answer, it is in the process of seeking it. The answer lays in all the things I learned, in all the experiences I had the opportunity to live, in all the wonderful people I met and in all the dreams I shared with them. Those dreams, those people, those experiences and that knowledge is what I have and what we have. These are the resources on which we can start connecting and building different futures. Resources on which we can ground new forms of knowledge, ecological awareness and more ethical ways of living. Maybe, for me, the answer to my question is that I can start helping from where I am now, sharing this journey, understanding what worked, what didn't, and how it may continue to evolve.

A L'Aquila

Chapter 1: Introduction

Contemporary urban environments are being affected by a serious mobility crisis. Consider for example the practice of walking or cycling in cities congested by traffic, or the stressful driving conditions people have to face twice daily as they commute to and from work, or the degrading experience of living in grossly overcrowded public transport systems across the world. Add to that the effects of traffic-related air pollution, noise, crash injuries and fatalities. Finally, consider the environmental consequences of transport activity. In summary, during the last century, transport planning has developed an ineffective system that heavily contributes to the social and ecological crises we face today.

In response to the above-mentioned problems, an agenda for sustainable and resilient transportation has emerged: the goal of transport policies now increasingly aims to protect our environment and produce energy-efficient transport systems. But this approach has been slow to assume a clear operative form and to implement the necessary changes. And it has been even slower to challenge the current patterns of car-dependency and to radically change the way we move about—or not—in our cities. Moreover, this agenda has remained fundamentally directed towards top-down implementation of policies, or on encouraging individual solutions. It is still excessively focused on reducing emissions, while it does not really take any critical approach to underlying transport planning. It does not consider the fundamental question of "What are we going to do with a city free from exhaust gas, if the city remains occupied and congested by masses of cars?" (La Cecla 1997: 12).

It is time to envision alternatives that can radically change our transport systems and mobilities. These need to be grounded in solid perspectives on why the current crises have taken place and how change can be implemented. This thesis aims to contribute to building this change, exploring new frontiers for alternative transport planning theories and practices able to improve transport planning in the face of crises. It does so by developing and then exploring, in two case studies, the idea of resourcefulness.

Resourcefulness, aiming at complementing the limits that sustainability and resilience have shown to have in effectively tackling crises with a more procedural and processual focus, considers resources and politics, ecology and justice. It is developed participatorily with those in our cities who are envisioning and proposing alternatives. This approach comes with the

awareness that the time has come for urban planners to learn from the practices, projects, and needs of citizens, and support them in their construction of a genuinely ecological society.

In this first chapter I set the scene for this thesis. Firstly, I consider the context of social and environmental crises, showing how these constitute a problem that demands intervention. Secondly, I show how transportation and mobilities are intertwined with these social and environmental crises. For this reason, transport planning assumes an important role in tackling them. Thirdly, I consider the current attempts to address the mobility crisis, showing the flaws of the available approaches and the need for this research. Fourthly, I briefly introduce my methodological approach showing its appropriateness for the aim of this research. Fifthly, I present the case studies. Finally, I introduce the research questions and the structure of the thesis.

1.1.   Social and environmental crises

We live in a world where the social and ecological impacts generated by human activities and our model of development are increasing (IPCC 2014). A crisis has emerged due to the increasingly damaging effects of these impacts in relation to their complexity (Berkes et al. 2003). The term *crises* is applied here in the sense that these are situations of "intense difficulty and danger" (Oxford Dictionaries nd: np) in which a decisive turning point has been reached.

Anthropogenic climate change has a number of detrimental effects on ecological and human systems. At the environmental level these include extreme climate events, global warming, desertification, ocean acidification, and rising water levels (IPCC 2014). These effects are coupled with increasing patterns of stratospheric ozone depletion, degradation of air and water quality, scarcity of fresh water, land loss and contamination, soil erosion, habitat and biodiversity loss (OECD 2012; WWF 2014; Steffen et al. 2015). Adaptation to these phenomena has limited effectiveness or indeed may not be possible due to the magnitude of global changes (IPCC 2014). All of these elements comprise an environmental crisis of unprecedented magnitude, pace and speed (Park 2001). As the Stockholm Resilience Centre reports, four of the nine planetary boundaries for safe human activity with respect to the functioning of the planet as ecological system have been crossed. These signify everlasting damage to the environment, requiring immediate action (Steffen et al. 2015).

At the social level, as stressed in many reports by international agencies, public health issues in the urban realm are only a symptom of a broader social crisis. This is composed by increasing social inequalities (UN 2013), extreme poverty, lack to access to basic resources, food and energy insecurity, hunger (UNDP 2015) –also connected with decreasing agricultural yields caused by climate change (World Bank 2010a)- war, forced migration and displacement (UNDP 2016) and urban violence and segregation (World Bank 2010b). Despite the global effort toward economic growth, 48% of the population in developing countries are still in poverty, half of them lack access to water and electricity (World Bank 2010a), and infant mortality is dramatically high (UNDP 2015).

These social effects are sharpened by the unequal distribution of emissions (World Bank 2010a) coupled with the unequal distribution of environmental hazards and risks (IPCC 2014). Within each country already disadvantaged people suffer the most. Globally, disadvantaged countries are the ones more exposed and affected (World Bank 2010a; IPCC 2014), with increasingly apparent environmental and social injustices. As such, the environmental and social crises are inextricably interrelated and reinforce each other (§3.1.2, 3.3.1)[1]. These crises are predictable outcomes of a model of uneven development that is sharpened by the free-market economy, a rising use of environmental resources and energy consumption, and a short-term horizon for political choices (Park 2001).

In the face of these crises different actors have made strong appeals for change and even the World Bank has called for immediate action to reduce climate change and reverse the detriment of people's wellbeing at the global level (World Bank 2010a; IPCC 2014). In this context, I add my voice to the literature that considers it fundamental to direct research efforts, wherever possible, to understanding the sources of these crises and proposing pathways for a change to preserve our environment and human life (Fals-Borda and Rahman 1991; Pickerill and Chatterton 2006; Lucas 2013; Chodorkoff 2014). In this context also, research on transport planning can play a role, given the interlocked effects that transportation has on society and environment.

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[1] In the thesis I use the symbol § to indicate that the ideas, theories and concepts expressed will be further explored and analysed in the section with the relative number.

1.2.   Transport systems and the mobility crisis

In the classical tradition of transport studies, a *transport system* is considered as being composed of mobilities of people and goods, physical elements (including infrastructures) and a system of governance (Timms et al. 2014). Within the mobilities tradition, developed after the mobility turn in social sciences (Sheller and Urry 2006, 2016), Hannam et al. (2006) consider mobilities as a diversity of practices and forms of travelling configured and enabled by "spatial, infrastructural and institutional moorings" (3), e.g. fixed structures that allow movements. The mobilities tradition, has complemented traditional transport studies with a broader critical approach, revealing the central role of the mobilities paradigm in the "deciphering of current crises of the future, which are both spatial and social" (Sheller 2016: np). Acknowledging this overlapping of meanings, this thesis embraces elements of both traditions and, on the basis of them, considers that, in approaching transport planning, it is important to account for all of the spatial, physical and governance settings of the transport system and mobilities.

From both these bodies of literature, it emerges that transport systems and mobilities have a dual relationship with society: they intertwine with societal processes and are shaped by them. Transport systems cause and shape social, economic and environmental problems (Pucher and Lefèvre 1996) and, at the same time, as Vasconcellos (2001) stresses, are essential means to ensure the "social and economic reproduction of all people" (234), also "fuelling social and cultural life" (ibid). As Hickman and Banister (2014) report, transport is "critical to the status of the human condition" (348). Transport systems and mobilities are fundamentally connected to economic growth, allowing the unfolding of processes of capital reproduction and globalization (Hannam et al. 2006; Sheller 2011a). Mobilities allow the circulation of people, capital and resources and they determine the just or unjust distribution of those people, capital and resources (Urry 2007; Sheller 2011a). For Hannam et al. (2006) mobilities are connected to Harvey's (1989b) idea of spatial fixes, which expresses the intrinsic need by capital to move across space in order to overcome its inherent economic crises. Speaking about mobility is speaking about forced migration and displacement, about borders and international flows (Sheller 2011a). For this reason, understanding the impacts of mobilities compels consideration of their uneven distribution as well as "debates over globalization, cosmopolitanism, post- colonialism and emerging forms of urbanism, surveillance and global governance" (Sheller 2011a: 2). Understanding the impacts of mobilities requires acknowledging their manifestations across

space, the dislocation of infrastructures and powers that allow their existence, and the politics of mobility (Cresswell 2010; Vigar 2013).

This is specifically the case in contexts of crises to which transportation contributes, both environmentally and socially. Transportation and mobilities shape the crises and are in a situation of crisis that needs changing, as Lucas (2013), in a long but fundamental quote, outlines:

> "There is little argument that transport delivery worldwide is in something of a state of crisis. This is despite considerable innovation in the ways in which we now plan, deliver and manage our transport systems. There is also widespread evidence that the way in which most people currently chose to travel and how our goods and services are delivered is environmentally unsustainable, socially unjust and economically non-viable over the longer term. Both are impelling reasons for transformative, rather than incremental, changes in these processes; and (arguably) neither governments nor the market are delivering these changes rapidly enough to avert the simultaneous crises of global economic meltdown, climate change, peak oil and the ensuing civil unrest that will in all likelihood follow should our transport systems fail us in the future. There is an argument, therefore, to think and act differently at every level of our individual and collective travel behaviours" (431)

For Lucas, transportation is in crisis, generating environmentally unsustainable, socially unjust and economically non-viable effects. This crisis of the transportation system is a crisis of a system designed to dismiss its social and environmental impacts. It is a crisis that needs comprehensive and coordinated change whose responsibility is, for Lucas (2013), of the whole society. I call this crisis of the transport system a 'mobility crisis', acknowledging the importance of the mobilities tradition and the attention it poses on the socio-spatial and political aspects of the mobility crisis. In the next section I explore the constituting elements of this crisis.

1.2.1. The mobility crisis: environmental and social aspects

Transport systems are interlinked with societal processes, shaped by and shaping them. This applies also to the social and environmental crises to which transport systems contribute and by which they are affected (§1.2). For this reason in this thesis a *mobility crisis* is defined as the transport-related part of the aforementioned interlinked social and environmental crises. The mobility crisis is fundamentally intertwined, contributing to and being caused by, the broader social and environmental crises. Following

that, as I show in this section, a mobility in crisis is an unjust mobility with unevenly distributed negative environmental and social impacts.

With this definition, one can consider the specific transport-related impacts, showing how transportation effectively contributes to and is shaped by the broader interlinked social and environmental crises. Before doing so, however, it is important to notice that, as Jones and Lucas (2012) stressed and as reported in Figure 1.1, those impacts of transportation cannot be easily assigned to a single social, economic[2] or environmental category. They potentially affect all those dimensions simultaneously and generate, in turn, spatial, temporal and socio-demographic distributional impacts, contributing directly to the broad social and environmental crises. These impacts are unevenly distributed among the population (Lucas and Jones 2012) and are assuming more and more extreme negative implications. For example, vehicle emissions generate environmental impacts that also produce overall health and social impacts. These health and social impacts are mostly suffered by marginalised communities. As such vehicle emissions shape societal inequalities even more, due to their uneven distribution. Jones and Lucas (2012) propose a classification of transport-related social impacts that contributes to exemplifying the constituting elements of what the mobility crisis is. Specifically, in considering the latter, is important to show how transport contributes to poverty, social exclusion and injustice.
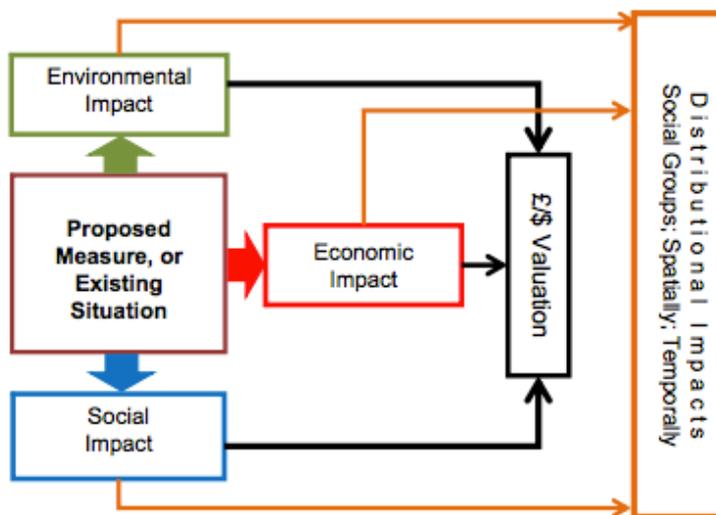
Figure 1.1: The impacts of transport (Jones and Lucas 2012: 5)

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[2] I do not further explore the specific economic impacts, as this thesis is not concerned with an economic evaluation of the transport system.

In terms of environmental impacts, transportation is primarily responsible for increasing air pollution in the urban environment (Nieuwenhuijsen et al. 2016; Khreis et al. 2016). For example in Europe it has been shown that transport related air pollution contributes up to 53% of the PM10 emissions and 66% for PM2.5, and a rage of over 80% for NO2 (Sundvor et al. 2012). In this way it contributes enormously to the environmental crisis whose solution requires very substantial emission reductions (and this means near-zero levels for CO_2 emissions (IPCC 2014)). The current spreading model of transportation, based on private car mobility, greatly contributes to these, but also to land consumption and social segregation (Urry 2004; Vigar 2000; Schwanen 2016). As visible in Table 1.1, in addition to emissions, transport is connected to a series of environmental phenomena, such as biodiversity loss, water depletion, production of waste material, and land loss. As in the last column of Table 1.1, transport also has impacts on the built environment, where it causes direct effects on human health, with increasing magnitude, as reported in detail by Khreis et al. (2016). Bhalla et al. (2014) estimated that in 2010 air pollution from motor vehicles caused 184,000 premature deaths globally. Similarly, motor vehicle crashes are still the main cause of death amongst death amongst young people (World Health Organisation 2015) and in 2010 they accounted for over 1.3 million deaths and 78 million injuries worldwide (Bhalla et al. 2014).

Table 1.1: Environmental impacts of motorized transport (Hickman and Banister (2014: 29))

Natural environment		Built environment
Biodiversity		Liveability
Water – runoff and biosystems	Air quality	Health, noise
Vehicles – reprocessing and disposal	Land take for roads and urban sprawl	Safety
Fuels – energy		Urban fabric, community severance
Materials – steel, rubber and technology		Open space and green space

More broadly than health impacts, transport has a variety of social impacts. These can be defined as those changes in the transport system that "(might)

positively or negatively influence the preferences, well-being, behaviour or perception of individuals, groups, social categories and society in general (in the future) "(Geurs et al. 2009: 71). The impacts modify the social fabric in the short or long-term, and can often be cumulative, resulting from the interaction of more short-term impacts (Jones and Lucas 2012). Specifically, they relate to a variety of changes in society that Jones and Lucas (2012) classify in terms of accessibility, health-related, financial-related, and community-related. In the short term they for example include reduced access to employment, severance, road casualities, noise, affordability, and forced relocations (Jones and Lucas 2012). In the long-term, Jones and Lucas (2012) list impacts on health conditions, social exclusion/inclusion, social capital, general wellbeing, and regeneration and gentrification effects that can permanently affect society.

Among the transport-related social impacts, specifically in terms of finance-related impacts, important connections can be made between the functioning of the transportation system, mobilities and broad phenomena of poverty (Booth et al. 2000; CBT 2012; Titheridge et al. 2014; Lucas et al. 2016). This relates to the specific idea of transport poverty, e.g. the overarching combination of transport affordability, mobility and accessibility poverty, and exposure to transport externalities (Lucas et al. 2016). Those who are transport-poor are often members of most marginalized groups and have low mobility life patterns and high accessibility problems (Lucas 2012). They become the first victim of an increasing hypermobile society (Sheller and Urry 2006), remaining physically, economically and socially excluded from the use and production of the city.

In terms of community-related impacts, a wide literature has addressed the links between transport, mobility and social exclusion (Social Exclusion Unit 2003; Preston and Rajé 2007; Hine 2009; Lucas 2004, 2012; Schwanen et al. 2015), where the latter is intended to be a dynamic, multi-scalar and cumulative phenomena of "lack of participation in social, economic and political life and broader than poverty" (Schwanen et al. 2015: 124). Specifically, social exclusion can be defined as:

> "The lower levels in the evolving hierarchies of access to, participation in, and autonomy with regard to, economic life (including finances, employment and education), political life (including policymaking and governance), social life (including social ties and activities), cultural life (including public debate, arts and media) and health (both physical and mental)" (ibid: 125).

Social exclusion is connected to a lack of resources needed to access and participate in the public domain. Connected to social exclusion, transportation deeply shapes inequitable relationships in society, impacting on social capital and on human wellbeing (Lucas 2012).

Finally, transport is interlocked with broader phenomena of social, spatial and environmental justice (Lucas 2006, 2012; Vasconcellos 2001; Bailey et al. 2012), which can be considered in connection with the emerging idea of mobility justice (Sheller 2011b; Mullen and Marsden 2016; Martens 2016). As shown, transport systems and mobilities as currently designed generate an uneven distribution of accesses and impacts, whose effects are socially and environmentally interconnected. For example Lucas and Pangbourne (2014) have shown the impacts on marginalised groups of carbon mitigation policies; Cucca (2012) has concluded that the impacts of green policies often exacerbate patterns of social injustice. Mullen and Marsden (2016) explain how a social justice framework aiming at redistributing the 'right to the car' can increase dramatically the environmental impacts of transport. These authors show that also the environmental and social impacts of transportation are constantly interlinked.

To sum up, the effects of the functioning of transportation and mobilities, and their specific form of mobility crisis, are part of and interlocked with the broad social and environmental crises. Therefore, tackling the mobility crisis can contribute, to an extent, to challenging the patterns of reproduction of environmental and social crises. At the same time it can also provide important insights and analysis able to address these crises in broader terms.

1.3.   The limits of sustainability and resilience. Introducing resourcefulness as complementary idea

For the IPCC (2014), solving environmental problems requires technological, economic, social and institutional changes. As in the aforementioned long quotation by Lucas (2012) (§1.2), in transport studies, too, several authors have spoken about the need for a paradigmatic shift in the face of the mobility crisis. With this paradigm shift transport planning should be re-centred on principles of environmental sustainability, human health, prosperity and wellbeing (Vigar 2000; Vasconcellos 2001; Lucas 2012; Litman 2013; Hickman and Banister 2014; Martens 2016) (§2.3.3).

A *paradigm* is based on agreements on which are the valid knowledge, good practice, appropriate questions and answers, and appropriate methods and

techniques (Kuhn 1996). For this reason a paradigm shift involves changes in the main aspects of transport planning. As Hickman and Banister (2014) suggest, changes are necessary in the development of strategies, of planning tools and appraisal methods. At the same time, transport planning is required to develop a stronger ontological basis, taking into greater account social science perspectives and the 'intangible' impacts of transportation, going beyond simple economic appraisal methods (Khreis et al. 2016) and "incorporating uncertainty and the need to achieve different futures" (Hickman and Banister 2014: 345).

Extending its ontological basis and incorporating a social science perspective, transport planning can build a coherent and comprehensive understanding of the magnitude and importance of the mobility crisis. In this way it can overcome the 'narrow mind' approach that often guides it and has diverted too many research efforts towards modelling and appraisal, as Hickman and Banister (2014) explain:

> "Still, too much time has been spent on forecasting against historic trends, 'improving' modelling methodologies and assessing transport impacts at the local level, such as modelling how much traffic can be fitted through a junction, or a particular network. These are important issues in specific locations, but relative to the strategic policy concerns of climate change and oil scarcity, support for the macro economy, and achievement of improved quality of life and well-being, they seem much less important. Sustainable transport remains largely an unresolved policy area" (324).

For these authors, transport planning needs to have a broader perspective, disciplinarily and contextually, on what type of research and actions are effective and able to tackle the mobility crisis at its core, beyond specific technical details. As such, proposals for paradigmatic shifts have been so far framed around the idea of sustainable transportation (§2.4.4) or resilient transportation (§2.5.6) and have accounted for an increasing reliance on social science in the transport field (Schwanen et al. 2011; Curl and Lucas 2016) (§2.3.2, 4.1.2). The concepts of sustainability and resilience have guided the development of new technological improvements, new policy instruments, behavioural change and new institutional arrangements (Schwanen et al. 2011). These measures have aimed at protecting the environment and shifting to low-speed mobilities, based primarily on walking and cycling. They have enormously potentiated the ability to tackle climate change. However, they are still only partially addressing the crisis.

For example, despite some admirable proposals and attempts (Willson 2001; Willson et al. 2003; Jones 2011), proposed frameworks for more participatory planning of transport are still difficult to fully implement (Bickerstaff and Walker 2005; Elvy 2014) (§2.3.2, 2.3.3). Similarly, the research on personal travel behaviour has provided important policy instruments to respond to climate change (Chapman 2007; Banister 2008, 2011; Anable et al. 2012), using instruments such as travel planning (Bamberg et al. 2011) or marketing mechanisms (Jones and Sloman 2003). However, this approach is replicating the epistemic problem of reducing mobility needs to an individualized choice of different travel patterns (Shove 2010). For this reason it has been characterised by critics as 'libertarian paternalism' (Jones et al. 2011; Schwanen et al. 2012), because of its focus on individual habits. The focus on personal behaviour risks over-evaluating the individual contribution to change without considering the collective dimension of the issue (Shove 2010; Mullen and Marsden 2016). This individualization already contributed to the advent of the automobile, under the clear assumption that "public and private transport are outstanding symbols of collectivism and individualism" (Ward 1991: 13).

As several authors have subsequently stressed, technocracy, econometrism and modernisation have underpinned the sustainable transport and resilience agendas (Souza 2001a; Schwanen et al. 2011; Hickman and Banister 2014; Gössling and Cohen 2014; Khreis et al. 2016), according to which "economic growth and ecological problems can be reconciled" (Schwanen et al. 2011: 999). Resonating with a neoliberal framework, this agenda has "articulate[d] the objects of knowledge/government in particular ways, expelling certain of their facets into invisibility" (ibid:1002) and not embracing an holistic approach to the variety of impacts that transport and mobilities generate. Mostly concentrated on encouraging individual solutions and at reducing emissions, the sustainability agenda may have failed to take into account the fact that "deep cuts in carbon use in transport are inextricably linked to such issues as the organisation of contemporary societies, the role of transport therein, justice and ethics" (ibid: 1004). The measures adopted within this agenda have not yet challenged the current patterns of car-dependency and the powerful interests behind the spread of this model that continue to fundamentally shape mobilities and their reproduction worldwide (Ward 1991; Vigar 2000; Hickman and Banister 2014; Gössling and Cohen 2014; Verlinghieri 2015; Khreis et al. 2016; Schwanen 2016). Similarly, these measures have not yet addressed the patterns of spatial, environmental and social injustice created by the current model of transportation. Furthermore, even though several authors have

recognised the importance of participatory governance (e.g. Willson et al. 2003; Banister 2008; Jones 2011), the sustainability agenda for transport is still considerably biased towards top-down policy implementation, locally and across different cities (Hickman and Banister 2014; Mullen and Marsden 2016).

In this context, it is evident that there is a mismatch between the proposal in the literature for a paradigmatic shift and the measures which have been effectively implemented. This mismatch, for Hickman and Banister (2014), is "an ideological one, rooted in fundamentally different value systems and worldviews (Wheeler 2012) – and this is where the intractability of the problem remains" (348). For the authors, transforming transport planning theories and practices to be able to deal with the mobility crisis requires a shift in value systems and the affirmation of new worldviews beyond the proposal of innovative paradigms. Similar points are made by Schiefelbusch (2010) and Levine (2013). This means, as the literature increasingly recognises, that there is the need to address the roots of the crises and challenge both the ways knowledge is produced and also the broad view on the current model of growth and development itself, which is of course deeply interlocked with the reproduction of crises (Bookchin 1988; Seager 1993; Klein 2007; Heynen et al. 2006).

Worldviews are systems of beliefs that give most members of a society an overall perspective from which to see and interpret the world (Olsen et al. 1992; Dunlap 2008). Worldviews are broader than paradigms: they do not give a perspective on single aspects of knowledge or reality, as paradigms do, but on the whole functioning of reality (Olsen et al. 1992). In this work, a worldview is conceived as a body of theories and perspectives that allow us to analyse the current crises (*approach to the crises*) and how they are connected to humans' relationship to nature (*conception of nature*); at the same time they can contain a *philosophy of change* to guide decisions over what should be done and how. Changing worldviews can provide new tools to challenge crises, encompassing "not only ecological concerns but also socio-political dimensions such as inequality, hierarchy, citizen participation, and decentralization" (Dunlap 2008: 8); they can also go to the very core of the socio-political organization of urban life, and the very genesis of the crises.

Based on these considerations, this thesis proposes to develop an alternative worldview for transport planning with a specific theoretical foundation connected to ecological-social goals. Transport and mobility studies have yet not developed comprehensive worldviews that aim to do

this, and this research can contribute in this direction. The specific worldview proposed as the original contribution of this thesis proposes an interpretation of the current mobility crisis and pathways towards change. It is built on the innovative concept of resourcefulness as firstly defined by of MacKinnon and Derickson (MacKinnon and Derickson 2012; Derickson and Routledge 2014; Derickson and MacKinnon 2015; Derickson 2016). The authors have proposed this concept as an 'interim politics': a politics that, through the production of social relations and shared knowledge, aims to guarantee the capacity of all social groups, with specific regard with marginalised ones, to contribute to the construction of commonly-desired futures (§3.1.1, 3.2). This politics aims at responding to the critiques to sustainability and resilience, and proposes instead a concept able to guide researchers and marginalised communities to deal with the effects of the social and environmental crises, and thus with the mobility crisis. This is done not as an adaptation process, but by means of creating the political and social conditions for citizens to shape alternative futures together. On the basis of MacKinnon and Derickson's (2012) ideas, I firstly propose a definition of resourcefulness as a property:

> *Resourcefulness is the internal ability of a system/subject to adapt to and resist to the current interrelated social and environmental crises (adaptation to crises) and, at the same time, induce transformations that can stop and avoid these crises reproducing (resolution of crises).*

Secondly, I expand the concept of resourcefulness as a property, using key elements of theories such as social ecology, spatial justice and the right to the city (§3.1.2 – 3.1.4). This results in a worldview that contains a specific focus on issues related to the access and distribution to resources, not only materially but also those forms of *intellectual and civic resources* that allow for full participation of the marginalised in society (§3.2.1). Material resources are considered to be housing, health, food, and environmental conditions. Intellectual resources include time, social networks, access to education, culture, scientific, and ecological knowledge. Civic resources mobilize the idea of citizenship as ability to meaningfully participate in the public domain (§3.2.1). This resourcefulness-based worldview has as its core objective the resolution of environmental and social crises. As such, resourcefulness is not proposed in substitution of sustainability and resilience, especially with regard to strong sustainability (§2.4.1) and evolutionary resilience (§2.5.1), but as a wider procedural and processual framework that can embrace them as potential goals. Resourcefulness reopens the discussion on environmental and social crisis considering as

central actors of change communities and citizens. In order to do so, instead of the idea of 'sustaining' or 'resisting' on which the concepts of sustainability and resilience have been constructed, resourcefulness proposes to fully explore the possibility of transformation and change grounded into a different interpretation of the origin of the crises (§3.3.1). This attention to resources has been complemented, in the theoretical formulation of resourcefulness-based worldview, with a multi-scalar perspective on reality that looks contemporarily at the community scale and at the international scale, at environmental systems and social systems (§3.3.3). As such, the theory included in the resourcefulness-based worldview potentially allows analysis of the complexity of the systems and the dynamics in which society and nature are interrelated.

1.4.   Designing a research for resourcefulness

As considered in the previous section, the literature has stressed the need for a radical change in transport planning in the face of the current mobility crisis (§1.3). Opening up transport and mobilities research to new disciplines and methodologies can contribute to building this radical change (Fincham et al. 2010; Lucas 2012; Porter et al. 2015). This should be done in order to provide new epistemological insights to a transport study tradition so far based on:

> "Strongly hierarchical power relations between academic researchers and other involved stakeholders. It is the former who determine what count as proper knowledge, relevant factors, appropriate reasoning and arguments and so on; citizens, firms, policymakers and others have a rather limited say in such matters" (Schwanen et al. 2011: 996).

Transport research, mostly grounded in positivism, ascribes a fundamental authority to the researcher or expert to define solutions (§4.1.2). However, particularly when aiming to challenge the very foundation of a discipline and propose radical changes in the face of compelling crises, it may be fruitful to allow for contribution by other actors. Qualitative research and more specifically action research are participatory methodologies that can challenge the hierarchy between academic knowledge and popular knowledge, opening up to other voices (Lucas 2012; Schwanen et al. 2011; Fincham et al. 2010) (§4.1.2). This is especially important when considering that worldviews are not something that can be simply designed from a desk and then implemented top-down: a shift towards new views, theories and

practices requires a cultural change in which different actors, alongside a wide time and space frame, elaborate and test new knowledge, practices, power arrangements and tools (Vigar 2000). In this context the work of academic research is fundamental, but it is not the only kind of effort required.

For this reason, this research, developing a suggestion for a resourcefulness-based worldview to guide future transport planning theory and practices, has been grounded in the use of Participatory Action Research (PAR) (§4.1.4). This is a research approach that, with a highly participatory design, grounds knowledge production into a praxis-oriented inter-subjective conversation. Theory to address a certain issue is developed by the researcher together with the people affected, in a continuous feedback process between theory and practice. Using a PAR approach, with this research I aim to develop the resourcefulness-based worldview together with social actors that are searching for alternative worldviews in order to deal with the crisis.

Among the social actors active in proposing alternatives for transportation, there are a variety of urban social movements that have specifically criticised the paradigmatic problems of transport planning (Rawcliffe 1995; Vigar 2000, 2013; Vasconcellos 2001; Sagaris 2014) (§3.6). They have highlighted the importance of transportation in the development of the cities, and have considered transportation as a key area to understanding the connection between environmental and social crises. They have also proposed innovative ways of performing transport planning. With their visions and practices, their imaginative potential (Haiven and Khasnabish 2014), the variety of their claims, and their aim for environmental protection and social justice (Geels 2010; Mayer 2006; Castells 2012) they appear to resonate and align at different levels with resourcefulness and its aim to create an interim politics (§3.6). With their analysis of the present crises and their constructive utopian approach that *prefiguratively* aims to build in the present the conditions for the envisioned future (§3.3.3), they also increase the possibility for a radical change in transport planning to take place, aligning with the resourcefulness-based worldview.

For those reasons, I specifically decided to approach and work with those urban social movements that best aligned with the resourcefulness concepts (*resourcefulness-aligned actors*) (§3.6). Specifically I considered and supported the ones working in a context in which a mobility crisis was sharply evident. This was done with the assumption that emergent practices

and radical changes can be more evident or speed up in contexts of sharp crisis in act (Solnit 2010).

For this reason I selected crisis contexts in which I saw the emergence of resourcefulness-aligned actors. Specifically, among the various options, I focussed on two cities, Rio de Janeiro, in Brazil, and L'Aquila, in Italy, that are facing deep mobility crises and also processes of rapid urban transformation (§4.2). Having had previous knowledge of these urban contexts and their crises, I was aware of the presence of potential resourcefulness-aligned actors. Moreover, for both cities I had the logistical and financial possibility of accessing the field.

1.4.1. Rio de Janeiro case study

The Brazilian city of Rio de Janeiro represents a fascinating case of rapid urban development coupled with increasing social and environmental crises. With a focus on Brazil's hosting of the 2014 FIFA World Cup and the 2016 Olympics, the city has gone through rapid economic development. However, this development has not reduced the exceptional levels of social inequality and environmental impacts in a city already experiencing high levels of socio-spatial fragmentation (Souza 2008; Abreu 2013). The city is also suffering the environmental impacts of its expanding industrial sector and its transport system, which have steadily increased over time (Souza 1999; Comissão de Defesa dos Direitos Humanos e Cidadania da Alerj 2013) (§5.1.1).

This picture is replicated in the context of transportation, which plays a crucial role within the development of the city and its metropolitan region. The system suffers from endemic problems of congestion and its public transports are relatively inaccessible, of low quality, and poor capacity (Rodrigues 2014; Legroux 2014; Costa et al. 2013; Maricato 2015) (§5.1.2, 5.1.3). Car ownership is rising, together with pollution, congestion and mortality rates. A wide mobility crisis is in place (§5.1.3). This has not been reduced, despite the fact that, in preparation for the mega-events, the city has redesigned its major transport infrastructures (§5.1.2).

In this context, the city, like the rest of the country, has experienced a broad social uprising, triggered by the increased bus ticket prices in June 2013 (Cava 2013a; Fernandes and De Freitas Roseno 2013; Harvey et al. 2012) (§5.1.2). This uprising demanded access to higher-quality and cheaper public transportation, as well as a better health and education systems. The population did not limit their demands to a normalization of the situation and

sought to expand their traditions of grassroots planning for transport, which started years earlier. Indeed, the June 2013 mobilizations have been connected to the work done by groups such as the famous Movimento Passe Livre – Movement for the Free Fare (MPL)[3], that has existed at the national level since 2005, working towards free and deprivatized high-quality public transport (Tarifa Zero 2012). In the Rio de Janeiro area, several urban social movements have been working on or have born out of the struggles over transportation issues. They have protested in the streets, but also developed original research to explore mobility issues and propose alternatives, doing important work of theorizing accessibility and transport justice, and recognizing public transportation as a fundamental right.

Together with these urban social movements, other groups are also acting at the city level. One such group is the Fórum Permanente da Mobilidade Urbana na Região Metropolitana do Rio de Janeiro - Permanent Urban Mobility Forum of the Metropolitan Region of Rio de Janeiro (Forum) on which I focussed (§5.2). This is a forum of engineers and civic associations that discuss weekly the mobility crisis and the future of their city. Initiated by the local Professional Association of Engineers, it aims to provide information and research instruments to community groups, urban social movements (and disadvantaged groups more generally) in understanding mobility issues and helping them envision and demand for a better and more equal transport system (§5.2). The Forum, as a network of different actors, represents a variety of voices that contest transport planning choices and explicitly advocate for more participation in mobility planning. Moreover, it has produced an in-depth analysis of the crisis and constructed proposals to overcome them. For these reasons it was considered a suitable actor to explore the unfolding of the resourcefulness-based worldview (§4.2, 5.2).

1.4.2. L'Aquila case study

L'Aquila is a medium-sized city in the South of Italy. Already facing the phenomena of economic and social decay since the 1990s, in 2009 it was hit by a strong earthquake that destroyed the majority of the buildings especially in the centre and surrounding villages and therefore demanded a complete restructuring of the city and its urban system (§6.1.1). Specifically, with an important added phenomenon of urban sprawl, the government has financed the construction of nineteen new-towns to relocate the 67,500 people made

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[3] All quotes from non-English texts have been translated by the author of this thesis.

homeless (Alexander 2010). Since then the process of reconstruction has been highly controversial and fragmentary and at the time of writing the city is still under reconstruction. In this context, the city has experienced fundamental phenomena of social fragmentation and segregation that have created a broad social crisis (Minardi and Salvatore 2012) (§6.1.1).

In this city's urban system the mobility crisis, evident in the increasing car ownership already before the earthquake, has assumed an exceptional magnitude (Minardi and Salvatore 2012) (§6.1.2, 6.1.3). The unavailability of most of the transport system and the relocations have required an even more dramatic reliance on private transport. This has determined a fundamental transport-behavioural change. Although all the public transport services have been redesigned, they remain inadequate to the increasing urban sprawl. New road infrastructures have been also implemented to facilitate car mobility.

In this situation, several actors have activated and mobilised to criticise the government's choices over the relocation, the lack of participation in the decisions over rebuilding the city and a general malfunctioning of the planning system (Verlinghieri and Venturini 2014). They have criticised the lack of attention to the social needs of the affected population, demanding more spaces for socialization, more involvement of citizens and more transparency by the administration (§6.1.4).

Within these requests, various actors have also mobilised to ask for improvements in the transport system and traffic, the reduction of pollution and car dependency and better public transport. In particular, among those actors this thesis has focused on the group Move Your City (MYC). Born in the aftermath of the earthquake, MYC has conducted an extensive work on mobility in the city and its urban system. Composed of young people concerned with the malfunctioning of the public transport system, it has specifically concentrated in enhancing public participation in mobility planning. Given this focus and the work done by MYC in developing an analytical description of the mobility crisis and the participatory effort to build alternative proposals, it is an actor particularly appropriate for investigating the resourcefulness-based worldview (§4.2, 6.2).

1.5.   Research aims and objectives

This thesis starts with the assumption that today we are facing major social and environmental crises in which transportation, with its own mobility crisis, plays a fundamental role. In the face of these crises, a radical change is

needed in transport planning. This thesis aims to contribute to building this required change, exploring new frontiers for transport planning theories and practices. It does so by developing and then exploring in two case studies a resourcefulness-based worldview. This worldview aims to provide a solid perspective on why the current crises have taken place and how change can be possibly implemented, guiding future actions of policymakers, academics, experts, and citizens. Specifically, this research is geared towards providing an answer to the following research question:

How can the theoretical and practical elements from resourcefulness improve the ability of transport planning to address the challenges of current mobility crisis?

To do so, it specifically looks at these sub-questions:

> Q1: How are current crises, and the relationship between humans and nature, understood through a resourcefulness-based worldview?

> Q2: Through a resourcefulness-based worldview, how can change be implemented to deal with these crises?

As mentioned, in this thesis a worldview is conceived as a body of theories and perspectives that contain an approach to the crises and a conception of nature (Q1); at the same time they contain a philosophy of change to guide decisions of what should be done and how (Q2) (§1.3). The specific attention to humans' relationship with nature is core in the attempt to work towards ecological solutions to solve the interconnected environmental and social crises. Q1 and Q2 ask how resourcefulness provides this information and structures the resourcefulness-based worldview. The analysis of the explanation of the crises highlights the source of the crises and the focal point on which to concentrate in order to address them. The analysis of how change can be implemented, proposing limits and advantages of different strategies, provides the action points to follow in the face of crises. More specifically, Q1 and Q2 refer not only specifically to the mobility crisis but also to the broad social and environmental crises, as a worldview would provider a broader explanation that can then be nailed down in the context of transport and mobilities.

To answer these questions the thesis is structured around the following research objectives:

O1.   To critically explore what the key challenges are for transport planning in contexts of environmental and social crisis

O2.   To determine, in accordance with the literature, the key strengths and limitations of sustainability and resilience as structuring concepts for transport planning in a mobility crisis context

O3.   To critically explore how resourcefulness, grounded in the literature that aims to address the limits of sustainability and resilience, can provide a theoretical worldview to inform transport planning to effectively deal with the challenges imposed by the mobility crisis

O4.   To critically explore how actors whose worldview resonates with resourcefulness (resourcefulness-aligned actors) propose to address the crisis and what difficulties they encounter in so doing

O5.   To use practical insights from the resourcefulness-aligned actors to feed back on the theoretical worldview and provide a worldview grounded in praxis for transport theory and planning

Only following these 5 objectives I can fully address Q1 and Q2. Specifically, having defined the wide problem (the environmental and social crises) in O1, and the literature gaps in addressing them using sustainability and resilience in O2, O3 proposes a resourcefulness-based worldview as new frontiers for transport planning. O3 gives a first a theoretical and literature-based answer to Q1 and Q2. Having explored the theoretical contribution of resourcefulness, O4 considers the unfolding of resourcefulness in the practice of actors aligned with the worldview, contributing to developing a more nuanced answer to Q1 and Q2. Finally O5 considers the practical insights from O4 to revise the characteristics of the resourcefulness-based worldview first introduced in O3.

1.6.   Structure of the thesis

To answer the proposed research questions, in the 8 chapters of this thesis I follow the research objectives as a series of interrelated and dynamic steps.

In Chapter 1, I highlighted the dimension of the current social and environmental crises and the role of transportation in those. I depicted the mobility crisis and presented the key challenges for transport planning in contexts of environmental and social crisis, fulfilling O1.

In Chapter 2, I review the main western philosophical traditions that have influenced planning theories in the last century, following Friedmann's (1987) classification of planning as an activity of linking knowledge into action. I also

review in detail the concept of participation as it has evolved in planning and other literature. After this overview, I use these concepts to outline the history of transport planning in the last century. Subsequently, I place particular attention on the formulation of sustainability and resilience as the main framing concepts that have been guiding transport planning practices in the face of crises in the last decades. Critically reviewing the relevant literature, I show the potential and limitations of these concepts in addressing the current environmental and social crisis, fulfilling O2.

With an attempt to respond to the critiques posed to sustainability and resilience, and considering their frequent connections with planning theory, in Chapter 3, following O3, I introduce the concept of resourcefulness as a possible new response for transport planning in relation to the crises. I build on this concept a worldview, unpacking the social ecological systems theory on which resilience is embedded, and complementing it with an additional theory, social ecology, and two concepts, spatial justice and the right to the city. As such, resourcefulness is not only a property of a system, but a worldview that can inform planning at all its stages. I also present which actors are more likely to work towards resourcefulness in the transport system, and name them as resourcefulness-aligned actors. The chapter is structured following Q1 and Q2 and considers the main aspects of the worldview as a) its approach to the crises, b) its conception of nature, and b) its philosophy of change. It develops these aspects firstly for a general worldview and then for a specifically resourcefulness-based worldview for transport planning. On the bases of these aspects, it also provides guiding principles that constitute a preliminary agenda for developing resourcefulness in transport planning.

In Chapter 4 I propose a methodological approach for this research, showing how the Participatory Action Research (PAR) approach resonates with the grounding principles of resourcefulness and constitutes an appropriate methodological choice. Specifically, the PAR approach is aimed simultaneously at building the conditions for resourcefulness-based practices to unfold and at analysing their effects, contributions and problems. In the chapter I also provide details about my approach to the case studies and the specific methods used to collect and analyse data.

In Chapter 5 and 6 I fulfil O4, empirically grounding the worldview proposed in Chapter 3. I do so exploring new frontiers for participatory transport planning theory and practice in the empirical work of resourcefulness-aligned actors in Rio de Janeiro and L'Aquila. In this way, in these two chapters I set the scene for a more comprehensive elaboration of the resourcefulness-

based worldview in Chapter 7. Specifically, I focus on the work of the Forum in Rio de Janeiro and the MYC in L'Aquila. I explore in depth their practices, contributions and difficulties. These resourcefulness-actors use prefigurative practices. For this reason, the analysis of their current activities highlight also their visions for the future and the directions they follow to implement transformation in the face of crises. Going into more depth, Chapter 5 and 6 are similarly divided in two parts: Firstly I present the socio-political and geographical context and the transport-system of respectively, Rio de Janeiro and L'Aquila, and their mobility crises. Secondly, I present and analyse the practices of respectively the Forum and MYC as resourcefulness-aligned actors.

The analysis of the Forum in Chapter 5 is structured as follows: firstly, I consider how its practices and visions make it a resourcefulness-aligned actor. Secondly, I consider the Forum's analysis of the mobility crisis in Rio de Janeiro, showing how it resonates with the resourcefulness-based worldview. For the Forum the crisis is caused by lack of long-term and coordinated planning, that results in misplaced investments, and of a model of planning based on a market-oriented rationality. Thirdly, I consider the Forum's strategies for implementing transformation in transport planning, based on knowledge and participation. Fourthly, I analyse the approach that the Forum takes on the question of spatial injustice in the Rio de Janeiro metropolitan region. I specifically focus on its advocation for the right to ecological and just mobility.

The analysis of the MYC in Chapter 6 is structured as follows: I firstly address why the MYC is a resourcefulness-aligned actor. Secondly I present MYC's vision for transport planning processes that are based on a two-level participation model. Subsequently, following the evolution of the MYC through this research period, I consider the different strategies that the MYC employed for this model. With a vision for participatory transport planning, the MYC developed three strategies that, mobilising different intellectual, political, and material resources, evolved responding to the need of the decision-making structures in place. Specifically I show how the MYC moves from acting as an ambassador of participation, to a catalyst, and finally to a networker and educator. For each of these strategies I consider advantages, challenges, and limitations.

The different layouts of the Chapter 5 and 6 reflect the different approach I followed in the fieldwork. This has been designed after a reflection on my positionality in the two different contexts (§4.2.1). With the Forum, an actor with a long-term history, in a city where I was an outsider, I acted more as an

observer, learning from their ideas and actions, reflecting with them on their analysis of the mobility crisis and their established strategies to implement change. For this reason the chapter is thematically structured considering firstly the Forum's analysis of the mobility crisis and an account and analysis of its strategies. With respect to the MYC, an emerging new actor in my hometown, I supported and collaborated in the construction and exploration of different strategies to challenge the mobility crisis that the actor has experimented over the time we were working together. For this reason the chapter follows a more temporal narrative in which I analyse the changing approach of the group and present an analysis of the success and failure of each strategy.

In Chapter 7 I bring together the perspectives which emerged from the previous two chapters to derive a more general understanding of the resourcefulness-based worldview and fulfil O5. This is not an attempt to make a comparison between two case studies, which have a highly different geography and history, but to bridge and translate experiences. In this way I propose an enhanced version of resourcefulness, grounded in the empirical evidence from the case studies. Specifically, the chapter is structured following Q1 and Q2 and considers the main aspects of the worldview: its approach to crisis, its conception of nature, and its philosophy of change. I also consider its grounding rationality. For each of these domains it firstly recalls the answer given within the resourcefulness-based worldview. Subsequently, I review these theoretical assumptions with the practices and visions of the resourcefulness-aligned actors introduced in Chapter 5 and 6. Considering the approach to crisis by the Forum and the MYC, despite the two actors providing a different, but complementary analysis to the question, I show how they both propose similar solutions on how to build more resourcefulness transport systems through knowledge-based participation. From analysing practices and visions for knowledge and participation, I consider these in the context of the debate on planning rationality. I show how the resourcefulness-aligned actors move beyond the dichotomy between instrumental and communicative rationality in planning, staking a claim to a participatory planning practice that is knowledge-based and ethically-grounded.

Finally, in Chapter 8 I provide the conclusions of the thesis, focusing on its implication for transport researchers and planners and for broader society. After having provided a detailed answer to Q1 and Q2, I propose a final 'definition' of resourcefulness. I then conclude by providing an agenda for

resourcefulness-based transport planning and also propose guidelines for future research.

Chapter 2: Critically reviewing planning theories, sustainability and resilience

The current environmental and social crises require urgent intervention that should involve a transformation in transport planning (§1.1, 1.2). Policymakers and planners have been adopting different perspectives to prepare for this change. In particular the ideas of sustainability and resilience have been, especially for transportation, core concepts in creating more environmental-aware interventions. However, as the literature has highlighted (§1.3, 2.4.2, 2.5.4), they have yet to be able to fully frame a transformation in the face of crises.

In this chapter I critically review the literature produced both in transport studies and other disciplines to highlight the status of the art and understand where new frontiers for transport planning could come from, fulfilling the research objective O2 (§1.5).

First, I review the main planning theories, specifically looking for those involving transformation and change in the face of crises (§2.1). After a consideration on the available histories of planning and on the role of rationality, I focus on Friedmann's (1987) classification of planning as social reform, policy analysis, social learning and social mobilization. I then expand Friedmann's classification to include the communicative turn, the critique to this turn and the tradition of radical planning. Alongside the main planning theories, I specifically consider radical planning and participatory approaches to be suitable for the construction of a worldview for transformation. For this reason, secondly, I review the main theories on participation (§2.2). I focus on the dimensions of power, knowledge and procedures in participation.

Thirdly, starting from the planning literature reviewed, I also review the main transport and mobility planning theories and paradigms in light of Friedmann's classification (§2.3). I consider transport planning as societal guidance and as social transformation, showing how the boundary among the two is blurred, under a *hierarchical hydra model*.

Fourthly, I review the literature on sustainability (§2.4) and resilience (§2.5), determining the key strengths and limitations of these as structuring concepts for transport planning in crises contexts. Specifically, I look at the main critiques proposed in the literature, which planning theory they subsume and how they inform transport planning.

2.1. Planning theories and paradigms

It is difficult to provide a comprehensive account of the available planning theories and paradigm and the literature has provided several attempts. The literature contains long debate over the nature and history of planning theory. Faludi's (1973) division between a substantive theory *of* planning and procedural theories *in* planning was a first attempt to understand different planning typologies and develop theory of planning. It was followed by several classifications of planning types and accounts of planning history such as Healey et al. (1979), that considered the evolution of procedural planning theory, Hudson (1979) that classified planning as synoptic, incremental, transactive, advocacy, and radical planning, and Taylor (1980) that differentiated between empirically based versus ideological and normative based planning theories. This was followed by Friedmann's (1987) *Planning in the Public Domain*, an account of the intellectual traditions that informed planning that "broke new ground [having] pointed to a much more disparate basis to planning knowledge than had thus far been acknowledged" (Allmendinger and Tewdwr-Jones 2002: 81). Later Yiftachel (1989) considered how different traditions answered to the different questions of: what is urban planning? What is a good urban form? What is a good planning process? In 1982 Forester provides another classification concentrated on the role of the planner as technician, incrementalist, advocate, or progressive. Alexander (2000) classifies planning by looking at the different idea of rationality (§2.1.2). Souza (2001a) defines typologies considering for each: the central idea of planning, the 'aesthetic affiliation', the scope, the degree of interdisciplinarity, the 'permeability to reality', and the openness to participation, the attitude towards the market and the political-philosophical framework. Alfasi and Portugali (2007) classify planning on the basis of the subsuming paradigms: positivism, critical theory, or post-modern theory.

All these classifications maintain a distinction between procedural and substantive planning, focussing on both or on one of the two. Differently Allmendiger (2002) developed a post-modern critique of the idea of typologies, surpassing Faludi's (1973) dichotomy with a post-modern typology that is socially embedded and historical contingent: it considered theory and practice as interlinked, analysis and processes developing together and in a non-neutral way.

2.1.1. Friedmann's account of planning history

Among the aforementioned approaches to develop a systematization of planning, despite being 40 years old, Friedmann's (1987) typology remains a useful introduction to the vast body of theory underpinning planning and one of the most complete accounts of planning history (Allmendinger and Tewdwr-Jones 2002).

For Friedmann (1987), the central question of planning is "how knowledge should properly be linked to action" (74), where action, according to Arendt (1958), "means to set something new in the world" (Friedmann 1987: 44). Different planning traditions give a different answer to this question. Specifically for Friedmann planning can be a process of societal guidance or a process of social transformation, as shown in Table 2.1. At the same time, planning can be a conservative act or a radical act. The former aims at maintaining the status quo; the latter at structural transformation. From these different answers, four different planning traditions emerge: social reform, policy analysis, social learning and social mobilization. These differ in epistemologies and conceptions of what planning is and what actions it suggests to take, in what Friedmann calls the 'public domain'. Friedmann selects the traditions following the historical evolution of planning theory between philosophy, political science, economics, sociology, and engineering[4].

Table 2.1: The politics of planning theory (Friedmann 1987:76).

Knowledge to Action	Conservative	Radical
In Societal Guidance	Policy Analysis	Social Reform
In Societal Transformation	Social Learning	Social Mobilization

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[4] In the debate between substantive or procedural planning theory Friedmann's book stands aside (despite the fact that the author positions himself in the procedural side of the debate) and, under my interpretation, anticipates the post-positivist approach proposed by Allmendinger (2001, 2002). This approach should "emphasize influences upon theory rather than a substantive–procedural distinction. Identifying and tracing influences and how theories are transformed, mediated and used in a linear and non-linear way and different contexts including time and space provide both an explanation of why we have experienced such a fragmentation of theories in the past two decades and why some theories seem incommensurable. Implicit within the concept of influences is the idea of planning drawing upon debates and ideas from a variety of fields" (Allmendinger 2002: 89). That is what Friedmann does with his classification, that, despite being designed as linear (and thus exposed to the same critiques that Allmendinger (2002) proposes to (Yiftachel 1989)), takes into account of overlaps in time through history.

This theorization has assumed high importance in planning theory, contributing in surpassing the debate on theory of planning versus theory in planning (Faludi 1973) and grounding planning as a discipline that theorises over the relation between "good society, space and power" (Beard and Basolo 2009: 236). It has also prepared the terrain for answering questions often overlooked in planning history: "what is the object of planning history? And who are its subjects?" (Sandercock 2003: 40). In particular, Friedmann's approach took into account, together with classic approaches to planning, theories on its transformative possibilities. Friedmann's account is one of the first that articulates within planning theory "a social ontology and a non-positivist epistemology" (Healey 2013: xii), as a forerunner of the wide debates on instrumental rationality developed in the following decades. Despite Friedmann's account lacking a space-time contextualization and an explicit recognition to the role of women or minorities in shaping planning (Sandercock 2003), its theoretical depth and account of planning beyond institutionally performed actions and its reflection on planning epistemologies, provide its relevance when looking at theories to induce transformation and change in the face of crises.

For these reasons, I structure this literature review following Friedmann's (1987) classification, updated and complemented with the views of other authors, due to its focus on planning epistemologies and the idea of planning as an action of transformation in the public domain. It provides the ability to delineate a planning theoretical foundation (Beard and Basolo 2009), useful when grounding new worldviews more than on answering the questions "what is a good urban plan? What is planning?" (Yiftachel 1989) that go beyond the scope of this thesis.

2.1.2. Rationality in planning

Before further exploring Friedmann's (1987) classification, it is worth examining the concept of rationality that is a theme that "runs through all the discussions and debates on planning" (97). The word comes from the Latin word for 'to think' and calculate, and strictly means 'in accordance with reason'. Further than that, it also includes, since Weber's (1922) formulations, moral and communicative connotations (Kalberg 1980). For Friedmann (1987) discussing planning is fundamentally a discussion on rationality, understood to be a relation between means and ends. Alexander (2000) similarly stresses that planning cannot be anything other than guided

by rationality, as a process of applying reason to generate decisions and actions from knowledge. For Brown (1995), rationality is "a feature of cognitive agents that they exhibit when they adopt beliefs on the basis of appropriate reasons" (744). Faludi (1987), reflecting on a long stream of planning thought, called it "the application of reason to collective decision-making" (52). Similarly, Willson et al. (2003) consider rationality as a "collective process of giving reasons for beliefs" (365). However, defining what precisely rationality is has been a challenge in planning not yet resolved, possible because, as Healey (2003) suggests, the idea of rationality is socially-constructed and, as Alexander (2000) stresses, it reflects different ways of knowing and understanding reality. What is rational "has to be defined according to a particular standard or criteria" (ibid: 114)

Weber (1922) provides a first classification of rationality types, who considering rationality as divided between formal and substantive rationality[5]. Substantive rationality refers to "man's inherent capacity for value-rational action" (Kalberg 1980: 1155) and is the ability to formulate value-postulates that can guide action. Formal rationality refers to universal legitimation of means-end rational calculation[6]. After Weber the theme of rationality crosses the history of planning, as emerges in the following sections.

2.1.3. Planning as social reform

This planning tradition, created in the first half of the 19th century, is the older one together with planning as social mobilization. For this tradition, society is perfectible and can be adjusted through a comprehensive, radical (in the earlier formulations) or piecemeal (as in the Lindblom's (1959) incrementalism) process of reform. The central planning actor is the State that guides society, enacting reforms to guarantee democracy, social justice, and human rights. The role of the planner is to produce objective scientific knowledge to inform reform (Sager 1992), maximising welfare and solving problems" (Innes 1995). Planning is a rational, value free activity. Planners

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[5] Weber introduces also a practical and a theoretical form of rationality: the former is manifestation of man's capacity to connect rationally means to end and the latter refers to abstract cognitive processes aimed at understanding reality (Kalberg 1980). These two forms are rarely referred to in planning theory.

[6] It differs from practical rationality for generating rules independent of the subject based on value postulates.

are guided by instrumental rationality grounded in a positivist epistemology[7][8] (Innes 1995). Under this rationality, the planner's aim is to select the best means to reach a certain specified and known end. It is a formal form of rationality in the Weberian sense, in which the choice of goals is not bounded or connected to means. As such, questions on fairness or final aim of planning are considered outside the planning process (Albrechts 2003). As Cheung et al. (2003) report, instrumental rationality "belongs to an "unbridled mode", attempting to maximize the outcome with whatever resourced available" (117) and it does not challenge the underlying value system in force in planning. This rational planning process has been considered to be, in the first decades of the last century, democratic (Mannheim and Shils 1940) as reflecting the electoral choices of citizen and driven by impartiality and professionalism of planners working to reach them. However, it has been exposed to important criticisms (§2.1.5. – 2.1.10).

For Friedmann (1987) the planning as social reform tradition is built on Bentham's utilitarianism, Comte's positivism, Dewey's pragmatism, and Popper's critical rationalism. Planners from different schools, such as the Chicago School or Le Corbusier, derive from these theories a scientific approach to action, in which social engineering has a central role: it is, in common language, modernist planning, with its "heroic model" of "rationality, comprehensiveness, scientific method, faith in state-directed futures, faith in planners' ability to know what is good for people generally, 'the public interest', and political neutrality" (Sandercock 2003: 64).

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[7] As Willson (2001) reports, instrumental rationality's epistemology is based on scientific objectivism and, in line with this tradition, conceives nature as a source to be dominated. For Cheung et al. (2003) instrumental rationality is based on the domination of nature that then expands to all forms of the social world allowing for an "instrumental manipulatory relationship between subject and object" (11).

[8] Hemmens (1989) criticises Friedmann's (1987) approach because "the traditional center-piece of planning theory, the rational planning model, is not featured [...]. Rationality is discussed under the theme of social reform. Modern public administration and systems analysis, often considered formative ingredients in the model, are discussed under the theme of policy analysis. I think this is an asset. Having students read contemporary statements of the rational planning model within the context of Friedmann's presentation of the core ideas behind it demystifies the model on its own terms" (59).

Planning as social reform

Disciplines: macrosociology, institutional economics, political philosophy

Role of the planner: use scientific knowledge and expertise to inform state reforms

Main objectives of planning: "promotion of economic growth, the maintenance of full employment, and the redistribution of income" (Friedmann 1987: 77).

Main tools: business cycle analysis, social accounting, input-output analysis, economic policy models, urban and regional economics, development economics.

Knowledge: objective and based on praxis

Actions: reforms

2.1.4. Planning as policy analysis

This tradition frames the figure of planner as technical advisor of decision-making and professional policy analyst. It is developed in the interaction between academia, government, and business actors (Friedmann and Abonyi 1976). It shares with the previous tradition a belief on the ability of science to select rational choices and a faith in instrumental rationality: policy analysts rationally inform decisions that are followed by specific planning actions. The decision-making process, centred on the evaluation of goals and objectives, follows a machine-type understanding of processes, in which input-output and feedback loops aim at improving the policy making; the reality is approached using system thinking that can be applied to the 'wicked' problems of social science, creating reliable forecasts. It lacks a "distinctive philosophical position" (Friedmann 1987: 166), but its premises are embedded with the values of neo-classical economics, that are the main discipline of influence. Rationality of choices tends to coincide with rationality of the market. For Friedmann (1987) this is a form of substantive rationality in which ends are generally considered to be the interests of an "isolated individual or firm" (19). Under the market rationality, choices are preferred when, according with the Pareto Optimum principle, they make at least one individual better off and no one is made worse off. This is the main principle adopted in modern thinking to analyse costs and benefits of certain choices. For Friedmann market rationality is opposed to a social rationality in which social formations and collective interests are to be prioritised over individual (or corporation) needs and self-interest.

As with the other traditions identified by Friedmann, policy analysis evolved in time, reframing its theoretical basis and practices. In particular, after a crisis in the 1970s it was reframed with an enlightenment perspective in which value consensus was not anymore a prerequisite and in which knowing becomes a crafting activity more than a science, re-centring the discourse on actions over decisions.

Planning as policy analysis

Disciplines: system analysis, policy science, operational research, future research, neo-classical economics

Role of the planner: policy analyst, technician devoted to the design of best policies, social engineers

Main objectives of planning: identify best solutions to inform actions

Main tools: gaming, simulation, evaluation research, linear and nonlinear programming

Actions: based on policies

2.1.5. Planning as social learning

This tradition, together with the following (§2.1.6), breaks with the classical planning paradigms presented above and with the modernist tradition, embracing a different position on what planning is and considering it a process of transformation. This is not a radical transformation, but a cyclical process of learning. Specifically, the planning as social learning tradition challenges the assumptions that knowledge comes before actions, conceptualising instead knowledge as a process nested in human activity and social practices. This tradition builds on Dewey's 'learning by doing' and on a Marxist conceptualization of action and dialectics. Knowledge is a dialectic process, in which practice plays a central role. Behaviours, practices, and norms change in a cycle of societal learning. Part of this tradition is Mumford who conceives planning as a self-educative process in which the public, educated appropriately, has the ability to contribute and shape a 'rational political life'. Similarly, the research on groups' dynamic and social interaction by Lewin, in organizational development studies has influenced this planning tradition, as well as research methodologies, introducing the idea of an action research (§4.1.3). The researcher and the planner facilitate community actions towards social change. Later this work was complemented by Likert, with his analysis of participatory structure as the most effective for an organization. The organization is considered to be

an adaptive group that needs to change to respond to the turbulences of the external environment: the winning structure that permits it to survive is a non-hierarchical subdivision in working groups that evolve through learning and are coordinated. Additionally Schön's (1983) idea of a 'reflective practitioner' belongs to this tradition, introducing the idea of a network structure for organizations, characterised by temporality and fluidity, and a double loop learning pattern, that involves a constant process of "re-education or cultural change" (Friedmann 1995: 215). The role of the practitioner for Schön (1983) is to problem setting rather than problem solving. Structuring and framing the situation are the most important steps, due to the wicked nature of planning problems and the social meaning of each specific issue (Schön and Rein 1994; Van Herzele 2004). Framing is an epistemological act of interpreting and judging of reality.

With this new vision of the role of the practitioner, Schön develops a critique to positivism that highlights the rupture in planning as social learning with the epistemologies of the previous traditions. As stated by Sandercock (2003), the technicality of positivisms has its value in the phase of problem-solving, but is not considering the value-dependency of a previous, necessary and normative phase of problem-setting in which the personal, emotional, and phronetic ability of the planner come into play. This reflective practitioner becomes part of a societal conversation in which his technical tools are only a small part in the decision-making process (Friedmann 1987).

Friedmann (1987) finds limitations for this tradition, starting from its idealization of social learning in an idealistic group dynamic, in which people's reluctance to change is not considered as well as their difference in accessing and elaborating information and knowledge. However, for Friedmann it still has a value. In particular it prepares the terrain for an understanding of citizen participation as an "autonomous political practice" (222) and the basis for a people-centred planning. It can inspire a solid planning methodology based on a cycle of practices: "the formulation of a theory of reality, the articulation of relevant social values, the selection of an appropriate political strategy, and the implementation of practical measures" (Friedmann and Abonyi 1976: 929). Social research, that informs this planning tradition, is never carried out under experimental settings, but "as an open-ended exploration of a total environment" (ibid), inspiring the future choice of actions. Nowadays, influences of this theory are visible in the evolution of management studies and the idea of adaptive management (Folke et al. 2005; Reed 2006).

> **Planning as social learning**
>
> Disciplines: organizational development studies, social sciences
>
> Role of the planner: facilitator, learner, reflective practitioner
>
> Main tools: small group organisation, communication, learning processes
>
> Knowledge: process of learning by doing

2.1.6. Planning as social mobilization

Originated in the 19th century as the most consolidated planning tradition of social reform and based on a vast and elaborated body of theory, for Friedmann (1987) planning as social mobilization has not always been officially recognised as a planning tradition, being mostly relegated to the pages of unofficial and insurgent stories (Sandercock 2003). This tradition embeds a critique to mainstream planning and has "nothing in common with planning as it is normally understood" (Friedmann 1987: 250): not believing in reforms, "instead of beginning with goals and objectives, its starting point is social criticism" (297), and uses methods that are often "extra-political" (297). Under this perspective, social mobilization can be defined as planning theory only extending meaning of planning to "an activity in which knowledge is joined to action *in the course of social transformation*" (ibid). For Friedmann this tradition needs to be included when looking at planning as an activity aiming at transforming society performed in the 'public domain' also 'from below'. In this way Friedmann (1987) includes urban social movements and other grassroots actors in the definition of planning, recognising that "oppositional movements are essential to a healthy society, [and] point to the possibility of a fuller humanity" (298).

The tradition of planning as social mobilization starts with the discussion on social emancipation in the Enlightenment and then develops into different forms: historical materialism, utopianism, and social anarchism. For Friedmann, despite their differences, these three philosophies have all contributed to developing an idea of planning as social mobilization. Specifically, the separation among anarchism and socialism created two main streams that differ in their conceptualization of the process towards emancipation: while in the Marxian stream the final liberation of workers is built through the construction of a proletariat's State, in the other, prefigurative politics is fundamental (§1.4), the final liberation is nested in the process of contemporary liberation from the State.

The influence of these thoughts on planning history, despite planning being peculiarly an institutional-driven practice, has been submerged but constant, as showed by Hall (2014):

> "The really striking point is that many, though by no means all, of the early visions of the planning movement stemmed from the anarchist movement […]. The vision of these anarchist pioneers was not merely an alternative built form, but of an alternative society, neither capitalistic nor bureaucratic-socialistic: a society based on voluntary cooperation among men and women, working a living in small self-governing commonwealths" (3).

Despite the differences in strategies and tactics, the philosophies part of this tradition share a deep opposition to "the pervasive oppression and alienation of human being under the institutions of capitalism and the bourgeois state" (Friedmann 1987: 83). Social solidarity is the fundamental strategy for social emancipation. In contraposition to the previous traditions, as a comprehensive planning tradition, utopians, socialists, and anarchists conceive planning as a political act, in which science loses its central role as a unique force to drive change and becomes a tool in the hand of human intelligence (Bookchin 1995). Planning is a "collective action 'from below'" (Friedmann 1987: 83). This tradition of radical thinking is concentrated in developing transformative theory and practice and a "contingent truth" (307) in which social bonds are central to the construction of social emancipation.

For Friedmann each of these philosophies contributed to the planning tradition with specific aspects: utopian thinking introduced ideas of small self-organised communities, the idea of a money-free economy, the importance of social and physical environment, and of human development; their thinking has inspired a long tradition of city planning. Social anarchism, in its variegated and diversified conceptions of revolution, taught planners the "possibility of a world based on reciprocal exchange" (ibid: 227), mutualism, cooperation, absence of hierarchies. As shown by Hall (2014), anarchism is at the core of the Garden Cities movement, of Gidden's regional planning; historical materialism introduced a profound dialectic thinking, an analysis of history as class struggles and has impacted heavily planning theory. Friedmann (1987) places in this tradition critical theorists such as Marcuse or Habermas that had a great influence on planning theory after Friedmann's book (§2.1.8).

> **Planning as social mobilization**
>
> Disciplines: social science, political philosophy
>
> Role of the planner: "shaping transformative theory to the requirements of
> an oppositional practice in specific local settings, creating opportunities for
> the critical appropriation of such a theory by diverse groups organized for
> action, and reworking this theory in ways that reflect first-hand experience
> gathered in the course of practice itself " (Friedmann 2013: 61)
>
> Main objectives of planning: social emancipation
>
> Main Tools: social learning, self-empowerment, networking and coalition-
> building, strategic action, face-to- face dialogue

2.1.7. Planning history after Friedmann (1987)

40 years have passed since Friedmann's *Planning in the Public Domain* and
planning theory has continued to develop. Friedmann (2013) himself
considered his classification to be surpassed: in a post-modern world[9]
answering to the question of how to link knowledge to action has become
problematic, the concept of knowledge itself contested. New questions and
answers arise, but these four bodies of theories continue to inform how
planners see their role and how they perform their actions.

Specifically, an intense debate has developed with the emergence of the so-
called communicative turn and the discussion around participatory planning
(Beard and Basolo 2009) (§2.1.8). As Friedmann (2013) recognises, this is a
practice that emerged within the growing concerns with planners' ability to
deal with the complexity of reality. Since Lindblom's (1959) incrementalism,
to Friedmann's (1973) transactive planning (§2.1.10), to Schön (1983)

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[9] In the 1987 book there is not explicit recognition of the post-modern/post-positivist turn that
in other accounts of planning is instead recognised to have a profound impact (e.g. Yiftachel
1989). Friedmann (1987) includes the early post-modern thinking among the four traditions
and the events and theories that by other authors are considered as ruptures such as the
communicative turn (e.g. by Oranje (2002)) are not considered as such. This is only partially
due to the fact that the book is written at the very start of the turn (Beard and Basolo 2009).
For Friedmann, a rupture has always been present in the planning traditions, within the
planning as social mobilization tradition. This tradition, despite sitting, from the beginning, in
a realist philosophy, had from the start the power of de-structuring the traditional planning
epistemologies. As such post-modern approaches do not constitute a complete paradigm
shift, as also stressed by Beard and Basolo (2009). Moreover, it is to notice that Oranje
(2002) himself includes Friedmann's transactive planning (§2.1.10) among the precursors of
a post-modern twist.

reflective practitioner, new answers have started to be posed to the question of 'what is a reliable knowledge to inform planning decisions?' (Friedmann 2013). Social learning, mutual learning, and the conjunction of knowing and acting as a circular process are concepts that then emerge in the formation of a new theory and conception of planning. As Friedmann (2013) reports:

> "These influences, seeping out of the academy into everyday life, helped create a broad learning metaphor for a type of planning practice that […] has become increasingly participatory on the scale of local communities and occasionally larger ensembles" (218).

Real life experiences of participatory planning such as participatory budgeting and community empowerment become also increasingly important to fuel this turn in which the role of the planner is progressively revised, building on a process started in the previous decades. For example, the critique to the expertise role of planners has been a basis for other visions for planning such as the incrementalist planning school (Lindblom 1959; Davidoff 1965) that dented not only the hegemonic role of planner, but the nature itself of planning as a rational, scientific, and comprehensive project; they utilized the incremental rationality theory for challenging the idea of a single universal planning process in favour of a fragmented, small-steps based process that would involve others than planners in a more approachable and cognoscible scale.

2.1.8. The communicative turn

The core planning tradition that looks at participatory practices emerges in the 1960s with the development of neo-Marxist theories. These theories stressed the political face of planning and its responsibility with regard to social justice and environmental issues (Healey 1992). The image of a visionary planner challenging the deprivation of the industrial city and working for an ideal project, like Ebenezer Howard's or Le Corbusier, was challenged when the dark sides of these approaches were revealed to the public domain (Hall 2014).

The result was, after the 1980s, the so-called Habermasian turn (Healey 1992; Innes 1995). Habermas' (1987) theory of communicative rationality grounded a new idea of planning. Communicative rationality refers to the rationality of argumentation processes concerning both ends and means, described by Habermas (1987) as the rationality potential of action oriented toward mutual understanding. Differently from instrumental rationality,

communicative rationality is based on both a substantive and formal form of rationality and aims to reintegrate technical knowledge and values (Willson et al. 2003). Reason in communicative rationality is formed through an inter-subjective communication that aims to replace the "individualised, subject-oriented conception of reason" (Healey 1992: 150) at the basis of instrumental rationality. Communicative rationality is defined in the public domain through interaction, learning, dialogue, and participation (Willson et al. 2003). Based on it, planning is a participatory deliberative process of learning. Having these characteristics, communicative rationality differs from other forms of rationality that focus on selecting rational actions, it is mainly concentrated on the type of interactions that determine reasonable choice (Alexander 2000). As Sager (1992) reports, in communicative rationality the discussion on the final end of action is embedded in the discussion itself. As such communicative rationality surpasses the dichotomy between substantive and formal rationality and does not fully aim to replace instrumental rationality, being concerned with another domain of reason (Amdam 1997).

The planning tradition that emerges from this communicative turn includes a multitude of approaches[10] (Allmendinger and Tewdwr-Jones 2002) and is nested in between Friedmann's tradition of planning as social learning and planning as social mobilization[11]. It is a tradition under which planning is a communicative action and planning theory is concerned more with "what planners do, rather than postulating what planning ought to be" (Innes 1995: 184). The focus is on the 'how' of planning, without losing a focus on its substance: "substance and process are co-constituted, not separate spheres" (Healey 2003: 110). The planner becomes the facilitator of a participatory debate around the future of the city, which uses knowledge grounded in action and reflexivity (Forester 1999). Participation can allow a consensual decision-making process when inspired by an ideal speech situation (Healey 1997; Forester 1989): communicative rationality aims at building consensus in face of urban crisis and, via a democratic process, transform urban structures. A good summary is provided by Allmendinger and Tewdwr-Jones (2002): communicative planning should be based on

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[10] Within the communicative turns are included a variety of planning typologies such as, planning through debate, communicative planning, argumentative planning, collaborative planning and deliberative planning (Allmendinger and Tewdwr-Jones 2002).

[11] As such, in agreement with Beard and Basolo (2009), it does not constitute a full paradigm shift, as Innes (1995) instead suggests.

interactive participation, dialogue and mediation among diverse communities, open communication, mutual learning, and ability to reshape existing conditions.

2.1.9. Crisis of the communicative turn

Despite the fact that the new models of planning created within the communicative turn aimed at challenging the classical top-down approach to urban planning, for many authors the turn seemed soon to have failed (Yiftachel 1998; Tewdwr-Jones and Allmendinger 1998; Huxley 2000; Allmendinger 2001; Gunder 2003; Fainstein 2005; Randolph 2007). This is due to the impossibility of putting in practices in the real world, the requirements of Habermasian theory. Most of the critiques to communicative planning regard its lack of practical examples and its focus on the process of reaching consensus more than on the implementation of results, as points that could most disappoint participants. Even proceeding through a bottom-up consensus decision-making, the approach never questions the further consideration of these results by who is in charge of implementing them (e.g. institutional planning actors[12]).

For the authors that criticise it, a bridge should thus be built between communicative discourse and a more general approach to participative democracy that has not been considered in the development of this theory. Fainstein's (2010) theory for a 'just city' criticises the Habermasian framework as not taking fully into account the idea of justice not having an a-priori definition of what is 'just'. For other authors communicative rationality lacks a radical discourse on inclusion, horizontality, and marginalization, not challenging the existing paradigm that makes participation an unfair procedure (Allmendiger 2001; Gunder 2003).

Ultimately, it is the starting point of the communicative planning theory, the Habermas' communicative rationality, to be questioned. With regard to that, various authors relying on Foucault's theories criticise the lack of attention towards power in communicative rationality (Yiftachel 1998; Flyvbjerg 1998; Huxley 2000; Huxley and Yiftachel 2000; Tewdwr-Jones and Allmendinger 1998; Albrechts 2003; Cheung et al. 2003). For these authors, without an account of power, the aim of communicative rationality to ground "a non

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[12] I use this expression in this thesis to indicate the official planning bodies that include the State, in all its different structures, together with planning consultants and private actors that work in partnership with the State (e.g. public transport providers).

coercive a coherent foundation for achieving value consensus" (Cheung et al. 2003: 112) bridging instrumental rationality with value rationality cannot be fulfilled. Consequently, in the literature there are few attempts to create a new form of rationality able to bridge between the instrumental and communicative one (Amdam 1997; Sager 1992; Cheung et al. 2003; Randolph 2007), integrating different approaches (Alexander 2000). The search for this integrated rationality stems from the understanding that in the practice of planning different forms of rationality coexist, but they always lack fully to address power relationships (Albrechts 2003). Other authors propose to substitute (or more rarely complement) the Habermasian framework with a more critical Foucauldian approach. In this, the search for consensus is criticised as not allowing for the plurality, difference, and complexity of society (Allmendinger 2001). This is opposed by post-modern approaches in which planning needs "recognising heterogeneous discourses and multiple and conflicting audiences" (Albrechts 2003: 907).

The focus of these criticisms remains on the importance of community participation whose potentialities need to be developed in a deeper and more conscious way: for Gunder (2003) "we need to substitute 'planning as a facilitator of freedom through debate'" (289), "by providing opportunities for all to begin the new and resist the undesired via agonistic debate" (287). According to some authors, if the aim of planning is human emancipation, then the question of power and conflict needs to be constantly taken into account (Albrechts 2003). These criticisms ground new approaches to planning that can be considered 'radical planning theories' that can be grouped in Friedmann's idea of planning as social mobilization.

2.1.10.   Radical planning

Friedmann (1987) concludes his classification of planning traditions with a manifesto for radical planning. The term has been previously used by Grabow and Heskin (1973), in a manifesto for a radical planning based on a system change, decentralized societies, and an ecological ethics. For Friedmann (1987), radical planning, grounded in the tradition of planning as social mobilization and with the influence of social learning theories, can be further developed building a project of "emancipation of humanity from social oppression" (310). This project is always "particularized and historical" (301), but has a universal objective as "no group can be free until freedom has been achieved for every group" (301). Radical planning for Friedmann (1987) is performed at the boundaries between "licit and subversive action" (256): it

can be utopian, revolutionary, or transformative and follows always certain basic assumptions: being emancipatory; it sees history as a dialectic, conflictual process; involves a "radical political practice" (257) in which individuals, in the making of social change, change themselves; is "informed by a paradigm of social learning" (ibid) in which knowledge is produced in action.

The 'impulses' for radical planning emerge from communities and urban social movements. The role of the planner is to help these impulses to arise, develop an analytical critique of the situation, search for transformative solutions and strategies, and boost social learning. A radical planner has specific skills of communicator and facilitator, and is immersed in critical theory. In Friedmann's version of radical planning, knowledge and action are intertwined in a learning loop of practice and theory, that recalls the PAR cycle model (§4.1.4).

Later, Friedmann (1993, 1994), on a similar line, proposes a Non-Euclidean radical model of planning that ought to be normative, innovative, political, based on social learning, and transactive (Friedmann 1973), e.g. a decentralised process based on a face-to-face dialogue between communities and planners. This transactive mode of planning has a focus on expert knowledge wedded by experiential knowledge (Friedmann 1994) and based on interpersonal dialogue and action-based knowledge aimed at building mutual learning (Lane 2001).

Radical planning, as a mode of planning evolved at the interstice between planning as social learning and planning as social mobilization, builds on the criticism to which the communicative turn has been exposed and can be considered as another tradition. The foundation of this tradition is in the belief that planning is an activity that takes place outside the State and is performed by the public domain (Friedmann 1987) or the 'collectivity' (Souza 2006). In such a way participation in planning is not conceived as an institutionalised exercise in which the State opens the planning process to the public, but as an everyday un-regulated and inter-subjective activity of linking knowledge to action, that take places in the public domain and is represented by the higher steps of the Arnstein (1969) ladder (§2.3.1). Radical planning considers planning as an act to oppose the growing forces of neoliberalism:

"The challenges of urban development in the neoliberal era could no longer be handled effectively by government alone but required the participation of all sectors of society in a form of planning that involved dialogue and negotiations among stakeholders seeking an actionable consensus" (Friedmann 2013: 219).

In this radical planning is proposed as a further response: based on social learning individuates new actors to pursue the common good out from corporate decisions. Opposing the idea of planning as social control, it enlarges the definition of planning, reconceptualised to include other multiple practices of community planning.

Several authors can be placed in this tradition. For example, Castells (1983) and Sandercock (1998a, 2003) contribute to extend radical planning by including a right to the city outlook (§2.1.4) and a feminist perspective. Holston (1998, 2008) introduced the idea of insurgent citizenship as a mode of intervening in the public domain that works towards forms of citizenships based on "civil, political, and social rights available to people" (Holston 1998: 50), beyond formal forms of citizenships granted by the State. The idea of insurgency has also influenced other radical planning theories such as Miraftab (2009), Friedmann (2013) and Hilbrandt (2016). Insurgent planning is based on the "acknowledgement of the politics of difference; a belief in inclusive democracy; and the diversity of the social justice claims of the disempowered communities in our existing cities" (Sandercock 2003: 47), that uses "gender and race as categories of analysis" (ibid).

Similarly, other concepts such as activist planning (Sager 2016), radical planning based on collective action (Beard 2003), subversive planning (Randolph 2007, 2008, 2014), radical strategic planning (Albrechts 2015), grassroots planning (Souza 2006), and post-modern planning (Allmendinger 2001) can be included in a radical planning tradition.

These authors share an attention to the process of planning more than on the object of planning, giving a prominent role to citizens or urban social movements as planning actors (§3.6). Differences among the authors exist in the attention given to the role of the planner itself, which might disappear or be considered as facilitator of processes. Planning can be performed "together *with* the state, *despite* the state, *against* the state" (Souza 2006: 327). For Sager (2016), for example, activist planners can act as internal or external to the State and mobilise on a variety of causes and a variety of strategies.

Radical planning is epistemologically grounded on the idea that knowledge is based on praxis. Moreover, the focus is on the importance of giving space to

different voices and needs to emancipate oppressed groups, also through direct action and *agonism* (Hillier 2002), more than on building a societal consensus (§2.2.2). Authors in this tradition might explicitly embrace a post-modern perspective[13].

A clear post-modern perspective has been taken by Sandercock (1998a, 2003) with a focus on alternative planning histories, shaped by the marginalised and oppressed. As Friedmann (2013) reports: "Her work clearly de-professionalizes planning and shifts attention to political conflict. Her primary interest is [...] social justice for those whose voices have been silenced"(248). Sandercock's (2003) 'radical postmodern planning practice relies' on 'practical wisdom', is a people-centred process of negotiation, acknowledges the importance of a variety of knowledges and ways of knowing, recognises the importance of bottom-up processes and community empowerment, together with the existence of 'multiple publics' and plural communities, in an participatory but agonistic process of deliberation. Planning is a political act embedded in a complex reality and planners have to "operate in conjunction with citizens, politicians, and social movements" (ibid: 35).

Radical planning elaborates also new approaches to rationality (§2.1.2). For example the subversive planning by Randolph (2007, 2008, 2014) aims at mediating between communicative and instrumental rationality (between the incommunicability between the representation of space by professionals and the space of representation of the everyday life). It proposes a *cosmopolitan rationality* (Santos 2002) in which a new space-time dimension is defined where contemporary everyday subversive experiences are valued and supported in order to build the future. The core objective of this rationality is

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[13] According to Sandercock (2003), the post-modern turn in planning never completely regretted an Enlightenment position. Possibly for this reason Friedmann's (1987) classification does not see in postmodernity a new answer to the question of how to connect knowledge and action. In this context, Giddens' (1990), Berman's (1983) or Bookchin (1995) views on modernity are holding: post-modernity is an expression of modernity or late-modernity in which is possible to find the enlightened values of freedom and equality born in modernity. However, in order to fully understand the radical planning tradition, is important to account for the criticism that post-modernity poses to the way modernity has impacted planning and bounded to capitalism. Allmendinger (2001), that refuses modernity as a whole, proposes: "modernity is inextricably bound up with capitalism and there is little doubt that any differences we do experience are ultimately subject to its dynamics" (9). Specifically for Allmendinger (2001) instrumental rationality, with its aim to control nature, limits the free will: "scientific reason and rationality have come to dominate other ways of conceiving the world and, as a result, the Enlightenment has betrayed the (limited) emancipatory goals it set itself by replacing religious with scientific dogma" (17).

to 'expand the present', expanding the knowledge of available experiences, taking into account for complexity and specificity in a mutual understanding of each other universe. At the same time under this rationality it is necessary to contract the future, making it a manageable dimension in which to embed imagination and utopia, expanding the domain of possible experiences. This subversive planning is centred in a real praxis and considers socio-spatial relationships and the social production of space allowing for a meaningful participation that overcomes the limits of the too abstract communicative rationality (Randolph 2007).

Radical planning can broadly influence any planning agenda, bringing to attention questions of marginalization and oppression in the urban realm. At the same time it "opens up new possibilities and [...] new ways of thinking about 'nature' in the urban environment suggestive of 'less policing, more greening'" (Friedmann and Douglass 1998: 3). Finally recognising the ability of other actors such as urban social movements in conceiving and implementing urban planning, it opens for the contribution of actors that normally do not have a powerful status or work within the state apparatus that can "offer proposals and conceive concrete alternatives" (Souza 2006: 329). As Friedmann (1987) suggests, radical planning can contribute to overcome the current crisis: "if the present crisis is to be overcome at the root and not merely in its apparent manifestations, then the sense of an active political community must be recovered" (14).

Radical Planning

Disciplines: social science

Role of the planner: activist, supports activists

Main objectives of planning: emancipation

Knowledge: inter-subjective, grounded in praxis

Actions: prefigurative

Having reviewed the body of planning theory, it emerges that traditions such as planning as social learning, planning as social mobilization, as part of the idea of planning as social transformation, and radical planning are the ones that are more open to the idea of transformation in the face of crises. Specifically radical planning and its radical critique to neoliberalism, includes characteristics that resonate with what will constitute a resourcefulness-based worldview (§3.1.2 – 3.5). All of these approaches have the potential to

inform transport planning in the face of the current social and environmental crises.

2.2.   Participation

Participation has become, since the communicative turn (§2.1.8) a key concept in planning theory and practice, especially within the planning as social transformation tradition, and it is a theme covered in vast literature that spans over several disciplines. The transport planning literature is increasingly interested on this topic (§2.3.2). As such it deserves closer examination especially regarding its aspects of power, knowledge, and procedures.

Numerous authors have proposed a systematization of theories on participation, deriving different typologies and classification of participation (Dachler and Wilpert 1978; Srivastva and Cooperrider 1986; Padilla et al. 2007; Reason 1998). Several definitions have been proposed, however the most cited is that of Parry et al. (1992) that considers participation as the public involvement in "the processes of formulation, passage, and implementation of public policies" (16).

2.2.1. Arnstein's ladder for participation: looking at power

One of the foundation stones of the literature on participation is Arnstein's (1969) ladder, in which the power dimension of participation has been examined by focusing on who is included or excluded from the planning process. The ladder, as visible in Figure 2.1, classifies the different degrees of participation in planning by emarginated groups, as a ladder of citizen empowerment. Starting from non-participation, different levels of power delegation permit to reach higher levels of participation, in which citizens assume total control of the planning process.
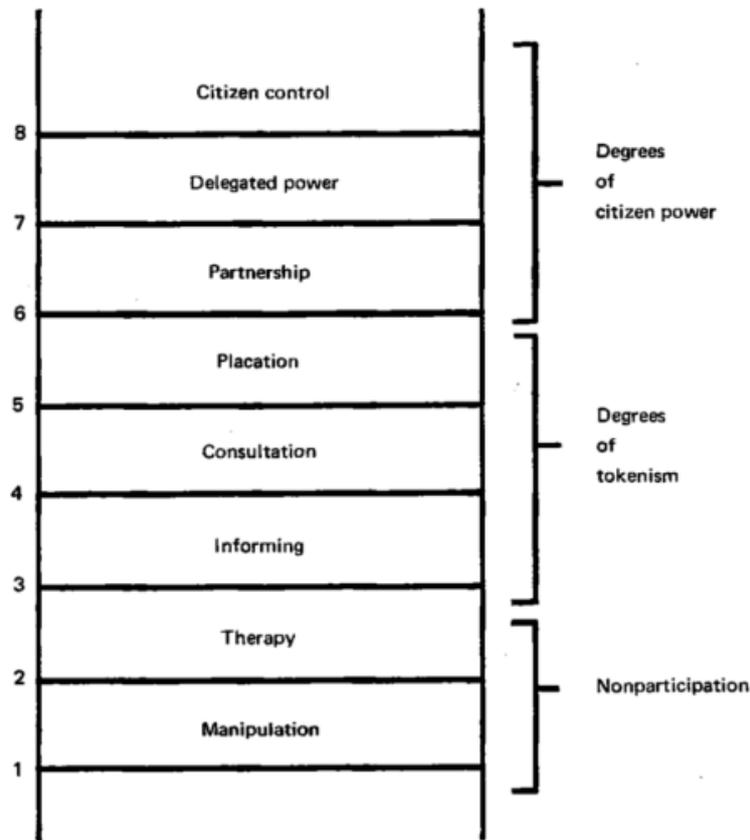
Figure 2.1: Arnstein's (1969: 217) ladder of participation

Several authors have used the ladder metaphor to analyse participation (Connor 1988; Pretty 1995; Souza 2001a; Bruns 2003; Lawrence 2004; Tippet et al. 2007) as a "categorical term for power" (Arnstein 1969: 216). Rungs are determined on the basis of an incremental approach to power-redistribution: the higher the rung, the more power moves from the planning-authority into the hands of the citizens, in a movement from top-down to bottom-up participation. The ladders differ for their understanding of the 'degrees of citizen control'[14] and in their taking into consideration or not both participatory arenas opened by institutional actors and participation as initiated by other actors such as grassroots actors. In this second case the ladder is a "'continuum' model which views participation as varying degrees of movement toward direct democracy" (Bishop and Davis 2002: 16). These ladders assume an extended definition of what planning is, similar to that of Friedmann (1987) for planning as social mobilization: planning as an activity that takes place in the public domain *in the course of social transformation*.

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[14] These higher levels are also called, following the resume proposed by Lawrence (2006) meta-ladder, 'transformative levels' of participation.

Under this understanding, participation can be defined as an arena of transition from the private sphere to the public sphere (Padilla et al. 2007) opened by different actors.

In planning theory literature, Lane (2005) uses the ladder to propose an analysis of the concept of participation in planning history, with an evolutionary interpretation, that in time climbs the rungs of the ladder, as visible in Table 2.2. This is based on the assumption that, differently from Arnstein (1969), power is not mono-dimensional, but can be considered as potential or actual power, and needs to be judged in terms of outcomes of the planning process more than the formal set of the decision-making (Painter 1992). The fact that, in the higher rugs of the ladder, citizens are formally guaranteed 'more power' doesn't necessarily ensure their impact on the decisions; similarly, citizens can have the actual power of influencing decisions also in rungs of the ladder where they are theoretically just passively consulted (as the research by Hilbrandt (2016) on insurgent participation highlights). With this complex understanding of power, where "participation in planning can involve the exercise of both formal and informal power" (Lane 2005: 286), Lane proposes his 'ladder' of planning models.

Table 2.2: Planning theories and the participation ladder (Lane 2005: 286)

Level of participation	Planning tradition	Planning school	Planning models
• Citizen control • Delegated power • Partnership	Societal transformation	Pluralism	• Communicative • Bargaining • Marxist • Advocacy • Transactive
• Placation • Consultation • Informing	Societal guidance	Synoptic	• Mixed scanning • Incrementalism • Synoptic planing
• Therapy • Manipulation	Societal guidance	Blueprint	• Blueprint planning • Geddes, Howard • Precinct planners

In this model the conception of public participation in planning is strictly connected with the understanding of the role of planner (and technical knowledge), of the decision-making process, and of society. Blueprint planning and synoptic planning, part of planning as societal guidance (§2.1.1) share an idea of a "unitary public interest" (ibid: 290), where the planner has the technical skills to decide the good for society and the decision-making is a matter of the policy-making arena. Within this planning tradition, societal will is 'homogenised' and participation is "only required to validate and legitimise the goals of planning" (ibid: 290).

For Lane (2005), when this conception of planning enters in crisis with planning as social transformation tradition (§2.1.1), new spaces are opened for participation: firstly as a pragmatic choice (in the synoptic planning model), then as the basis of a paradigmatic shift. This results in the emergence of several new approaches: transactive planning (§2.1.10), centred on the idea of social learning (§2.1.5); advocacy planning, in which the role of planner is to become a supporter of disadvantaged groups (Davidoff 1965); the communicative-rationality planning, in which the public, involved in an inter-subjective rational communication and knowledge formation, is the protagonist (§2.1.8). For all these new planning approaches participation is not just a technique, but also a crucial objective.

2.2.2. Critiques to the ladder approach

The first, recursive critique to the ladder approach, as mentioned, relate to its normative nature of assuming participation as good 'per-se'. These approaches would favour a more pragmatic account of participation (Connor 1988; Maier 2001; Ross et al. 2002; Collins and Ison 2009) and normally consider participation only as an institutional activity (Davidson 1988; Connor 1988; Tippett et al. 2007).

Second, ladders have been criticised for their one-dimensional and incremental approach to power that does not consider that "power can take many forms" (Lawrence 2006: 288). As shown in Lane (2005) and Painter (1992), this linear approach to power misses the complexity and dynamicity of the inter-personal relations in the decision-making process, the shades between potential and actual power and the effects of the context on the participatory process (Collins and Ison 2009). As happened with the communicative turn (§2.1.9), these critiques often refer to Foucault's theorization of power that is not a unique "commodity" (Collins and Ison 2009) that can be transferred or exchanged (Buchy and Race 2001), but a plurality of micro-powers. These cannot be accumulated and possessed by some specific actor: they are relational and exist only when enacted as "actions upon actions" (Gallagher 2008: 340). The discourse of empowerment needs then to be framed in terms of challenging existing power structures and not in terms of 'transferring' power (Kaufman 1997; Buchy and Race 2001). At the same time, as Buchy and Race (2011) stress, questions of power need to be addressed not only between groups but also within groups, addressing questions of gender, age, ethnicity, knowledges, and capacities.

Theories of participation that evolve from these critiques concentrate not on the understanding of who holds power, but "instead at the ways in which power is exercised through networks of relations" (Gallagher 2008: 399); it is a 'power to' rather than a 'power over', whose effects are what needs to be analysed. A Foucauldian study of participation specifically looks at the outcomes and effects of the participatory processes, rather than the supposed arrangements, looking at different scales of power relations, starting from micro-interactions between the different actors (Gallagher 2008).

The concept of agonism is also introduced to address the uneven distribution of power (§2.1.10). Agonism opposes the Habermasian idea of reaching a consensus and allows for differences, disagreement, and argumentation (Hillier 2002; Pløger 2004; Brownill and Carpenter 2007). This approach favours temporary solutions instead of permanent solutions, where conflicts are resolved rather than disputed (Pløger 2004).

Despite the various critiques posed and the alternatives proposed, Arnstein's (1969) ladder remains of important reference for literature regarding participatory planning. Moreover, it represent a valuable tool to identify how different actors conceptualise and envision participation, an analysis that can precede the establishment of those network of power ramificating once participation arenas are opened. For this reason, having acknowledged its limits and taking into account the further elaborations, I refer to it in the analysis of the case studies.

2.2.3. Knowledge as dimension of participation

The dimension of power in participation is interlaced with the dimension of knowledge and information. For Reed (2008) participation can be classified according to the communication flows in the participatory arenas, looking at the different flows of information between the initiators and the participants, and among participants. This analysis can be overlapped with the ladder classification. The rungs of the ladder can be considered as if: "the lowest level involves top-down communication and a one-way flow of information, while the highest level is characterized by dialogue and two-way information exchange" (Rowe and Frewer 2000: 6).

In particular, the ladder can also provide details on the fluxes of information: low levels of the ladder, the 'non-participation', are typically under a regime of one-way communication ('information' or 'consultation'). The higher levels of the ladder typically represent a mutual exchange of information,

collaboration, or joint planning. As Lynam et al. (2007) identify, participation can be based on diagnostic and informing methods, if aimed to "extract knowledge, values, or preferences from a target group to understand local issues" (5); on co-learning, if knowledge is generated but only inputs externally to the decisions; on co-management if "all the actors involved are learning and are included in the decision-making process" (5).

There is plentiful literature concerning the importance of folk, citizen, indigenous, and popular knowledge in ensuring citizenship and citizen competence in shaping urban politics and policies. Gaventa (1995) presents how different theorizations of power subsume different understandings of which skills and settings citizens should have in order to participate in decision-making. Specifically, if power is understood as a one-dimensional conflict of win-lose, then citizens that want to participate can build skills and efficacy necessary to influence specific decision-making via entering in existing specific advocacy groups.

Differently, in a framework that recognises that barriers to participation exist in society and that power is determined by knowledge, culture, and consciousness, building citizenship and citizen power requires political education and awareness building.

In line with Gaventa's (1995) second approach, other authors have looked at participation as a knowledge and information exchange practice, with educational and transformative aspects. They have stressed the importance of consciousness formation, construction of meaning, identities, and knowledges to ensure citizen actions. Participation, both as initiated by institutional actors or by grassroots actors, can be used as a process to inform and empower citizens, towards higher levels of fairness and justice in the decision-making process and in the decisions taken (Friedmann 1987; Renn and Webler 1995; Sandercock 1998; Innes and Booher 2004; Sadan 2004; Bailey and Grossardt 2010; Bailey et al. 2012). Moreover, participation can generate in itself spaces of information diffusion, knowledge exchange, and creation, becoming a space in which practices and behaviours can be transformed and social learning built (Palerm 2000; Kesby 2005; Reed 2006; Sagaris 2014). However, in the literature the idea of participation as an educational exercise is also contested as such an educative process can potentially be undemocratic, manipulative, and exclusionary (Cooke and Kothari 2001; Rydin 2003; Bickerstaff and Walker 2005).

2.2.4. Procedures for participation

The literature covers also the details of the arrangements of participatory arena. With a variety of possible outcomes, participation can assume a variety of forms of engagement, from spontaneous and informal encounters to more standardized and mediated forms, that span from surveys, interviews, and online interaction, to more dialogic spaces such as focus groups, citizen juries, and community planning events (Lowndes et al. 2001). In each of these the question of which stakeholder to involve, using which modalities and tools is of great importance: as Bruns (2003) says, "the key questions concern 'who decides?' and 'who has input into the decision?'" (11).

There is in this a dichotomy between inclusiveness, e.g. attempting to involve all the stakeholders, and selection, e.g. involving a selected sample of representatives (Warner 1997; Cucca 2009). For Warner (1997), while inclusive participation is focussed on the objective of empowerment, selective participation would be more able to pursue an 'institutional sustainability', and represents a "rational and pragmatic response to the internalizing propensity of 'popular' participation" (415). These two typologies both have problems: the 'popular' risks being overly focussed on the internal aspects of the community, ignoring the responsibilities of external actors in implementing sustainable choices, while the 'selective' is inadequate to fully address local problems. For this reason the author proposes 'consensus participation' that involves selecting stakeholders on a wider basis and giving training and education to targeted stakeholders that can then educate their community. Furthermore, there is debate on the definition of who is a 'stakeholder', especially in environmental sciences (Reed 2009; Calandra 2012).

The importance of guaranteeing fairness and justice is also debated, avoiding participatory arenas to be taken under the control of the so-called 'high-demanders', e.g. people that, "thanks to availability of time and resources (organizational, political, economic, cultural, etc.) or strong motivation, manage to be always on 'the front line' but also somehow monopolize the scene of participation" (Calandra 2012: 20).

There is wide discussion over the use of different tools for participation (Te Brömmelstroet and Bertolini 2011; Bailey and Grossardt 2010) and it is often grounded on a more pragmatic approach to participation. For such an approach, as in Beierle (2002), the arrangements of participation need to be content and decision specific. Different levels of participation should be

chosen in terms of convenience and vary in terms of degree of involvement of the public and its potential influence in the decision-making. Participation arenas should be developed according to the nature of the problem, the participation strategy selected, and the tools to be employed. Similarly for Leino and Laine (2011), participation should be approached from the perspective of matters of concern and issues, which motivate people who participate in transport planning and decision-making processes, rather than as a methodological or philosophical question.

Merits and limitations of different forms of participation are examined in the literature (Beierle 2002; Batheram et al. 2005; Creighton 2005) where important frameworks to evaluate the effectiveness of participation have also been developed, based on guaranteeing best practices for participation that ensure fairness and competence (Mumpower 2001), effectiveness (Rowe and Frewer 2005), intensity of involvement (Beierle 2002), support the construction of social justice in the allocation of public goods (Bailey and Grossardt 2010), or environmental justice in transportation decision-making or in the context of environmental impact assessment (Palerm 2000).

2.3. Transport and mobility planning theories and paradigms

In the previous section I reviewed the main planning traditions, guided by Friedmann's (1987) classification. On the basis of this, I now concentrate on the specificity of transport planning, considering its theoretical foundations and developments.

2.3.1. Transport planning as societal guidance

Various authors have proposed an account of the history of transport planning (e.g. Banister 2002; Lay 2005; Vigar 2013). Among these, Banister's (2002) account of UK transport planning history has great relevance and can be taken as a guide. In Banister's (2002) narrative transport planning started with the development of forecasting and land-use and transport models focused on creating evaluation tools for allocation of traffic demand. This role has then changed and has been shaped by governance changes. Specifically, for Banister, the role of governments, over the decades, has become significantly reduced, increasing fragmentation of the planning apparatus. This fragmentation, as reported also by Vigar (2000) and Khreis et al. (2016) has favoured the role of business and the car industry lobbying for motorized solutions. Pro-car choices have also

benefitted by the use of specific policy instruments such as cost-benefit analysis, heavily dependent on economic evaluation (Khreis et al. 2016).

Within all this evolution, for Banister (2002), transport planners have remained committed "to a technocratic role" (131) despite the emerging political face of planning in the broad urban planning literature. This technocratic approach has been based fundamentally on two principles:

> "That travel is a derived demand and not an activity that people wish to undertake for its own sake. It is only the value of the activity at the destination that results in travel. The second principle is that people minimise their generalised costs of travel, mainly operationalised through a combination of the costs of travel and the time taken for travel" (Banister 2008: 73).

These principles are centred on the economic efficiency of transport as an activity that can be predicted and provided (Schiefelbusch 2010; Levine 2013) and on people rational choices among different mobility options. The durability of these principles aligns with Banister's (2002) account, which stresses the permanence of a rational paradigm in transport in UK and generally Europe over time. Other authors have concluded similarly, considering the predominance of instrumental rationality in transport planning (Willson et al. 2003), as it emerges also from the account of the prevailing methodological traditions that rely heavily on modelling (§4.1.2). In light of these examples, referring to Friedmann's (1987) traditions, it can be said that transport planning is embedded in planning as social reform and policy analysis, that Friedmann considers part of the same approach to planning as societal guidance (§2.1.1).

2.3.2. Transport planning as social transformation

Within a prevailing instrumental rationality in transport planning, some authors, from a variety of disciplines, have however proposed a change in the approaches and agendas or even a paradigm shift, especially in face of the environmental crises and with the emergence of the idea of sustainability (§1.1-1.3). This has been also a response to the increasing concerns over unreliability of modelling and the influence of citizens' consultations and environmental assessment procedures (§1.3).

For example, Hickman and Banister (2014) have stressed the need for new approaches that overcome the current 'narrow mind' of transport planning (§1.3) and can substitute the 'muddling through' attitude (Lindblom 1979) of

the current rationality with a firmer commitment to step changes. For the authors, considering only alternatives between policies, building marginal changes, would not achieve the goal of sustainable mobility.

Pathways for this new order of change have been proposed, for example by Vigar (2000). He has suggested a shift towards demand management, informed by acknowledging environmental impacts of transport, rather than catering for more demand as historically performed in transport planning. However, he has highlighted the important cultural and political barriers that such a change would require.

Banister (2008) has proposed a new sustainable mobility paradigm in which more attention is given to complexity and interrelation between transport and land-use. With a reflection of which is the most sustainable urban form to be obtained (dense, polycentric, highly accessible, and environmentally friendly), this new planning paradigm should aim "to reduce the need to travel (less trips), to encourage modal shift, to reduce trip lengths and to encourage greater efficiency in the transport system" (ibid: 75). This objective can be obtained through "active citizen support and new forms of communication between experts and citizens" (ibid: 74). Citizen involvement and information is fundamental for building a consensus and acceptance on the sustainability goal.

Litman (2013) has stressed the emerging of a paradigm shift in transport planning, moving from a reductionist, mobility-based focus on speed, convenience, and affordability of road transport to a comprehensive, accessibility-based multimodal approach. In a different context, Willson et al. (2003) have proposed a communicative rationality shift in transport planning, in which the power of discussion among different planning actors could 'enhance rationality' of planning choices, linking appropriate modelling or policy analysis and decision-making.

At the same time, authors have stressed the responsibility of transport planning in shaping social crises. They have highlighted the social impacts of transportation (Jones and Lucas 2012) and proposed new approaches to transport planning (§1.2). Since the early 2000s, authors have brought attention to themes such as equity, social exclusion, transport poverty, and transport justice (Vasconcellos 2001; Lucas 2004; Mullen and Marsden 2016) (§1.2). New approaches such as accessibility planning have also emerged from these new themes and the pioneer work of the Social Exclusion Unit (2003). These approaches have stressed the complex and multi-dimensional nature of mobilities, proposing multi-level, multi-faceted solutions often with participatory methodologies (Lucas 2012) (§4.1.2).

Similarly, the 'mobility turn' that has crossed social sciences in the 1990s has directly influenced transport literature with the mobilities tradition (Sheller and Urry 2006, 2016) (§1.2), bringing a post-modern approach to the study of movements and flows, that has introduced the question of politics and power (Cresswell 2006a, 2010), justice (Sheller 2011a; Mullen and Marsden 2016; Martens 2016) as well a variety of new methodologies from humanities (§1.2, 4.1.2).

These new approaches proposed in the literature often focus on participatory governance settings (e.g. Willson 2001; Willson et al. 2003; Banister 2008; Jones 2011; Lucas 2012; Elvy 2014). For example, Banister (2008) considers that real sustainable mobility can be built only through "active citizen support and new forms of communication between experts and citizens, through new forums for discussion and the involvement of all major stakeholders" (74). Participation is considered as the most viable pathway toward implementing a shared vision for sustainable transportation (Banister 2008), and the merits of participation are widely recognised also by those who develop critiques to existing practices and frameworks (e.g. Bickerstaff and Walker 2005).

2.3.2.1. Participatory planning for transport: examples from UK

In order to consider the variety of arenas for participation in transport planning available a distinction needs to be made between arenas initiated by institutional actors and arenas initiated by other actors. The vast majority of transport studies literature focuses on the former.

Especially the Agenda 21 has kicked off a number of initiatives by national, regional and local authorities in different countries (Cucca 2009). These widely assume the form of public enquiry for specific projects (e.g. Birkestaff et al. 2002) and rarely have assumed more structured and lasting forms, such as with the use of Planning for Real in the development of new housing estates (Lorenzo 1999).

In the UK context, for example, institutionally organised participation in transport planning has assumed an important role the late 1990s with the Withe Paper (DETR 1998) and the introduction of the Local Transport Plans (LTP) that have increased the use of participatory exercises at different stages of the planning process (Birkestaff et al. 2002; Elvy 2014). These exercises have however most of the time remained in the lower rungs of Arnstein's ladder (§ 2.2.1), mostly set up as consultation or, in fewer cases, questionnaires and websites, and presented issues in term of social

exclusion that are still to be overcame (Elvy 2014). More recently the introduction at the EU level of the Sustainable Urban Mobility Plans has promoted in a variety of cities a more nuanced interaction with the public during the setup of urban mobility plans (May 2015).

On a similar magnitude a variety of non-institutional actors has initiated or pushed the organisation of several participatory transport planning initiatives, often introducing aiming at introducing novel formats and strategies for involving the public, as considered later in this thesis (§3.6.1).

2.3.3. The hierarchical hydra model and its limits

As shown, transport planning is grounded in an instrumental rationality that is however not monolithic, but has been exposed to influences of other approaches such as participatory planning. Specifically authors have recognised that the theoretical understanding of what should be the rationality in transport planning, is opposed to a practice in which "political bargaining and gamesmanship" are the forces that concretely shape planning and decision-making (Willson 2001: 3) and in which a variety of planning modes and theories intervene (Willson 2001; Ferreira et al. 2009). These influences create a 'hydra model' (Ferreira et al. 2009) as a planning paradigm in which different rationalities coexist.

However, from an analysis of the literature it emerges that, despite authors proposing a shift towards different planning paradigms or towards planning as social transformation (§1.3, 2.3.2), within the hydra a hierarchy of paradigms exists, where planning as societal guidance remains the 'larger head' and the favoured approach in transport planning (Willson et al. 2003; Schwanen et al. 2011; Lindelöw et al. 2016) (§1.3).

This is evident, for example, in May et al. (2005) and Minken et al. (2003) classification of transport planning types as vision-led, plan-led, and consensus-led. This model still guides the development of transport policy (May 2015; May et al. 2016; Khreis et al. 2016). Under a simple analysis of

planning rationality[15], this classification shows how transport planning, for its epistemology, tools used, and approach to planning itself, is deeply rooted in a pragmatic 'planning as societal guidance' tradition. May et al. (2005) categories are a good example of a 'hierarchical hydra model' in which the instrumental rationality subsumes practices and attitudes from other planning traditions. Similarly this predominance of the instrumental rationality can be seen considering the tokenistic approach to participation in the sustainable mobility paradigm by Banister (2008) (§2.4.4).

As such, mainly still embedded into instrumental rationality, transport planning, as a more technical part of urban planning, has been criticised as requiring the development of a wide body of literature on the purpose and nature of transport planning itself (Willson et al. 2003; Lindelöw et al. 2016) and a focus on "a more fundamental understanding of the potential role of transport in achieving societal goals" (Hickman and Banister 2014: 66)(§1.3). Planning approaches in transport have then been suggested to deliver more comprehensive methodologies (§4.1.2) and approaches beyond technical focus able to take into account societal/behavioural aspects and their impacts on livelihoods and environment (Schwanen et al. 2011; Hickman and Banister 2014). A change in worldviews is necessary beyond a paradigm shift (§1.3). Some authors have followed this path (§2.2.3), but more theoretical elaborations are still needed (§1.3).

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[15] May et al. (2005) introduced the classification as "a practical approach to decision-making, between the extremes of rational analysis and 'muddling through'" (KonSULT nd). At a closer look, the plan-led narrative is part of the policy-analysis tradition. The other two categories are blurred in their definition. The vision-led considers visioning as a process of enlightened individual-led definition of objective and goals: "Vision-led approaches usually involve an individual (typically the mayor or committee leader) having a clear view of the future form of city they want, and the policy instruments needed to achieve that vision" (May et al. 2005: 6). The use of utopia and visioning by May et al. (2005) is different from the utopian tradition proposed by Friedmann (1987) as a collective process of emancipation or social change. May et al.'s (2005) vision-led approach belongs to a societal guidance tradition and echoes Halls's (2014) approach to planning history as a history of few visionaries ideas that, however, can be dramatically distorted when applied (Sandercock 2003). Similarly, the consensus-led tradition, in which participatory approaches are included, proposes a decision-making process structurally similar to the plan-led one and forms of participation that remain in the tokenism area of the ladder (§2.2.1). Instrumental rationality is subsuming all three approaches, accordingly with the idea of a hierarchical hydra model. May et al.'s (2005) interpretation of planning types contributes to clarify the different priorities that can guide a rational planning transport: is for the planning authority most fundamental having consensus, having a clear plan or a vision to follow? Following this scale of priority, different arrangement of objective-led planning will be followed: if consensus is a priority, stakeholders will be consulted recursively during the planning process. If a personal vision is predominant, consultations will be reduced while priority will be given to expert's voices.

2.4. Sustainability

In the previous sections the main literature concerning both planning and transport planning was examined alongside attention to the idea of participation. This idea has assumed an important role especially in the planning as social transformation tradition (§2.3.2).

In the next sections I consider, in dialogue with the planning traditions analysed, two main concepts, sustainability and resilience, that have recently informed transport planning, especially with the aim to deal with social and environmental crises (§1.2).

2.4.1. History and main characteristics

The long journey of sustainability officially starts in 1987[16] when the Brundtland Commission (1987) defined it as a form of development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (16). Sustainability is a response to the growing concern with the global scale of environmental and social problems. Its central focus is preserving environmental resources and needs and aspirations of the worldwide population. Sustainable development is proposed as a process of change and a policy objective for all countries "inexorably linked" to the solution of environmental problems (ibid: 36). On one side, the emphasis is on institutional rearrangements: "sustainable development requires a political system that secures effective citizen participation in decision-making" (ibid: 58). On the other, the sustainability agenda is grounded on developing scientific and technological improvements to guarantee at the same time economic growth and protection of the environment.

With this first definition, environment and development are at the core of the Rio Earth Summit in 1992, in which particular emphasis was posed on growth and green economy, to the point that it turned into a "declaration on development, rather than on environment" (Sachs 2001: 5). The following Agenda 21 aimed to operationalize these wishes, ensuring also large spaces to firms and private businesses in the construction of sustainability. Following this initial introduction in international summits, the sustainability agenda

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16 The idea of sustainability was envisioned at least 20 years before that, with the emerging environmental movement in the 1950s, the publication of various reports and books concerned with the state of the environment and the Stockholm conference (Wheeler 2004).

became a worldwide theme. Several different definitions became available, with different emphases on the role of environment, technology, and growth.

As a primary distinction, sustainability can be characterized between narrow and broad sustainability (Holden et al. 2014). It is narrow when concentrated exclusively on environmental issues (one pillar approach) (Littig and Grießler 2005), broad if considering also economic and social aspects (referring to the business model triple bottom line (Elkington 1998)). Sustainable development, as officially defined by the Brundtland Commission, is based on progress in all three areas.

Distinctions also exist between weak and strong sustainability, based on the theorization of natural, social, and economic capital (Holden et al. 2014; Gudmundsson et al. 2015) and on the possible tradability of natural capital. Weak sustainability, which focuses on the idea of preserving the environment as natural capital, admits its conversion in others forms of value. Problems such as biodiversity loss and preservation of natural ecosystems are addressed from a technological point of view. Fundamentally, the weak formulation of sustainability is based on technological innovation and market-led development (Gudmundsson et al. 2015). Strong sustainability, shares with broad sustainability a wider-angle of conceptualization of environmental issues, assuming as crucial the preservation of all living species: natural capital cannot be traded and has to be preserved; economy and society cannot be separated from environment, but are embedded in it. Strong sustainability requires more substantial change in the current political and economic system and for that reason is rarely adopted in policy management contexts.

The distinction between weak and strong sustainability implies not only the adoption of different policies, but also of different analysis tools and planning practices, as Gudmundsson et al. (2015) remark:

> "Tools such as cost-benefit analysis that are compatible with 'weak' sustainability, may be rejected from a 'strong' sustainability perspective on the grounds that the environmental costs being accounted for run against the principle of maintaining the stock of natural capital" (37).

A further distinction regards the view on the current economic and political system: while mainstream sustainability assumes economic growth as a precondition for ensuring that the inter- and intra-generational needs are met, other approaches see irreconcilability between economic growth and environmental protection (§2.4.2).

Multiple definitions and meanings of sustainability allowed the proliferation of interpretations, as shown by the classification by Hopwood et al. (2005) in Figure 2.2. The authors propose a classification of different conceptions of sustainability according with their grounding assumptions on social and environmental crises - in a spectrum of priorities between human wellbeing and equality or/and attention to the environment - and their philosophy of change. The theories included in the shaded area are thought to be concerned with sustainable development; mainstream sustainability lies in this area, and aims to a reform-type of change. As visible the idea of sustainability refers to different worldviews (§1.3).Other approaches follow a more transformational philosophy and a joined concern with both social and environmental issues, such as social ecology (§3.1.4).
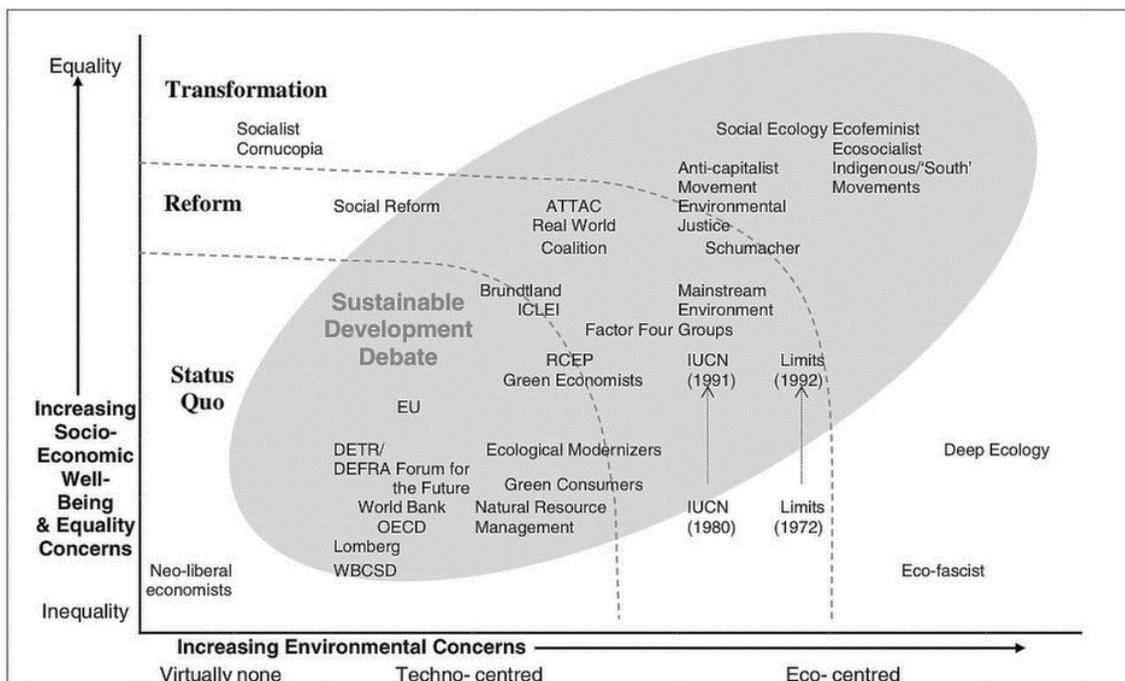
Figure 2.2: Environmental concerns and equality concerns in different formulations of sustainability (Hopwood et al. 2005: 41).

2.4.2. Critiques to sustainability

Despite its worldwide adoption, sustainability has been widely criticized.

Firstly, several authors highlight the risk of the concept being too broad and vague (Low and Gleeson 2006; Cucca 2012; Holden et al. 2014; Kaika and Swyngedouw, 2005); as Redclift (2005) reports, "the simplicity of this approach is deceptive, and obscures underlying complexities and contradictions" (213). This vagueness can be particularly problematic when coming to its conceptualization of 'needs' that in mainstream definitions are

considered as universal in time and space. For Redclift (2005) this does not account for their possible historical, cultural, and geographical differentiation as well as for the influence that the model of development itself has in the determination of needs (Illich 1978). This contains the risk of imposing worldwide a westernised conception of what needs are and which model of development is better.

Secondly, several authors have highlighted the lower attention given, in the mainstream sustainability agenda, to its social side, despite it being included in the three pillars approach (Chichilnisky 1996; Marcuse 1998; Littig and Grießler 2005; Cucca 2009). This is connected to the risk of having phenomena of increasing social inequality as an effect of policies inspired by environmental sustainability (Lucas 2006; Lucas and Pangbourne 2014; Gunder 2006), as described in the analysis of cases of green-gentrification by Cucca (2009) and Blanco et al. (2015). As Cucca (2009) stresses, concepts of social injustice, poverty, and equity rarely appear inside a sustainability framework, where there are dominant less critical ideas of social exclusion and cohesion. Other authors recognise that "the conservation of natural capital cannot be separated from some key distributional questions" (Redclift 2005: 214) and from discourses on property and economic power (Shiva 2005), that determine the possibility of policy interventions on resource protection. From this perspective, weakness of the three pillars approach is the same distinction in pillars and their equal weighting (Shiva 2005): considering nature and society as separated, and economic growth as necessarily part of sustainability, excludes as solution more radical transformations (Shiva 2005; Low and Gleeson 2006). In particular, the assumption of nature being a resource to be exploited for the fulfilment of human needs (Kaika and Swyngedouw 2005), negates the interrelation and interdependency between humans and environment (Bookchin 1996, 2005) (§3.1.2). Similarly, as Gunder (2006) notes, the three pillars have never been in practice treated as equivalent, with the economic sphere dominating the other two. This hierarchy of economies is, for Shiva (2005), threatening and commodifying the natural and social resources causing social and environmental crises. In order to reverse this trend, it is necessary to rearrange this hierarchy, placing nature and social values at the centre (Wheeler 2004).

Finally the ability of sustainability to propose viable solutions to the current crises is questioned, given its idea of 'sustaining' the current crises status (Kaika and Swyngedouw 2005). The question is: what is to be sustained? Given the current level of social and environmental crises (§1.1), as Marcuse

(1998) stresses: "to think that their present circumstances and their present societal arrangements might be sustained—that is an unsustainable thought for the majority of the world's people" (103). Moreover, the assumptions that growth is a necessary condition for human wellbeing has been questioned within the literature, showing the discord between economic production and wellbeing or justice. Sustainability has been then criticised as being, over time, lost its critical stand and fundamentally embedded into a neoliberal framework (Marcuse 1998). For example, sustainability is the marketing device for the development of 'entrepreneurial cities' (Harvey 1989a). This project of urban development seems very little concerned with environmental protection. It is concentrated instead in opening the city to experts and private actors, in a process of 'pluralisation of the state' with issues in terms of democracy and accountability (Swyngedouw and Kaika 2014). Contradictions are also embedded in the same term 'sustainable development' (Schumacher 1993; Shiva 1992; Littig and Grießler 2005; Dietz and O'Neill 2013): "The world may need to *transform* and not therefore *sustain* both society and economy in order to ensure long-term survival" (Low and Glesson 2006: 9).

The milder attitude of mainstream sustainability is also criticised. Some propose to rehabilitate the concept of sustainability back to the original Bruntland definition. Holden et al. (2014), for example, return to the primary (safeguarding long-term ecological sustainability, satisfying basic human needs, and promoting intra-generational and intergenerational equity) dimensions of the concept. According to them, economic growth and public participation are not fundamental requirements for reaching sustainability and they develop new indicators for the primary dimension, showing how no country in the world has been able to stay under the required threshold: whatever the definition, the sustainability agenda requires discussion.

To conclude, sustainability has been shown to be an ambiguous term whose adoption should take into account a temporal dimension (inter-generational equity), a social dimension (intra-generational equity), spatial and scalar (global to local) patterns, without neglecting its political implications. In the following section I analyse how the idea of sustainable development has shaped urban and transport planning.

2.4.3. Planning for sustainability

The idea of sustainability does not formally enter in the planning discourse until the 2000s, when becomes predominant and universally accepted as a necessary goal of planning (Gunder 2006).

Souza (2001a), in his analysis of different planning typologies, frames current 'planning for sustainability' approaches under the name 'ecological planning'. This is a planning typology based on the "binomial of modernization with ecological sustainability of the city" (146), a deep belief on economic development and a strong technocratic approach. The strategy of 'ecological modernization', based on measures to greening production, market and financial incentives for pro-environmental measures, coupled with economic growth, is powerful in the sustainability discourse (Redclift 2005; Bailey et al. 2011; Millward-Hopkins 2016): it is "based on the mobilization of eco-technical rationality, good governance principles, and the internalization of negative externalities within the marked logic" (Swyngedouw and Kaika 2014: 467). Technology and expertise based policies are central in improving the current inefficient use of resources. The planning products of the sustainability frame are eco-cities, smart and compact cities.

A different view is presented by Wheeler (2004) who sees in sustainability the potential for a paradigm shift. Planning for sustainability can overcome the rational planning paradigm and start a holistic, future oriented, ecologically minded planning school, in which the idea of sustainability constitutes a "'meta-theory', situating its particular perspectives and agenda on top of the best possible foundation of existing social and political theory" (50).

If on one side, sustainability has given the possibility to reframe planning practices, planning theorist have been often critical towards it, seeing in it the risk of overlooking questions of injustices. Gunder (2006) stresses the risk for a sustainability agenda under a "dominant market interpretation" to distort planning from the search for public good towards "serving the further depletion of the environment as it continues to sustain wealth accumulation for future generations, regardless of the social or environmental cost that this actually may induce" (209).

In particular, planning theorists are concerned with the progressive syncretisation of the sustainability agenda with the neoliberal one, where policies in favour of sustainability are also supporting the conditions for neoliberalism to reproduce (Swyngedouw and Kaika 2014). In this

framework, there is a risk that "questions of socio- ecological inequality, environmental destruction and its associated power relations are relegated to an issue of effective techno-scientific eco-management" (ibid, 467).

To sum up, whilst the sustainability agenda has ensured a focus on environmental impacts in the urban environment, it has not necessarily proposed a paradigm shift in planning theory, nor a pathway towards greater levels of social and environmental justice. As Gunder (2006) concludes:

> "Although attention to ecological sustainability is crucial for continued human survival, issues of social justice, human creativity, and especially, economic well-being cannot be subsumed as merely a quantified subset of sustainability, for the market imperative of growth and competitive globalization still illogically dominates all other consideration" (209).

2.4.4. Sustainable transportation

Since the definition at the Brundtland Commission, sustainability has become a priority in the transport planning agenda, as reported by Benfield and Replogle (2002):

> "There can be no sustainable development without sustainable transportation. It is an essential component not only because transportation is a prerequisite to development in general, but also because transportation, especially our use of motorized vehicles, contributes substantially to a wide range of environmental problems [...]. Our nation's environmental quality will be sustainable only if we pursue transportation in a sustainable way" (647).

Consequently several definitions of sustainable transport have been proposed in recent decades. Among others Hall (2002; 2006) introduces the three E's of environment, equity/society, and economy as specifics of a sustainable transport system. In Minken et al. (2003) a definition that points at the concept of intergenerational equity is given following Chilchilnisky (1996):

> "A sustainable urban transport and land-use system provides access to goods and services in an efficient way for all inhabitants of the urban area; protects the environment, cultural heritage and ecosystems for the present generation, and does not endanger the opportunities of future generations to reach at least the same welfare level as those living now, including the welfare they derive from their natural environment and cultural heritage" (Minken et al. 2003: 13).

Also the European Commission formulates its strategy for sustainable transport, designed around spatial planning measures to reduce demand and create opportunities for alternative modes, implementation of new transport infrastructures, improvement of public transportation, technological solutions to green engines, and fuels and measures to induce travel-behavioural changes (Baeten 2000).

From these definitions it emerges that in the transport sector sustainability is used in the vast majority of cases according to the three pillars approach, aiming at maintaining, despite the required sectorial technicalities, a holistic approach. This has occurred due to stressing the importance of accessibility planning at the social level, of emission reduction to guarantee environmental protection, and of economic growth to guarantee economic sustainability. The definitions proposed have been operationalized building indicators and providing directions for new policies and technological development. Since the beginning of the sustainability agenda, the role of integrated transport and land-use planning (Kennedy et al. 2005) as well as innovative technology has become central in transport. At the same time, the accessibility agenda has been trying to put at the centre of planning more than a focus on the "physical act of movement" (Cervero 2005: 40), themes like "social equity, environmental conditions, and liveability" (ibid: 39). This contains however increased complexity, especially in the trade-off between guaranteeing a universal right to mobility and making mobility less of an environmental impact (Cucca 2009).

Specifically, through time the general three pillars focus has assumed more specific targets and the social side of it has been progressively, as also in the more general urban planning discourse (§2.4.3), left aside. While in the transport sector there is now predominantly a discourse concerning emissions reduction and economic growth (Hickman and Banister 2014) (§1.3). This fact has led to some criticism, and so accordingly the sustainability agenda is not able to propose within the transport sector transformations required to fully address the crises. For example, as stressed by Cresswell (2010), the sustainable transport agenda has not fully developed a comprehensive focus regarding justice and power issues in the dynamics of mobilities of the city. Or as Baeten (2000) addresses, the mainstream sustainability agenda has not yet proposed methods to address social inequality:

"The orthodox sustainable transport vision actually leads to the further empowerment of technocratic and elitist groups in society while simultaneously contributing to the further disempowerment of those marginalized social groups who were already bearing the burden of the environmental problems resulting from a troubled transport system" (70).

For Baeten (2000), the theorization of sustainable transport does not fully take into account the "conflicting character of transport planning" (70), nor challenges existing approaches to planning, reproducing existing crises. As mentioned (§2.2.2), this is evident in the persistence of a hierarchical hydra model in transport planning. For example, in line with May et al.'s (2005) classification, Minken et al. (2003) propose methodology testing strategies against sustainability objectives, predicting impacts.

Baeten's (2000) analysis also proposes in transport contexts the main critiques to sustainability emerged from radical planning literature (§2.1.10), criticising the narrative based on "the economic imperatives of growth, competitiveness and profit seeking which are imposed upon producers of transport means" (79). With those imperatives, sustainable transport planning might be ineffectively aiming "at tackling the environmental crisis without touching the economic strongholds of Western society" (79).

The fact that the sustainable transport planning paradigm is still part of the planning in societal guidance tradition is evident in the conception of participation embedded in the sustainability discourses. For Banister (2008), in agreement with the planning models proposed by May et al. (2005) and the hierarchical hydra model, "the sustainable mobility paradigm is moving towards an objective-based planning system that is trying to implement a range of policy interventions, but with an important additional element, namely the support of all stakeholders" (Banister 2008: 79). For Banister (2008) participation needs to be included at various stages of the planning process, as an "inclusive approach that involves ''selling'' the message of sustainable mobility to individuals, groups and localities through explaining the need for changes in behaviour and convincing them of the importance of their contribution" (78). This understanding of participation falls among the 'non-participation' and 'tokenism' areas of the participation ladder proposed by Arnstein (1969) (§2.3.1) and it is a participation embedded within an instrumental rationality.

To sum up, the sustainability agenda in transport has brought new focus, especially for that which concerns the materiality of the transport system,

whilst still lacking substantial changes in the way transport planning is theorised and performed.

2.5.   Resilience

As shown in the previous section, the idea of sustainability has been framing for the last three decades the attempts to solve environmental and social crisis. With increasing attention to peak oil and climate change, there has however been a decrease in focus on wide concepts of global justice and environmental protection (Ashford and Hall 2011; Weichselgartner and Kelman 2015). In this context the concept of resilience has been introduced, answering the questioning of the effective functionality of sustainability (Hopkins 2010) and is replacing sustainability in many policy discussions (Wilson 2012, 2013; Imperiale and Vanclay 2016).

2.5.1. History and main characteristics

The term resilience was firstly used inside an ecology framework, referring to the ability of an ecosystem to remain unchanged after disturbance, often through adaptation (Holling 1973). Subsequently its usage has spread to various fields where, used often as a metaphor (Norris et al. 2008), it has been associated with concepts such as adaptivity in ecology, durability in engineering, and vulnerability in disaster management.

As with sustainability, this spreading of the word's usage and the absence of a clear philosophical definition of it (Manyena 2006) has led to an overlapping of meanings that has induced both an enriching multi-layer interpretation of the concept and also misunderstandings and possible depletion of meaning (Weichselgartner and Kelman 2015). Among multiple denominations, resilience has assumed in the dominant discourses two distinct interpretations, as shown in Table 2.3.

In the first, resilience is the ability of a system to maintain (resilience as resistance) or return to its state of equilibrium after a shock or under a threat (resilience as adaptability). This 'resilience of equilibrium' is typically an engineering concept, conceived as resistance, or ecological, when referring to adaptability (Davoudi 2012). This concept is widely used in disciplines such as psychology or disaster management and by governmental bodies in risk reduction policies (Davoudi et al. 2012). In this definition there is an intrinsic idea of resilience as a 'reactive stance': the aim is to maintain an equilibrium situation or to perturb it the least. In this case resilience coincides

with the 'bounce back' tendency of the system. This connotation of resilience is mostly used in studying the capacity of a system to survive crises once they have come.

In its second connotation, resilience is used to complement the idea of sustainability as an approach to prevent further crises emerging. It is conceived as a process of dynamic evolution leading to a transformation in the system and called 'evolutionary resilience' (Davoudi et al. 2012) or socio-ecological resilience. Building from complexity theory and socio-ecological systems (SES) theory, evolutionary resilience describes the tendency of a system under a disturbance to self-organize and adapt (Walker et al. 2004; Adger 2006; Folke et al. 2010). For Davoudi et al. (2012) this second conception of resilience 'far from equilibrium' reflects a paradigm shift in which the possibility of an equilibrium state and the predictability of it are denied, under the assumption of complexity. In this framework, changes in the system are not necessarily connected with external-disturbances given the far-from-equilibrium state. The Table 2.3 demonstrates the different characteristics of the two connotations of resilience.

Table 2.3: Different types of resilience (adapted from Chelleri (2012))

	Resilience as Ability to Recover (Equilibrium resilience)	Resilience as ability to Transform (Far from equilibrium resilience; evolutionary resilience)
Temporal scale	Reaction to crisis Recovering	Preparation to crisis Adapt to disturbance
Dynamics	Bounce back Maintaining Desired outcome Looking for equilibrium	Retain the ability to get back Process leading to an outcome Multi-equilibria, non-linearity properties
Other properties	Resistance (but not durability) Robustness Redundancy	Social learning (renewal and development after disturbance) Self-organization Adaptability Transformability – Change Multiple scales and Multiple time frames

2.5.2. Social Ecological Systems and theory of change

Following the work of and Walker et al. (2004) and Folke et al. (2010), the concept of evolutionary resilience has been completed with a theory of change based on complexity theory and SES theory (Harrison 2003).

Firstly, this theory assumes the relation between humans and environment as interrelated and co-caused: changes in the environment affect humans and vice-versa. SES are complex and adaptive systems, far from the equilibrium and non-linear. Resilience is not the ability to maintain a single point of equilibrium, but to constantly deal with shock and change, absorbing disturbance and transforming the SES without losing its primary functions and its capacity to support human life (Walker and Salt 2006). In this connotation, resilience can complement the aim of sustainability to maintain the current status of ecology without depleting it: "resilience, a system's capacity to absorb disturbances without a regime shift, is the key to sustainability" (Walker and Salt 2006: 38).

Secondly, change in SES follows an adaptive cycle made by four phases: growth or exploitation, conservation, release or creative destruction, and reorganisation (Gunderson and Holling 2002). The SES evolves and self-organizes in time, following cycles of increasing/decreasing resilience, creation/destruction. Cycles occur at a different scale, and are interconnected and mutually influential. Evolutionary resilience is a property of the system conceived as a multi-level system in which different scales interact, not under a spatial hierarchy (e.g. state over region over province), but as nested adaptive cycle.

2.5.3. Resilience of what?

The question 'resilience of what to what?' has been posed repeatedly (Carpenter et al. 2001; Davoudi et al. 2012; Cote and Nightingale 2012). Folke et al. (2010) recognise that, for SES a 'specified resilience' of one component of the system, and a 'general resilience' of the whole system. These two compose a 'multi-scale resilience' of the system as a complex whole in which change moves from one scale to another. In considering the possible nucleus of resilience, from the individual, to the community, institutions, infrastructures, environment, and culture, it is possible to come to the conclusion that, as all are actors of a global complex ad adaptive system (Pelling 2003), resilience should be present in all its aspect. As such, the development of resilience is focused on "the emergence of new governance

and management systems that can restore, sustain, and develop the capacity of ecosystems to generate essential services" (Olsson et al. 2014: np). For example authors propose the idea of adaptive management (Folke et al. 2005; Reed 2006). Moreover, in approaching SES, specific attention is given to the role of the environment and its relation with humans: as Adger (2006) and Folke et al. (2010) stress, this relationship is always bidirectional: social ecological resilience considers people and nature as interdependent systems. The resilience of social systems determines, and is correlated to, the resilience of the environment in which it is embedded.

2.5.4. Critiques to resilience

As with sustainability, resilience has been criticized for being a vague and under-defined concept (Davoudi 2014; Weichselgartner and Kelman 2015). Wider critiques refer to three aspects of resilience.

Firstly, authors express concern over the danger of applying a concept from natural science to social-science: resilience, with its primary focus on environmental and ecological aspects (Harrison 2003), might not fully take into account the role of human agency and culture in the evolution of SES (Davoudi et al. 2012). As Davoudi et al. (2012) stresses:

> "The tendencies of resilience thinking to assume that 'socio-ecological' categories exist naturally, strip away human agency, normalise phenomena as if they are inevitable, hide the mechanisms by which 'systems' are socially constructed, and depoliticise the value choices underpinning courses of human intervention should strike a highly cautionary note" (333).

For many, resilience, when applied to social systems, potentially under-evaluates the role of power (Cote and Nightingale 2012; Osslon et al. 2014; Fabinyi et al. 2014; Walsh-Dilley et al. 2016), equity (Harrison 2003), as well as "issues of justice and fairness in terms of both the procedures for decision-making and the distribution of burdens and benefit" (Davoudi et al. 2012: 306). In normalising social phenomena, resilience risks developing "an uncritical and non-transparent engagement with norms and values" (Phelan et al. 2013: 201). In this sense, resilience proposes a positivist attitude towards social science (Davoudi et al. 2012).

Secondly, the risk of resilience to focus on a solely localized analysis (Carlson and Doyle 2000) and not taking into account different scales of events (MacKinnon and Derickson 2012) is stressed (§ 3.3.3). The intrinsic

spatial scale of the eco-systemic approach might not consider the relationship in a wider scale, which might exist independently from the local. MacKinnon and Derickson (2012) in particular consider that a project for a transformational future can be proposed only understanding where the analysed community is allocated; even when focusing on a local analysis, the global context ought to be always taken into account. This is to avoid that understanding crisis as externally determined, would not consider their political nature and effects (Klein 2007; Clark 2013).

Thirdly, especially concerning equilibrium resilience, authors have criticised its tendency to be a framework that maintains the status quo, reproducing neoliberal discourses and governance (MacKinnon and Derickson 2012; Cretney and Bond 2014). Not being normative, resilience is neither a positive nor a negative property, but it is contextually dependent by the state of the SES. However, it could reinforce and replicate the causes of the crisis (Osslon et al. 2014). As a framework biased towards conservation of a state more than towards transformation, authors have also questioned the role of resilience in supporting a transition towards sustainability (Davoudi et al. 2012; Olsson et al. 2014), especially when, in social systems, the resilience of functions might not be compatible with the resilience of structures. Similarly, the idea of self-organization of SES has been often translated in self-reliance and has backed-up policy solutions that tend to leave communities under-risk, under-supported, and under-attended, and supporting neoliberal policies (MacKinnon and Derickson 2012; Cretney 2014).

2.5.5. Planning for resilience

Different conceptions of resilience match different planning theories: while equilibrium resilience refers to modernist planning and to the tradition of planning as societal guidance (§2.1.1), evolutionary resilience is based on uncertainty and open systems and recalls a more post-modern approach (Davoudi 2012; Davoudi et al. 2012). Planning has to deal with the impossibility of fully predicting future scenarios (Davoudi et al. 2012; Chelleri 2012). Referring to equilibrium resilience, MacKinnon and Derickson (2012) underline that the term is often embedded with an institutional and top-down approach to planning or does not subsume any political analysis. As an externally defined and mandated objective, it risks to naturalize crisis and leave the duty to resist in the hands of local communities, while pushing a psychology of crisis and threat. Differently, for Davoudi et al. (2012),

evolutionary resilience could inform planning with a "relational understanding of space and time" (305), with the idea of social learning and institutional transformation, building climate change adaptation policies and planning. Specifically, for Davoudi et al. (2012), resilience can bring to planning the novel conception of social and environmental aspects of the system as inextricably interrelated. However, as stressed by Krøvel (2014), far from being innovative, this idea has already been theorized in social ecology and other theories longer before resilience (§3.1.2).

2.5.6. Resilience and transport planning

Resilience in transport planning is used primarily as equilibrium resilience, with main focus on preparedness of infrastructures to face hazards (HM Government 2013; DfT 2014). Resilience frames transport planning concerns with vulnerability in front of climate change (Brown and Robertson 2014; Reggiani et al. 2015). Resilience is however mainly intended as 'robustness' and 'reliability' and is expressed as a post-disaster response and a way to reduce vulnerability. An exception is the work of Philips (2014) that utilises, in the context of cycling planning, evolutionary resilience. Resilience has also been used in transport economics (e.g. Christopher and Peck 2004), as resilience of links and nodes within the network (Nicholson and Du 1997; Sánchez-Silva et al. 2005) and transport security (Cox et al. 2011).

Different angles are undertaken in less engineering focussed studies, which propose a conception of resilience closer to the evolutionary one. Among others, Marsden and Docherty (2013) suggest to expand the use to resilience exploring "a new paradigm, one which brings together adaptation to changes in the macro environment, the socio-technical systems of provision and the rhythms and choices of individuals, families, communities and companies" (53). As evolutionary resilience recommends, uncertainty and the effects of disruption need to be taken into account in advancing transport policies.

Chapter 3: Building a resourcefulness-based worldview for transport planning

In Chapter 1 I introduced the problem this thesis aims to address and in Chapter 2 I reviewed the grounding literature. The focus of that literature review was upon sustainability and resilience. It was shown that existing approaches to address current social and environmental transport related crises need to be enhanced. I also highlighted the need to develop new worldviews to successfully address the key shortcomings of previous approaches (§1.3). In this chapter I propose a way to do so, introducing resourcefulness and a resourcefulness-based worldview as theoretical cornerstones for this research, fulfilling the research objective O3.

The chapter is structured as follows:

Firstly, I review the responses to the critiques proposed in the literature to sustainability and resilience. Particularly I focus on evolutionary resilience that emerged as the most suitable framework to support a change in transport planning in the face of crises (§2.5.6). Among the responses that aim at redeeming evolutionary resilience, I focus on the concept of resourcefulness (§3.1.1). I show that, among the concepts proposed, the original formulation of resourcefulness proposed by MacKinnon and Derickson (2012) is likely to be the most holistic and most promising one. Indeed, this definition not only allows the conceptualization of resourcefulness as a property to be increased within a certain system, but also as a full-fledged epistemology from which a full worldview can be drawn. For this reason I adopt resourcefulness as the basic starting point to formulate a worldview for transport planning. However, the construction of a fully grounded worldview requires the support of more theoretical instruments. Following the suggestions in the literature I so review bodies of literature that can complement resourcefulness. In particular, as expansion of the idea of Social Ecological Systems theory considered in resilience, I focus on social ecology (§3.1.2). This theory, so far, has not been fully taken into account neither in resilience studies, nor in mainstream transport planning theory. Moreover, in response to the need to ground evolutionary resilience in social sciences I also introduce the concepts of spatial justice (§3.1.3) and the right to the city (§3.1.4). These concepts have started emerging in the transport planning literature and can help the construction of a worldview. I give predominant role to social ecology with respect to spatial justice and right to the city. These two can be considered as 'demands' and concepts to

inform urban theories. Differently social ecology is a social philosophy and a broader range theory.

Secondly, prior to build a worldview, I present a reflection on the importance of utopia thinking. I show that the concept of resourcefulness is likely to lead to the best outcomes when interpreted as guiding 'interim politics' and not as a normative goal and I give a preliminary definition of resourcefulness as a property on which then build the worldview (§3.2). Thirdly, I use the theoretical elements from social ecology, spatial justice and right to the city to outline the approach to crises, the conception of nature, and philosophy of change in the new worldview (§3.3). Fourthly, I critically explore how the resourcefulness-based worldview can inform planning theory (§3.4). Fifthly, I critically explore how the resourcefulness-based worldview can inform transport planning in general and this research in particular (§3.5). I again outline the approach to crises, the conception of nature, and philosophy of change for a resourcefulness-based worldview for transport planning. Finally, I consider possible actors that can contribute towards developing resourceful transport systems (§3.6).

3.1.   Redeeming resilience

In response to the critiques to which resilience has been exposed (§2.5.4), various authors have proposed to redeem it and complement it, as a fundamental concept to inspire planning. They have recognised the potential that resilience has to "inform effective and equitable societal responses to the sustainability paradox"[17] (Phelan et al. 2013: 200) and stressed the value of resilience as a:

> "Fruitful and important conceptual terrain that holds much emancipatory promise and is a powerful and capacious metaphor to not only decipher a range of important geographical practices, but also their coexistence, interpenetration and co-constitution—which would otherwise require bringing together a whole bundle of alternative concepts" (DeVerteuil and Golubchikov 2016: 145).

Resilience is a promising concept to ground emancipatory practices able to cover a vast theoretical terrain. However, it needs to be supported by other

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[17] The sustainability paradox is that "maintaining the desirable, familiar stability of the Earth system overall requires radical change in the human-social subsystem(s) nested within it" (Phelan et al. 2013: 199).

instruments and a broader focus on human scale (§2.5.4). In order to do so, Phelan et al. (2013) have stressed the need for linking resilience approaches with more established theoretical analyses of social systems that account human interests, values and conflicts. Also Cote and Nightingale (2012) and Fabinyi et al. (2014) proposed to break the isolation in which resilience thinking has remained and use multidisciplinarity to bridge it with social anthropology and political ecology. These disciplines have historically addressed similar issues, with their focus on power and knowledge dynamics, and a more politicised analysis of the relation between humans and the environment. Informed by them, resilience could fully contribute "to key societal challenges with environmental dimensions (poverty, inequity, security)" (Fabinyi et al. 2014: 28). Similarly, a recent debate on *City* has brought together various contributions aimed at 'redeeming resilience' (Taylor and Schafran 2016). They proposed to become "both a tool and a practice, as a means of both imagining and building better urban futures" (142). As part of this debate, DeVerteuil and Golubchikov (2016) propose to develop a more radical approach to resilience that can sustain alternatives to neoliberalism, propose dynamic change and resistance practices, and shape alternative futures.

Some authors have already followed these suggestions and also this thesis aims to do so for transport studies. For example, Cretney and Bond (2014) report how grassroots organizations that aim at envisioning alternative economies, energies, and societies have readapted resilience in a post-disaster context, using the ideas of social learning and adaptivity. Complementing ideas for resilience thinking obtained from wider literature have been proposed, for example Schwanen (2016), complements resilience with Whitehead's philosophical notions. Also Walsh-Dilley et al. (2016) recognised the value of resilience for social and environmental justice in development practice. They have proposed to complement resilience with the concept of food sovereignty, stressing that both frameworks share a "commitment to take seriously the interdependence between social and ecological systems, to local or decentralized governance and natural resource management, and to building local and lay knowledge, skills, and capacities" (np). On a similar line, but with a wider spectrum of action to only food sovereignty, is proposed the idea of resourcefulness.

3.1.1. Introducing resourcefulness

The idea of resourcefulness was introduced by MacKinnon and Derickson (2012) (and then expanded in Derickson and Routledge 2014; Derickson and MacKinnon 2015; Derickson 2016) as a constructive critique to the limits of resilience, building on the aspects of evolutionary resilience (§2.5.4). As originally defined, and with a different nature with respect to sustainability and resilience, resourcefulness is a relational process mainly concerned with the capacity of a marginalised community to deal with a crisis. Similarly to the work of Walsh-Dilley et al. (2016), resourcefulness is an approach based on the credit of the importance of:

- Resources, both material and "organizing capacity, availability of spare time, social capital and investments" (MacKinnon and Derickson 2012: 264). Resourcefulness aims to "problematize the often profound inequalities in the distribution of resources" (ibid), similarly to Walsh-Dilley et al. (2016) that stresses how resilience thinking should rely on "access to resources including natural, social, political, and economic, and that one significant way to build resilience is to ensure rights to these basic resources" (np).

- Skills: which include technical knowledge and skills for the community.

- Folk knowledge[18], valuable means for interpreting the territory and the reality and building of new cultural forms.

- Recognition, e.g. "sense of confidence, self-worth and self- and community-affirmation" (MacKinnon and Derickson 2012: 265).

Focused on these four areas, resourcefulness aims to enhance transformation in the face of crises. It does so approaching problems as scalar: starting at a community scale, it takes into account the processes on a regional, national, and global scale. In this resourcefulness specifically focused on marginalised social actors and distributional problems, aiming to

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[18] As Sillitoe (1998) notices, "it is difficult to draw lines between indigenous knowledge, local knowledge, popular knowledge, folk knowledge, and so on" (223). In this thesis I use the term popular knowledge to indicate knowledge other than scientific and mainstream knowledge. With such a broad definition, popular knowledge encompasses both "the empirical or common sense knowledge belonging to the people at the grassroots and constituting part of their cultural heritage" (Fals-Borda and Rahman 1991: 127) and a "form of science developed and enacted by citizens themselves, [based on] 'contextual knowledges' which are generated outside of formal scientific institutions" (Irwin 1995: xi).

answer the question of 'resilience of what to what?'(§2.5.3). Focusing on transformation, resourcefulness considers it "deeply bound up in the capacity for communities—particularly those that have been historically marginalized—to realize self-determination, or the ability to shape the economic and environmental future in accordance with their desires" (Derickson 2016: 166). Equitable access to resources, skills, folk knowledge and recognition is the foundation for transformation.

In this way resourcefulness builds on evolutionary resilience and proposes an answer to the social and environmental crises (§1.1) based on challenging the current distribution of resources:

> "If alternative social relations are to be realized democratically and sustainably, and in ways that are wide-reaching and inclusive (as opposed to uneven or vanguard-driven), then uneven access to material resources and the levers of social change must be redressed" (MacKinnon and Derickson 2012: 255).

With these characteristics, resourcefulness is a concept that can support the underdeveloped social side of resilience. Furthermore it can introduce a debate over equity, distribution of resources, and self-determination that is absent from sustainability and resilience thinking. However, resourcefulness, with the level of theorization proposed by the authors, is not yet able to answer to the need to link resilience approaches with more established theoretical analyses highlighted (§2.5.4, 3.1). A theoretical foundation is required in order to make resourcefulness, as an elaboration of evolutionary resilience, more than a normative goal for planning, an analytical tool and a methodological framework that, with its own understanding of current crises and its philosophy of change, could ground a worldview for transforming transport planning theory and practice in the face of crises. This can be done with the support of other theories and concepts, as the one introduced in the next sections (§3.1.2 – 3.1.4).

3.1.2. Social ecology

Evolutionary resilience is normally grounded in Social-Ecological System thinking (§2.5.2). The literature has highlighted the limit of this approach when applied to social science and especially to planning discourses (§2.5.5). In response, Krøvel (2014) has suggested that resilience thinking might benefit "from engagement with philosophies that seek to unite critical perspectives on the social and the ecological" proposing to recover social

ecology by Bookchin as a valid social philosophy to do so. Similarly, Crowe and Foley (2013) have also stressed the value of this philosophy in informing planning and planning theory to develop new strategies to build resilience in urban communities. Garrett and Catlow (2012) include it among frameworks that show how "the distribution of freedoms and access to sustenance, knowledge, tools, diverse experience and values improves the resilience of both our social and environmental ecologies" (73). In particular, social ecology has the power to offer both a theory to analyse past and present crises, and a vision on how to build ecological futures (§3.1.2), resonating strongly with the aim of building a worldview.

Following the suggestions of these authors, I next review the main aspects of social ecology as defined by Bookchin that can contribute to the construction of a worldview for transport planning. Social ecology has not been previously considered in transport studies or mobility studies, with the exception of Verlinghieri (2014) and Verlinghieri and Venturini (forthcoming). In order to build a worldview, I specifically focus on a social ecology approach to crises, conception of nature, and philosophy of change (§1.3).

3.1.2.1. Social ecology's analysis of the current crises

In an interview, Chodorkoff anthropologist and social ecologist, defined this social philosophy as an "interdisciplinary perspective, drawing primarily on anthropology, philosophy, history, and the natural sciences, that examine people's relationship to the natural world" (Hoang 2011: np). Social ecology, developed since the 1960s mainly in the work of Bookchin (White 2008; Morris 2015), contains a historical and anthropological account of humans-nature relationship, an interpretation of the current crises as stemming from domination, and an agenda that promotes social change which "establish[es] an ecologically sound relationship between humanity and the natural world" (Clark 2005: 1569). For these reasons, Bookchin is included by Friedmann (1987) among those that influence the tradition of planning as social mobilization (§2.1.6).

For social ecology, current social and environmental crises are intimately connected: current environmental disasters are caused by the domination of nature by man that in turn is caused by the domination and exploitation of man over man (Bookchin 2005; Price 2012). Moreover, social inequalities and the current model of development are the basis of growing environmental damages and disasters (Bookchin 1986, 2004). Social ecology reverses the classical interpretation of domination of man by man as

developed through history as a form of survival to the cruelty of nature
(Pretty et al. 2007). As summarised by White (2008), Bookchin justifies his
theory by looking to the history of human settlements, showing how 'organic
societies' have existed, living in total harmony with nature, not having
developed within the idea of domination. For Bookchin the domination of
nature emerges with the rise of hierarchy in societies. When hierarchy is
established, nature is perceived as an external force to be dominated and
the concept of scarce resources is introduced. Scarcity in itself it is caused
by the human pattern of domination: it is an induced-scarcity that allows the
maintenance of social privilege and of the socio-political structure in place
(Bookchin 2004), as later explored also by Klein (2007, 2014).

Bookchin's idea of organic societies, as a meta-historical generalization,
might contain methodological and content shortcomings especially from an
anthropological point of view (White 2008). However, it can provide a counter
argument to the idea of nature as source to be exploited. Moreover, its
historical account shows that different patterns of human organisation are
possible and function. Bookchin's ecology, "argues in a powerful fashion that
any credible modern critical social theory needs to address the links between
the domination of humans and the domination of nature" (White 2008: 50),
or, more concisely, that "all ecological problems are social problems" (Price
2012: 157).

Bookchin (1986) develops also an analysis of the modern crises in the urban
environment. Social and environmental crises have also affected the nature
of the urban that, for the author, is the natural environment for humans to
express the best of their potentialities, the basis of civilization as construction
of an 'ethical community' (Bookchin 1986). However, the current trend of
urbanization of high density and population is undermining this fundamental
potential of the city, in a process of 'urbanization without cities' (Bookchin
1995b) in which there is a progressive loss of the ability to comprehend and
control the city as surrounding environment. To this process Bookchin
proposes to come back to a city at a human scale in which active citizenship
and direct democracy are fundamental processes that can permit everyone
to participate in urban life.

3.1.2.2.   Conception of nature and ethics

In social ecology nature is as essential component of humanity. Nature is not
interpreted as competitive and threatening to humans, as in traditional
Western thinking (Davoudi 2014), but based on positive complexity,

participatory relationships, fecundity, creativity, and freedom (Pretty et al. 2007). Humans and nature as unique systems are characterized by a "multidimensional structure" (Stokols et al. 2013: np) that values "diversity, complexity and spontaneity" (Crowe and Foley 2013). In this, for Bookchin, humans are "nature rendered self-conscious" (Bookchin 2005: 75) and have a responsibility to the way they shape and preserve nature.

Furthermore, for social ecology, nature can offer a 'reconstructive message' (White 2008): "if humanity is to live in balance with nature, we must turn to ecology for the essential guidelines of how the future society should be organised" (Bookchin 2004: xvi). Humanity can recover itself not only by establishing a positive relation with nature, but also by learning from nature the principles that should guide the construction of futures. In Bookchin there is the idea that a "science of ecology can inform specific values and political imperatives," (White 2008: 102) that can then ground resilience thinking and SES theory 40 years later (§2.5).

For Bookchin, nature constitutes "the 'matrix' for an ethics, and ecology can be a 'source of values and ideals'"(Marshall 2008: 610-611). From nature we could extrapolate principles for a nature-informed ethics, understanding in which way humans' actions could fully develop human potentialities. For example Bookchin derives the idea of 'unity in diversity', that indicates the positive consequences of differentiation in nature. Differentiation increases harmony and balance in the development of nature (Bookchin 1996; White 2008). As Chodorkoff (2014) underlines, the ethical matrix derived from nature can constitute a "basis for action in the social realm if we are ever to achieve a healthy, ecological society" (74). Among the principles that can be derived from nature, together with complexity and self-organization, fundamental are the ideas of mutualism, differentiation, and development (Heller 1999) that can inform the selection of certain measures over others. Similarly, on the basis of a nature ethical matrix, for social ecology participation, democracy and absence of hierarchy are a basis for human flourishing (Reason 1998; Bookchin 1995a).

Bookchin's derivation of guiding principles for future human liberation from nature's properties could be exposed to the same criticism of reductionism that he opposes and to the same critiques that resilience thinking received (§2.5.4). Responding to this debate goes beyond the scope of this thesis. However, it is important to recognise the social ecology contribution to introduce ethical principles that are absent from resilience thinking and can be of great inspiration for planning (Crowe and Foley 2013). Specifically, Bookchin makes the important step to connect political ethics with the

relationship of humans-nature, preparing the terrain on a debate on the 'production of nature' of high relevance in today's debate on environmental crises (White 2008).

3.1.2.3. Philosophy of change

On the basis of this analysis of crises and nature, for social ecology the solution of an environmental crisis is related to human's liberation: only by eliminating the idea of domination within the society can more ecological patterns be possible. In this direction social ecology becomes a reconstructive philosophy that aims at recomposing eco-communities in which humans can live in freedom and in harmony with nature (White 2008).

For social ecology, changes can be built at different levels, but start from an individual journey, understood as the core of subjectivity and a place where humans can discover themselves as a nature made self-conscious (Bookchin 1996). This is the core act towards a new ecological society. As such, in social ecology building change is based on a holistic approach that includes and goes beyond social relations, to the depth of individual life. At the same time, building change is a political and social act that needs to be strongly supported by "society's molecular base" (Bookchin 2005: 434), e.g. at the community level. Change towards an ecological society starts from small actions at the urban level where community organising and increasing political life are the key factors: as Bookchin says, "community organizations encourage social solidarity, community self-reliance, and individual initiative" (Bookchin and Foreman 1991: 82). In this context, building a future ecological society "must be a holistic process that integrates all facets of a community's life. Social, political, economic, artistic, ethical, and spiritual dimensions must all be seen as part of a whole" (Chodorkoff 2014: 21). In this holistic process, utopian dialogue and utopian sensibility are core attitudes upon which to ground shared and dynamically changing visions of ecological futures (Bookchin 2005; Chodorkoff 2014). These seeds of utopia emerge in all aspects of civic society and are specially cultivated by actors such as urban social movements (Bookchin 1988) (§3.6). Specifically, *prefigurative* practices and politics, intended as the attempt of constructing and practicing in the present the values and visions for the future in a "means-ends equivalence" (Yates 2015: 13), are an integrating part of this process of holistic and constant change (Graeber 2002; Derickson and Routledge 2014).

From a practical point of view, in social ecology, alternative technologies, developed "according to ecologically sound principles" (White 2008: 74), that can be produced on a local scale and have minimal environmental impacts, need to be strongly supported. They can play an important role in building 'eco-communities'. Most importantly, in the social ecology vision, a strategy for change can be based "on education, the cultivation of a new consciousness, and organization" (Geus 1999: 199). There are important connections that can therefore be made with the idea of education as a form of liberation (Freire 2005) (§4.1.3) and additionally with the social learning literature (Friedmann 1993) (§2.1.5).

3.1.3. The right to the city and the right to mobility

The concept of right to the city was first introduced by Lefebvre in 1968 in his work *Le Droit à la Ville* and has nowadays widely spread in the literature, used by a variety of institutional and grassroots actors. It has assumed growing importance in the urban agenda, informing planning literature and the agenda on urban democracy and citizenship (Purcell 2006). Despite vast debate and literature on the right to the city, however, there is still a limited use of the concept in transport geography. Only few exceptions have recognised the importance of this concept in addressing the social crisis from a transport perspective (e.g. Attoh 2011, 2012; Legroux 2013, 2014, 2016; Sagaris 2014; Verlinghieri and Venturini forthcoming). Following this literature, I introduce the right to the city and the right to mobility as possible concepts to complement the resourcefulness-based worldview. Similarly to spatial justice (§3.1.4), these concepts, despite not being connected to the evolutionary resilience agenda, can help complementing it with sharper definition of where and how resources are unevenly distributed. This especially with regard to the understanding of the crises in the urban environment and the development of an agenda for transformation.

For Lefebvre, "the right to the city is like a cry and a demand" (1996: 158) that can ground an agenda to surpass current inequalities and fulfil basic needs, and an aspiration for change (Marcuse 2012). Purcell (2002) stressed two main aspects of this concept: the right to appropriation of the urban and right to participation to urban life. The right to the city is the right to access and benefit of the resources and services concentrated in cities. Moreover, it is the possibility for people to shape the city as their own project, through what Lefebvre (1996) calls 'self-management'. The right to the city is not only an individual right, but a collective demand (Harvey 2008; Harvey and Potter

2009). This collective demand comes mostly from the groups that are marginalised in the urban realm (Marcuse 2012).

Part of the right to the city is the right to mobility, a concept that has been recently introduced in transport literature, especially in the mobilities tradition (Cresswell 2006a; Pécoud and De Guchteneire 2006; Hague 2010; Wellman and Cole 2011; Verlinghieri and Venturini forthcoming) (§2.3.2)[19]. As considered by Sheller (2008), the right to mobility refers to access to the city and is connected to the idea of making of citizens, subjects, and bodies, often limited by borders, controls, policing, regulation of public space, to the even or uneven distribution of ease and safety, and uneven terrains for movement of speed and governamentality (Sheller and Urry 2006, 2016) (§1.2).

The right to mobility can be considered as expressing the right to move, to access, but also the right to have the capability of moving or stay still (Sager 2006). In line with the approach to the right to the city proposed by Harvey (2008), the right to mobility can be approached as a collective right, this especially given the fact that individual mobility choices inevitably clash with other societal needs (Sager 2006). At the same time, the right to mobility can compel the right to shape the politics of mobility, which is linked to the idea of the right to the city understood as the right to participation (Purcell 2006). As such the right to mobility can be considered as a structural part of the broader right to the city, as for example considered by Attoh (2012) in his paper on transit in Syracuse:

> "The right to the city exists simultaneously as a right to access public space, a right to access socioeconomic goods like housing, a right to organize collectively, and a fundamental right of the poor and marginalized to produce a more just city" (5).

The right to the city is the right to go to school, to go to hospital, to access culture, spatial capital. This 'getting to' the city is made possible only by the fulfilment of the right to mobility in the urban space. There is then an intimate and intricate connection between the two concepts. Considering mobility as part of the right to the city can also clarify the tension between merely

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[19] The right to mobility is often associated with the human right of free movement between different countries and the unfairness regulation of it (Cresswell 2006b; Pécoud and De Guchteneire 2006; Hague 2010; Wellman and Cole 2011). In this thesis, recognising the importance of supporting the universal recognition of the right to mobility, I however restrict to consider the right to mobility within the urban and peri-urban context.

focussing on mobility per se and the need to ensure a purposeful movement to access services, social capital, and the city (Ferreira and Batey 2007). The right to mobility subsumes also the right to accessibility, as fundamentally linked to questions of justice and a product of our understanding of urban processes.

3.1.4. Spatial justice

In the attempts to redeem resilience there is a call for the broadening of a spatial thinking for resilience, as DeVerteuil and Golubchikov (2016) say: "resilience is spatial because it belongs to the domain of the everyday and real-world engagement with spatial processes, where, for instance, the call for spatial justice can be articulated" (148). As a concept concerned with spatial processes, a redeemed resilience can benefit from insight from spatial justice.

Similarly to the right to the city, spatial justice is a concept of weight in planning literature. The concept has been primarily developed in the work of Soja (2010a, 2010b). Spatial justice is of extreme relevance for transport planning, as emerging from the first line of Soja's (2010a) book in which the issue of the search for justice by the Bus Riders Union in LA is discussed. Spatial justice provides a spatial approach to justice in which an explicit link between space and justice in the production of the urban is made. Searching for justice and equity in the development of transport systems needs to take into account these ideas, given the specific spatial component of transportation (Verlinghieri 2014). However, as Ernste et al. (2012) highlight, the transport and mobilities research have only started exploring this concept:

> "Issues of power and justice have not (yet) become a mainstream concern in transport mobility research, as addressed by Soja (2010a), in spite of a vast body of literature on, among others, 'women and transport' (Law 1999), spatial mismatch (Ong and Miller 2005), and transport related social exclusion (Lucas 2004)" (512).

Together with the authors mentioned by Ernste et al. (2012), it should be mentioned the work on social and environmental justice by Jones and Lucas (2012) and the work on transport justice and mobility by authors such as Sheller (2011a), Mullen and Marsden (2016) and Martens (2016) (§1.2.1, 2.3.2). This literature has however not made an explicit connection to the work by Soja (2010a) despite often covering similar concepts and issues. For

these reasons it is worth exploring closer spatial justice as a concept that can inform transport planning, this especially when aiming at the construction of a worldview to prepare transformation in the face of crises.

Soja (2010b) considers "spatial (in) justice [as] an intentional and focused emphasis on the spatial or geographical aspects of justice and injustice" (58). As such spatial justice considers the role of space in producing justice and injustice. Soja starts from the assumption that the spatial organization influences human relationships and equity issues. For example the availability or not of transport corridors allows (or denies) the access to the city for certain social groups. The spatial ordering of the urban determines benefits and impacts that can be understood under a frame of justice. Specifically a discourse on the spatiality of justice is important once the spatial dimension of human societies is recognised. Moreover, for Soja (1999) space is a dynamic process, is a 'socio-spatial dialectic'. The spatial distribution is a political phenomenon as spatial relationships produce social relationships and exert social and political power. At the same time the production of space is relational, political, and socially determined, as stressed before Soja by Lefebvre (1992) and Harvey (1996). Following these assumptions, given that spatial and social processes are dialectically interconnected, and social processes are spatially produced, then justice has a spatial component that needs investigating. Specifically spatial justice aims to unfold what is a just spatial distribution and spatial arrangement. To do so an underpinning theory of justice is necessary.

Different theories of justice have been used in planning, human geography, and also in transport studies[20][21]. Human geography mostly refers to Rawls (1971), whose theory of justice is concerned with redistribution issues, or

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[20] As mentioned, there is a growing debate on the idea of fairness, equity, and justice in transport studies, since the work of Jones and Lucas (2012). Few authors refer to a specific theory of justice (e.g. Martens 2016). However, the majority consider only in broad terms the idea of fairness and justice (Vasconcellos 2001; Bailey et al. 2012) or attempt to derive a mobility-specific justice framework in which questions of equity are specifically tailored to the mobility context (Mullen and Marsden 2016; Martens 2016). For example, Martens (2016), using Dworkin's work, derives that "a transportation system is fair if, and only if, it provides a sufficient level of accessibility to all under most circumstances" (215).

[21] The concept of justice has mostly been used in looking at social justice and environmental justice in transport (Lucas 2004). With regard especially to the latter, environmental justice can be seen as "one particular way of conceptualizing, deploying, and practicing spatial justice. That is, spatial justice as an analytical framework that aligns itself with, yet exceeds, environmental justice" (Williams 2013: 13). At the same time spatial justice perspective can inform and enrich environmental justice theory and practice.

Young (2011), who focused on group-based oppressions and a more collective dimension of justice, also looking at decision-making processes. Soja (2010a) builds the concept of spatial justice using Young's work, allowing for considering forms of oppression and discrimination at a societal level. Depending on the theory of justice adopted, different spatial configuration will be preferred. In the specific context of transport planning, as Martens (2016) stresses, considering justice at the level of transport systems and mobilities cannot be limited to an application of existing theories of justice to the context. It would require extending theories to take into account the specific spatiality of transportation. This can be achieved by considering elements such as inequality depending on place of residence, level of income, and abilities and skills. They create trade-offs in the distribution of transportation services that "only because transportation planning is typically presented as the technical exercise of providing a well-functioning transportation system to society that these trade-offs often fail to reach the public eye" (Martens 2016: 7). For this reason it is important to further explore them.

3.2. Resourcefulness as interim politics: the importance of utopian thinking

In the previous sections I indicated resourcefulness as promising concept to redeem resilience and introduced a theory and two concepts to ground the construction of a resourcefulness-based worldview. In this section I specifically consider how resourcefulness has an embedded epistemology (§4.1.1) and understanding of change and transformation that allows it to be expanded into a worldview. This worldview would contain processual and procedural elements to ground the construction of ecological futures.

Overcoming current and future crises requires theorization not only to understand the causes of the crises but also future possibilities, developing a philosophy of change and an approach to 'futures' (§1.3). Forecasting, exploratory approaches, and back-casting/visioning are considered by Timms et al. (2014) to be the main approaches to conceptualise the future in transport planning. Among those, back-casting/visioning, which constitutes a part of the utopian tradition, is the least developed approach and also the one with higher transformative potential. This is noteworthy, as a particularly long and well-established use of utopian approaches can be identified in many other disciplines and professional fields linked to planning (e.g. Friedmann 1987; Harlow et al. 2013; Chodorkoff 2014; Morgan 2015).

Timms et al. (2014) believe that utopian thinking has a great potential to steer societies towards better futures, particularly when applied to transport planning. In line with this, they argue that:

> "[If] seen as a technocratic exercise in which experts devise means for achieving government-specified targets, it is unlikely that utopian thinking will help very much at all. However, if transport planning is considered to be an activity in which groups and individuals see themselves as having the potential for influencing the future, irrespective of whether they have 'top-down authorisation' to do so, then utopian thinking is likely to be highly potent" (90).

The viewpoint defended by Timms et al. (2014) is in line with the critiques to resilience and sustainability expressed in the literature (§2.4.2, 2.5.4). The resilience and sustainability frameworks have led to the adoption of goals by closed circles of experts and governmental bodies[22]. Conversely, resourcefulness, and as MacKinnon and Derickson (2012) stress in their original formulation of the concept (§3.1.1), is grounded on epistemological understandings that demand for a more bottom-up definition of the future:

> "Rather than being externally defined by government agencies and experts, resourcefulness emphasizes forms of learning and mobilization based upon local priorities and needs as identified and developed by community activists and residents" (263).

For MacKinnon and Derickson (2012), the definition of resourcefulness has to be grounded on self-determination of communities. Policy goals have to be democratically defined. Moreover, it is considered that "we cannot even begin to talk about what futures should or should not look like until we've proliferated the capacity to contribute to these conversations and shape these futures" (Derickson 2016: 164). For this reason, resourcefulness is, for MacKinnon and Derickson (2012, 2015), an *interim politics* aiming to guarantee, through the production of social relations and shared knowledge, the capacity for all social groups, with specific regard with marginalised ones, to contribute to the construction of commonly desired futures. This interim politics is not seeking to produce a crystalized understanding about how the future ought to be. Instead, it is aiming at ensuring that present societal conditions are conducive to the production of just futures. In this context

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[22] Apart some exceptional cases that deserve mention, such as the project by Eames and Egmose (2011) that, using action research, looks at co-producing a community-led agenda for sustainable development. Similarly in Cretney and Bond (2014) show the use of resilience by urban social movements.

expert knowledge needs to be constantly interacting with popular knowledge in a cycle of co-production, redefining the role of the expert and the planner (Derickson and Routledge 2014) (§4.1.1).

MacKinnon and Derickson (2012, 2015) advocate for broad participation in society of all stakeholders and ensuring the correct conditions for this participation to be fair and democratic, as with the communicative turn (§2.1.8). More than that, they highlight the need for ensuring an equitable distribution of resources as a fundamental precondition for participatory decision-making processes. Under the light of the present elaboration, these resources include not only *material* and financial possessions, but also *civic* and *intellectual* resources (§3.2.2). These are central for ensuring the ability of presently excluded groups to be able to participate in decision-making processes in the near future. This comes as a priority for the resourcefulness agenda, and very much in line with the literature on planning as social learning, radical planning and empowerment (§2.1.6, 2.1.10).

Following these ideas, and in parallel with the process of developing this worldview, I aim to follow the invitation put forward by Timms et al. (2014) and the idea of an 'interim politics', to allow utopian thinking to come to the fore. Note however, as addressed in the methodology (§4.1.1, 4.2), in this thesis I do not aim at developing a personal utopian vision regarding the future of transport systems. This would negate the purpose of this research, imposing a top-down framework on a research field asking for the emergence of bottom-up processes. Instead I set myself to inquire, as resilience theorists propose (Davoudi et al. 2012), what the conditions under which environmental, social, and spatial justice are likely to prosper in shared processes aimed at tackling social and environmental crises (§1.1). The concepts and theories presented are therefore guiding tools and not purely normative concepts.

3.2.1. Defining resourcefulness as a system-property

To start with, on the base of the work of MacKinnon and Derickson, I propose an original definition of resourcefulness conceived as a system property[23]. This definition, which builds upon the idea of evolutionary resilience (§2.5.2), adds a more precise focus on ecological and social crises, aiming to respond to the critiques posed to the use of this concept in

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[23] I use the generic term *system* to indicate a subject, a community, and a planning system.

social science (§2.5.4). This definition is necessary to focus the details of the worldview.

> *Resourcefulness is the internal ability of a system/subject to adapt to and resist to the current interrelated social and environmental crises (adaptation to crises) and, at the same time, induce transformations that can stop and avoid these crises reproducing (resolution of crises).*

The definition is divided in two main parts. The first, similarly to the wider formulation of resilience, stresses the importance of system adaptation and maintenance in the face of crises. In the second part, the definition stresses the need for systems to perform mutations. Moreover, in both its parts the definition specifies, differently from what the concept of resilience does, which type of crisis need addressing: the social and environmental crises (§1.1). This allows us to answer the critical questions that the literature posed: 'resilience to what?' (§2.5.3) and focalises more specifically on the social aspects of the crises. Furthermore, in its etymology, the concept brings attention to the availability and access to resources, focalising on a critical attribute of the current crises. The definition given includes the idea that resourcefulness, as an ability "internally produced" (DeVerteuil and Golubchikov 2016: 147) within the system/subject, is grounded on an ethical perspective that gives priority to the protection of environment and society, as interrelated (§3.3.2).

The resources to which this definition refers to are not only material resources, but also intellectual and psychological resources: all the resources that fulfil the requirement of guaranteeing each individual and each community the capability of fulfilling prosperity (Jackson 2009). Local skills, popular knowledge, and recognition are required alongside material resources (MacKinnon and Derickson 2012) (§3.1.1). In particular within resourcefulness there is an attention to:

- Material resources: which are considered to be housing, health, food, and environmental conditions

- Intellectual resources: which include time, social networks, access to education, culture, scientific, and ecological knowledge

- Civic resources: which mobilize the idea of citizenship as ability to meaningfully participate in the public domain

In this it is important to stress, as MacKinnon and Derickson (2012) do, that the proposed definition is not pointing at a new property of a system to be controlled or measured: "It is the act of fostering resourcefulness, not

measuring it or achieving it, that should motivate policy and activism" (264). The key point of resourcefulness, as a property part of an interim politics, is to inspire actions and practices based on the analysis of current crises, in order to stop and avoid their reproduction.

3.2.2. Beyond system-property: resourcefulness as a worldview

Further than being a property of a system, resourcefulness can be developed into a worldview (§1.2.1), expanding the initial formulation (§3.1.1). Expanded as such, resourcefulness assumes a different nature with respect to sustainability and resilience, becoming a procedural and processual concept that could potentially embrace them as final goals. As a worldview, resourcefulness would contain empirical questions to guide the analysis of the current situation and directions to guide policy and political action towards greater levels of justice. This applies both to resourcefulness as a generalised worldview to inform planning (§3.3) and more specifically resourcefulness as a worldview to inform transport planning (§3.4). For Derickson and MacKinnon (2015):

> "Resourcefulness is not just a property of a system, but a politics aiming at enabling the emergence of 'theories for climate justice', cultivating the conditions in the immediate term that are conducive to full participation in knowledge production and visioning practices, over and above working toward the realization of predetermined, philosophically deduced conceptions of climate, environmental, and social justice" (306).

Resourcefulness as originally formulated aims to ground practices and visions to build the preconditions for climate, environmental and social justice. It does so highlighting which are the resources to focus on. On the basis of this formulation, in the next sections I build a comprehensive and theoretically grounded resourcefulness-based worldview. In doing so I am aware that, as a worldview, resourcefulness, despite being further developed in this chapter, still "requires more empirical research in conversation with a wide range of communities and groups" (MacKinnon and Derickson 2012: 263). Empirical research that I carried out with my fieldwork aids in fulfilling this (§5, 6, 7).

3.3. Resourcefulness: grounding a worldview

Both sustainability and resilience are grounded on existing theories: resilience explicitly refers to Socio-Ecological Systems (SES) theory, whilst sustainability can be considered as grounded upon general systems theory (Osorio et al. 2009). Similar to resilience, but with the aim to provide a social philosophy, resourcefulness can be embedded in social ecology (§3.1.2), supported by spatial justice and right to the city (§3.1.3, 3.1.4).

3.3.1. The approach to crises in the resourcefulness-based worldview

Social ecology offers an innovative perspective in understanding crises, connecting environmental and social problems together, and the problems of domination of nature with the problems of domination of man (§3.1.2.1). For Bookchin (2004) the current scarcity is an induced-scarcity that generates crises that are induced-crises; lack of resources is the effect of induced scarcity, connected to the uneven distribution and access to them caused by domination, especially aggravated within the capitalist system (Bookchin 1995b).

The concept of induced scarcity, considered in social ecology as tool of domination, and the reconstructive idea of post-scarcity, resonates with a resourcefulness agenda: the idea of scarcity can be used to explain the current politics of resources and the idea of post-scarcity can be used to frame visions for the future constructed within a resourcefulness-based world view. Accordingly, in this thesis' perspective of resourcefulness, challenging crises would be connected to a discourse on resource distribution. Despite not being explicitly acknowledged by MacKinnon and Derickson (2012, 2015), this idea can be viewed as emerging already within the original formulation of the concept that stress how "a politics of resourcefulness attempts to engage with injustice in terms of both redistribution and recognition towards a vision of resourceful communities, cities and regions"(263). Similarly, as Derickson (2016) remarks:

"The analytical object of a politics of resourcefulness is the social formation, and the way in which it has produced uneven infrastructure in ways that make world-making so hard for some, and so much less so for others. So when we think about how, as a society, we might begin to cultivate the will for different futures, or engage with a politics of mitigation and adaptation in communities, we need to think about the kinds of civic infrastructure we have—the social and institutional processes and relationships we have in place that help us make futures" (165).

The central characteristic of a resourcefulness-based worldview would then be a focus on resources, their even distribution, and possibility to access them. Building resourcefulness as a system-property would require the reduction of inequalities in access and distribution of resources as a prerequisite to ensure the ability for a system to cope with crises and overcome them. With this focus, resourcefulness-based worldview would overcome the limits highlighted in sustainability (§2.4.2) of focussing on the preservation of needs that are too cultural specific rather than on resources (Redclift 2005). Moreover, it would lead to questioning what a resource is and on the importance of looking at resource distribution in the analysis of current environmental and social crises, which is lacking under a sustainability or resilience perspective.

A connection is also possible between this understanding of resources and the analytical stand of spatial justice, with its focus on the spatial aspect of justice, both in the production and reproduction of unequal accesses to resources (§3.1.4). Spatial justice is chosen for its ability to give a spatial component to the question of distribution of resources: complemented with this theoretical aspect, the resourcefulness-based worldview proposed would assume a spatial component that is missing in resilience thinking (DeVerteuil and Golubchikov 2016) and also in the original elaboration of resourcefulness.

Furthermore, the problem of scarcity would not only refer to the material resources, but also to the intellectual and civic resources, as defined in the original definition of resourcefulness as property (§3.2.2). As well as focusing at patterns of distribution of material resources over space, a resourcefulness-based worldview would consider the possibility of access to intellectual resources and civic resources. As such it would identify as a crisis also the denial of the right to the city, intended as having the resources to shape the politics of the city and of its resources (§3.1.3). The concept of right to the city, in its broad formulation is able to clarify the role and importance of the civic resources that are mentioned in the original

formulation of resourcefulness, but not complemented with the needed spatial and urban dimension that the right to the city can provide. As such, as Derickson (2016) explores in her research with marginalised communities, enhancing resourcefulness does not only address current material resources distribution issues, but also aims to obtain "a social formation that is designed to resource self-determination" (164).

A resourcefulness-based analysis would then look at patterns of uneven material, intellectual, and civic resource distribution, and induced scarcity, challenging the social and institutional conditions that allow some groups rather than others to shape futures. As such, it could inspire actions and practices, based on the analysis of current crises, in order to stop and avoid their reproduction.

3.3.2. The conception of nature in the resourcefulness-based worldview

Social ecology views nature as a resource fundamental to human flourishing that needs to be preserved in its complexity and diversity. Preserving complexity and diversity generate increasing patterns of spontaneity, creativity, decentralization, and participation needed to build utopian futures (Bookchin 1996a, 2005a; Chodorkoff 2014). Moreover, as shown, in social ecology's view, from nature it is possible to derive an ethical matrix that can make it possible to discern 'good and bad' in the construction of different futures, on the basis of the core principles of mutualism, differentiation, and development (Heller 1999) (§3.1.2.2). Moreover, in social ecology, the interconnectedness of natural and social crises is associated with the assumption that socio and ecological systems are linked and in continuous exchange. For this reason social and environmental crises need to be treated conjunctly and only the solution of social problems will allow the environmental ones to be solved: we can't solve pollution problems without addressing the social causes of them as well as the social effects of them (§3.1.2.2).

In the original formulation of resourcefulness there is a specific mention to environmental justice and a recognition of the importance of taking into account complexity and diversity, as in resilience. In resilience thinking there is, similarly to social ecology, an attention to social and ecological systems as interlinked and conjunct (Folke et al. 2010). Built on these theoretical understandings, this thesis' elaboration of a resourcefulness-based worldview would be based on the appreciation of nature as a force

necessary and complementary to human prosperity, with an ethical charge and dimension. In order to effectively challenge the current environmental crisis, social and environmental issues, and resource distribution patterns would be addressed together. In this context, under the assumption that nature needs to be preserved in its complexity and diversity, the option, included in weak sustainability, of trading natural capital (§2.4.1) would be rejected: nature has an intrinsic value that cannot be traded or translated in other forms of capital. In this way resourcefulness would also advance the limits of nature preservation highlighted in the literature in both sustainability and resilience, introducing a discourse on distributional questions and resource preservation.

3.3.3. The philosophy of change in the resourcefulness-based worldview

For social ecology change is a scalar process that starts from the individual and community level and builds over higher scales (§3.1.2.3). In accordance with Timms et al. (2014), also social ecology recognises an important role to utopian thinking (Chodorkoff 2014). Prefigurative practices that aim at building this utopia are crucial (§2.1.10). As such participation and direct democracy, alternative institutions and dual-power are both means for social change and part of the utopia. Specifically *dual-power* is the power built by citizens with the creation of popular institutions that compete with the State for power (Bookchin 1995b; Dixon 2014)[24]. It is the form of power that citizen assume to reach the top rungs of the Arnstein's (1969) ladder, as shown by Souza (2001a).

Resilience thinking embraces some similar aspects, especially in its conceptualization of change and evolution of the SES (§2.5.2). These systems, constituted by different levels of scale, can experience change in response to a crisis or simply as a rearrangement of the system structure. The change happens at one level of the scale and generates change at all other levels, in a complex pattern of evolution. Despite the fact that change can happen at any level, the local scale is the most likely to undertake it. Change is then scaled up or down and the entire system adapts to continue functioning under it. With this idea of change, as DeVerteuil and Golubchikov (2016) stress, in order to be resilient a SES "necessitates the multiple, mutual and nuanced forms of adaptation of individual, households and

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[24] For an extensive review on the literature on dual-power see Dixon (2014).

communities to each other's activities and to the wider conditioning order"
(148).

In line with these ideas, in the present elaboration, a resourcefulness-based
worldview would concentrate on scalar processes of change in which the
local scale plays a key role, being the scale in which several transformations
are possible (especially at a behavioural level). As Friedmann and Douglass
(1998) stress, "local not in the sense of being closed off from global
influences, but as the effective terrain for engagement in civic life beyond the
household and in relation to the state and the corporate economy" (1).
Preferring a local scale would not however avoid taking into account, when
needed, the processes on higher scales, regional, national, and global[25]. The
constant attention to higher levels of spatial and governance scale, and a
contingent definition of appropriate scale would avoid to fall in what Purcell
(2006) calls a local trap (§2.5.4), in which local scale is preferred a-priori.

As such, a resourcefulness-based worldview, as already stressed by
MacKinnon and Derickson (2012) would be underpinned by a vision in which
communities are able to develop alternative agendas and challenge existing
power relations, maintaining ownership of the decision taken through
constant participation, affirming in a radical sense their right to the city
(§3.1.3). These transformations would have a direction guided by a shared
utopian thinking, grounded on ecological ethics based upon mutualism,
differentiation, and development (Heller 1999).

Building social learning capacity (§2.1.5), socio-ecological knowledge and
ecological consciousness (Laurent 2015), as well as recognition (MacKinnon
and Derickson 2012)(§3.1.1) and full participation would be fundamental
processes in preparing this change towards resourcefulness. Participatory
methodologies would represent themselves as a method to build
resourcefulness and ability to react and change. If, as Freedman (1987)
says, planning is a process of designing change, putting knowledge into
action (§2.1.1), then resourcefulness, posed as a desirable goal, can inform
planning practice (§3.4).

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[25] This attention to lower levels of scale can be associates to the concept of subsidiarity, for
which "all decisions should be made at the smallest practical scale of governance" (Harrison
2003: 15).

3.3.4. Guiding principles for a resourcefulness-based agenda

In the previous sections I developed a resourcefulness-based worldview complementing with social ecology, spatial justice, and right to the city theoretical insights. I derived certain grounding concepts that constitute the worldview. On the base of those, I also indicated some hypothetical guiding principles for a resourcefulness-based agenda that are resumed in Table 3.1.

Table 3.1: Core ideas in the resourcefulness-based worldview

	Theoretical foundations of the resourcefulness-based worldview	Guiding principles for a resourcefulness-based agenda
Approach to Crises	Domination by man over man Induced-scarcity of resources	Reduce domination and injustice in access and distribution of material, intellectual and civic resources Focus on spatial justice and right to the city
Conception of Nature	Nature is part of humans, not resource to exploit Wholeness to be preserved Ecological ethics based on complexity, participatory relationships, fecundity, creativity, and freedom Social and ecological systems are linked together	Preserve nature Take into account of complexity and diversity Ground decisions in ethics Consider ecological problems as social problems
Philosophy of Change	Change is an holistic process that starts from individual and local scale Politics of scale: importance of decentralization and coordination Importance of utopian thinking and prefigurative practices Participation Importance of education learning Alternative technologies	Empower lower levels of scale Take into account scalar phenomena and relations Increase self-organization and social learning Increase participation Build ecological consciousness Use utopian thinking

3.4. A resourcefulness-based worldview for planning

Resourcefulness, as a worldview, can dialogue with planning theory in a similar way in which resilience has done, as evident in several attempts to derive a resilience agenda for planning (§2.5.5). First of all resilience (re)introduces in planning the holistic principle of human-nature relations as interconnected and poses important questions to planning practices in which "there is arguably minimal attention to the implications of ecological considerations as a primary concern" (Wilkinson 2012: 156). Evolutionary resilience thinking allows environmental ethics and a politicisation of the question of sustainability to be taken into account (Davoudi et al. 2012, 2013). Secondly, the idea of complexity embedded in resilience thinking proposes a critical approach to rationality (§2.1.2): complexity needs to be taken into account in the planning process as a constant aspect of the SES. At the same time it requires an agenda in which it is necessary to address constantly "matters of power, conflict, contradiction and culture" (Wilkinson 2012: 160). Thirdly, resilience advocates for decision-making processes based on adaptive co-management (Reed 2006; Wilkinson 2012), a setting in which social learning and participation are core principles.

For the way in which resourcefulness has been defined (§3.2, 3.3), a resourcefulness-based worldview for planning would share all these three principles and add to them a clear focus on resources, distributional issues, and scalar change, together with an even more explicit call for participatory methodologies. The epistemological stand of resourcefulness (§4.1.1) shares several traits with the approach to communicative rationality analysed in the literature with its working towards participatory methodologies to shape visions for futures (§2.1.8). Further than that, a resourcefulness-based planning agenda would ensure a situation of even distribution of material, intellectual, and civic resources as fundamental preconditions for such a communicative setting to emerge. This even distribution of resources would challenge the power unbalances that, in the literature that criticises communicative rationality, are considered as obstacles to its development (§2.1.9). Specifically, with resourcefulness-based planning, ensuring an equitable distribution of resources would be the fundamental precondition for participatory decision-making processes.

With these preconditions, the resourcefulness-based worldview supports the call for a participatory and communicative approach to planning, but assumes a more socially radical and transformative stand, entering in the

realm of radical planning (§2.1.10). It poses fundamental questions on the distributional conditions for real participation to happen. Under the resourcefulness-based worldview planning is a project that goes beyond the simple deontology of the planner (Martens 2001) or a specific technique to use in certain contexts (§2.2.4) towards being a mode of decision-making embedded in any form of societal development. The resourcefulness-base worldview goes beyond working towards ensuring that different groups and ethnicities can intervene in decision-making and express and obtain what they want (§2.2.4). It advocates for an agenda in which society has to experience deep cultural and economic transformations in its approach to resources distribution, challenging neoliberal modes of societal and environmental control that make societies unable to cope with crises when they come. In this way the resourcefulness-based worldview, dialoguing with both the tradition of planning as social learning (§2.1.5) and planning as social mobilization (§2.1.6), links to a radical planning tradition (§2.1.10). A resourcefulness-based radical planning has a specific attention to resources and distribution, participatory methodologies, and prefigurative politics. All of these principles can inform transport planning and help it to build resourcefulness in the transport system.

3.5. A resourcefulness-based worldview for transport planning

The resourcefulness-based worldview developed (§3.3) can directly inform transport planning, as in the next sections where I consider: What is resourcefulness in a transport system? How can resourcefulness, both as a property of a system and worldview, inform transport planning practices? Which planning actors and practices are more likely to work towards building resourcefulness?

3.5.1. The approach to crises in resourcefulness-based worldview: informing transport planning

In a resourcefulness-based worldview crises are induced crises and are connected to the distribution of material, intellectual, and civic resources (§3.3.1). The transport system (§1.2) would be understood as a fundamental structure able to provide access to these resources. Accordingly with what is stressed in the literature (§1.2), transportation is an essential means to ensure "social and economic reproduction of all people" (Vasconcellos 2001: 234) and "fuelling social and cultural life" (ibid). As such, under a

resourcefulness-based worldview, transport would be considered to play a key role in reproducing scarcity of resources of all types: material, intellectual, and civic.

At the same time, as the mobility crisis, with its uneven mobilities and unevenly distributed impacts, is considered as intertwined with the aforementioned social and environmental crises (§1.2). Under a resourcefulness-based word-view, uneven mobilities would be considered to be generated by an induced scarcity of material resources for the mobility and infrastructural section of the transport system, that results in the unavailability of adequate transport means and infrastructures for certain groups (Blanco and Macagno 2014; Blanco et al. 2014, 2015). These approaches follows what Skeggs (2006) stresses, that: "mobility is a resource to which not everyone has an equal relationship" (49). Similarly, the uneven distribution of transport impacts and externalities (Jones and Lucas 2012), as environmental injustice (Lucas 2004, 2006) especially in developing countries, would be seen "as a class-based phenomena" (Vasconcellos 2001: 242): the health and social impacts of a minority using private transportation are suffered the most by the majority using public transport or walking and cycling (Mullen and Marsden 2016; Lucas et al. 2016). This uneven distribution of resources and impacts is spatially and socially distributed (Chakraborty et al. 1999; Hannam et al. 2006) and can be analysed under the idea of spatial justice (Soja 2010a, 2010b) (§3.1.4), and in conjunction with land-use measures (Vasconcellos 2001; Jones and Lucas 2012).

Spatially inequality is also build via unequal access to the city, which can be interpreted under the idea of right to the city and the right to mobility (§3.1.3). If framed under a resourcefulness-based worldview the right to mobility would not be considered only in terms of an individual freedom, which inevitably clashes with other societal needs (Sager 2006), but approached as a collective right. Considered as part of the right to the city, the right to mobility is also the right to accessibility: it is fundamentally linked to questions of justice and a product of our understanding of urban processes (§3.1.3, 3.1.4).

A comprehensive attitude towards mobility justice, as formulated by Mullen and Marsden (2016) can complement this discourse recognising the importance of substantive ethical judgements. Ethical judgments are necessary to define visions for future mobilities, once it is recognised that transport's specific nature is that of a system not dependant on single individual choices. It is a system in which individual transport choices, as

spatial choices, inevitably impact on other's choices, determining a reconfiguration of the whole transport system. In support of this, the ethical thinking part of social ecology (§3.1.2.2) would help in the choice and deliberation around substantive values and judgment that underpin the definition of which activities and mobilities should be prioritised in a society in which space and time are scarce (Mullen and Marsden 2016). How resources are distributed and allocated, also from a mobility perspective, needs to take into account a collective dimension, as Mullen and Marsden (2016) consider.

As such, a resourcefulness-based transport planning would aim to adapt the transport system, in all its aspects of mobilities, physical structures, and governance structures (§1.2), to the current mobility crisis, stopping it and avoiding its reproduction. As such it would guarantee "the equitable appropriation of space and the corresponding access to social and economic life" (Vasconcellos 2001: 297). This can be implemented, from a transport planning perspective, by proving the provision of affordable, ecological, and low-emissions transportation options and, from a broader planning perspective, building spatial and environmental justice. Moreover, from a planning practice perspective, a resourcefulness-based practice would consider the use of tools such as social, health, and environmental impact assessment as central to the decision-making process regarding what directions to undertake for future transport provisions (Jones and Lucas 2012; Khreis et al. 2016).

3.5.2. The conception of nature in resourcefulness-based worldview: informing transport planning

Within a resourcefulness-based worldview grounded in social ecology, the need to preserve nature, its complexity, and diversity would be of prominent importance (§3.3.2). This attention would be able to inspire a transport planning practice centred in producing more ecological transport systems, intervening in the three aspects of mobilities, technologies, and policies (§1.2).

Particularly this would mean reducing emissions, but would also take into account biodiversity loss, land consumption, soil erosion, and waste production, for example, as well as impacts on human health, as part of nature, caused by transport emissions, noise levels, and sedentary life-styles (Khreis et al. 2016) (§1.2). Studies have demonstrated that the only way to

ensure effective outcomes from this point of view would require there to be a drastic reduction of both private mobility and fuel dependent mobility (§1.2).

Moreover, the social ecology ethics and the consciousness of the 'interconnectedness of nature and humans' can inform the planning practices, advocating for the ability to plan with complexity considering conjunctly social and environmental impacts, avoiding reductionism, and opening for multidisciplinarity, multi-methodologies, and eco-system solutions (Tippet et al. 2007; Khreis et al. 2016). Ecological ethics would also be able to inform planning choices and prioritization, re-centring the meaning of costs and benefits on ethical values.

3.5.3. The philosophy of change and evolution in resourcefulness-based worldview: informing transport planning

A resourcefulness-based worldview advocates for transformation in the face of crisis built with a scalar approach able to empower lower levels of scale, increasing self-organization and social learning capacity. It refers to radical planning and its emancipatory practices (§2.1.10, 3.4).

Transport systems require a radical change in order to deal with the mobility crisis (§1.2.1). This change would involve every level of the system that would be likely to be composed by behavioural changes, alternative technologies and new policy arrangements. The content of these changes however would be dialogically and participatory defined, in a context in which the expert opinion on what would be the best form for the system to assume (such as emerge in studies like Talen and Cliff (2002)), is under the scrutiny of the community. Specifically, under a resourcefulness-based worldview and taking into account resourcefulness being an 'interim politics' (§3.2), I consider as part of a transport system the broader idea of 'transport politics', instead of the 'transport governance' area proposed by Timms et al. (2014). Politics, being a broader term, is able to include in the discussion a 'political ecology' in which environmental and social factors are considered as interacting (Vigar 2002) and discussions about possible 'futures' occur (Tamayao 2014). Transport politics and decision-making processes, that shape transport governance policy, as well as mobilities and infrastructures, would be focal points to intervene to build resourcefulness in the whole system, as stressed in the literature: "transportation planning is inevitably political because interventions in the transportation system always affect different persons in different ways" (Martens 2016: 3). Specifically, given the

interconnectedness of the parts of a transport system, the politics of transport would play a crucial role in building transformations in behaviours and technologies, and addressing the mobility crisis.

Moreover, under a resourcefulness-based worldview, involvement of all the parts of the system affected by the planning should be achieved. The attention to scalar processes emerged within the resourcefulness-based worldview (§3.3.3) could directly influence the transport governance side of the transport system at its local, regional, and national level. A resourcefulness-based worldview would support interaction at all governance levels, guaranteeing at the same time the autonomy and functioning of each grade of the scale, grounded in valuing local and popular knowledges, skills, recognition, and participation. With increased integration and participation, it would pose as the basis for also developing meaningful local agendas for transport planning, also in a context in which "cities are rarely able to make decisions on land-use and transport strategies on their own" (KonSULT nd: np), suffering of "lack of direct control, intervention from other levels of government, involvement of other stakeholders groups" (ibid).

3.5.4. Guiding principles for a resourcefulness-based transport planning agenda

With these characteristics, a resourcefulness-based worldview can be connected to the moral practice of building a 'public good', which for Friedmann (1995) is planning. This practice does not refer to a crystallised predetermined goal, but "emerges in the course of planning itself, and its concrete meaning is constantly evolving" (Friedmann 1995: 75). In this practice, utopian thinking (§3.2), is of important value within a resourcefulness-based worldview, as "a critique of existing conditions and a vision or reconstructive program for a new society" (Chodorkoff 2014: 123), in which the emphasis is put on the process of reconstruction, "with the actual reconstructive details of the "new society" left to the participants' determination" (ibid). Utopia, as "a process whereby a multiplicity of new societies could form themselves" (ibid) can guide the solution of crises included in the transformative aspect of resourcefulness. Transport planning informed by resourcefulness-based worldview assumes similar characteristics to radical planning (§2.1.10), and connects with the ideas of accessibility and spatial justice, transport equity, necessity of participatory planning practices, ecological solutions. These general concepts can be translated into an agenda for transport planning, as shown in Table 3.2 in

which the dimensions proposed in Table 3.1 are considered in the context of transport planning (specifically in the last 2 columns).

The table is composed of two tables vertically juxtaposed. For each of the dimensions of the worldview (approach to crises, conception of nature, philosophy of change) the first two column proposes, on the left, a summary of the theoretical position of the resourcefulness-based worldview and then, on the right, on the basis of those positions, guiding principles to guide resourcefulness-based practices. In the last two columns the same is proposed for the specific context of transport planning. On the left are summarised the theoretical positions of a resourcefulness-based worldview for transport planning and on the right some operative concepts. Specifically the characteristics presented in the last column on the right can be used to constitute a set of criteria that allow identifying resourcefulness in praxis.

Table 3.2: Core ideas in the resourcefulness-based worldview for transport planning

	Theoretical foundations of the resourcefulness-based worldview	Guiding principles for a resourcefulness-based agenda	Theoretical foundations of the resourcefulness-based worldview for transport planning	Guiding principles for a resourcefulness-based transport planning agenda
Approach to Crises	Domination by man over man Induced-scarcity of resources	Reduce domination and injustice in access and distribution of material, intellectual and civic resources Focus on spatial justice and right to the city	Transport is interlocked with social and environmental crises Focus on spatial and environmental justice Focus on mobility justice and right to mobility	Increase accessibility Increase spatial and environmental justice Use democratically defined substantive values Use affordable ecological transportation options Social, environmental and health impact assessments
Conception of Nature	Nature is part of humans, not resource to exploit Wholeness to be preserved Ecological ethics based on complexity, participatory relationships, fecundity, creativity, and freedom Social and ecological systems are linked together	Preserve nature Take into account of complexity and diversity Ground decisions in ethics Consider ecological problems as social problems		Environmental sustainability Planning with complexity, no reductionism Embrace complexity and multidisciplinarity in planning Eco-system solutions Ground planning on ethical values

| **Philosophy of Change** | Change is an holistic process that starts from individual and local scale

Politics of scale: importance of decentralization and coordination

Importance of utopian thinking and prefigurative practices

Participation

Importance of education learning

Alternative technologies | Empower lower levels of scale

Take into account scalar phenomena and relations

Increase self-organization and social learning

Increase participation

Build ecological consciousness

Use utopian thinking | | Change in transport system: behaviours, alternative technologies, new politics of transport

Decentralized planning and local planning and meaningful interactions across scales

Increase participatory planning and social learning within it |

3.6. Searching for resourcefulness-aligned actors

In the previous sections I highlighted the founding characteristics of a resourcefulness-based worldview for transport planning, as shown in Table 3.2. These characteristics can constitute criteria under which identify resourcefulness practices in a transport and mobility contexts. I specifically considered its philosophy of change, highlighting how ecological futures should be built participatorally starting at lower level of scale, increasing self-organization, social learning, and ecological consciousness (§3.3.3). A variety of actors can contribute to this change, building on the characteristics shown in Table 3.2. Despite the aim of the thesis is not to define the properties that actors working for resourcefulness have, I can outline the preferred characteristics. In accordance with them these actors would preferably work beyond institutional spaces, would be immerged in the public domain. Here, in direct contact with civic society, they would focus on material, civic and intellectual resources distribution. Moreover, accordingly with the utopian attitude of resourcefulness (§3.2), they would use prefigurative politics and practices, and be able to form imaginative visions for the future. Actors with those properties would be what I call *resourcefulness-aligned actors*. They can be single individuals or more organised social groups. In particular, with regard to transport planning, the literature has already focused on actors with similar characteristics, as I show in the next section. In transport planning literature, various authors have recently stressed the benefits of focusing on actors called 'urban social movements' or 'social movements', as actors of change, especially in the need to build a transition towards ecological solutions. In this thesis I prefer

the term *urban social movement*[26]. For example Geels (2010), with his study of change through the multi-level perspective, highlights the benefits of focussing on urban social movements as "groups that aim to correct some perceived injustice" (506). This focus "may be especially fruitful for transitions towards normative goals (such as 'sustainability'). Because urban social movements start as outsiders to existing orders, they tend to use non-

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[26] The use of these terms is unclear and many authors, especially in the transport field, do not give a precise definition of what a 'social movement' or an 'urban social movement' would specifically look like. Undoubtedly, urban social movement and social movements are wide categories to be considered and several definitions are proposed in the literature.

For della Porta and Diani (2006) social movements can be defined as "distinct social process, consisting of the mechanisms through which actors engaged in collective action: are involved in conflictual relations with clearly identified opponents; are linked by dense informal networks; share a distinct collective identity" (20). According with della Porta (2004), since the 1970s social movements evolved in different forms, in response to new urban conflicts consequence of the increasing neoliberal urban governance. For example they assumed the form of civic committees, focussed on local issues, a hybrid between the classical social movements and interest groups, using strategies from protest to lobbying, with flexible and participatory structures. Fainstein and Hirst (1995) consider this evolution using a different terminology. For the authors, the term social movement refers to traditional protest movements involved in class struggle whilst 'new' social movements "cut across classes and are guided by non-material considerations" (183). From these 'new' social movements emerged 'urban social movements' that often unify different types of social actors (Bookchin 1995b; Mayer 2006) and are concentrated typically in challenging institutional actors and their production of uneven distribution of power and resources . They are more explicitly political and their objectives go beyond policy goals. They are concentrated in producing new forms of urban life.

The term urban social movements has been used by a variety of other authors and, remaining often ambiguous in its definition, had wide success in the literature and more popular for example than the term 'urban movement' (Pickvance 2003). Central is evidently the urban dimension of their actions. Castells (1983) considers urban social movements as "a conscious collective practice originating in the urban issues, able to produce qualitative changes in the urban system, local culture, and political institutions in contradiction to the dominant social interests institutionalized as such at the social level" (278). For Castells urban social movements are as such when they produce effects of social change on the city the culture and the political system. Similarly, Schuurman and Van Naersen (1989) define urban social movement as "social organization with a territorial based identity, which strives for emancipation by way of collective action" (9). They work toward social change, to preserve or expand common goods, territories and identities, and critique institutional actors (Castells 1983; Souza 2006; Mayer 2006).

Despite certain authors consider under the term urban social movements only actors with an explicit anti-capitalist position, for Mayer (2006) and Castells (2012), urban social movements are composed by all the groups able to reshape society and contest the city as it is presently, avoiding a Right/Left wing distinction.

Given the definitions available, in this thesis I use the term 'urban social movement' under Mayer (2006) and Castells (2012) connotation, to indicate the actors that the transport literature have suggested to interrogate for new visions and practices on planning. This definition allows to leave open a broad spectrum of actors to be taken into consideration, including also those that rely less on protesting and 'performance' acts (Juris and Pleyers 2009) and are more focussed on knowledge production, as knowledge-oriented actors (Verlinghieri and Venturini forthcoming). Given the fact that this thesis aims to inform transport planning theory and practices, their contribution is of primary relevance.

institutionalized action […] to exert pressure for change" (ibid). For the author, urban social movements, thanks to their position are able to develop alternative options, discourses, and practices that can influence and improve the institutional planning practice, as well public behaviours, attitudes, and practices.

For Vasconcellos (2001), urban social movements have an active role in stressing the difficult conditions of transportation, working towards the formation of a consciousness of the need for interventions in the transport system that can have important effects on the long-term politics of transport. Especially in the Latin American context, there is a long history of activity in contesting the malfunctioning of transport systems and claiming the right to mobility by these actors (Vasconcellos 2001). In the urban context, transport discontent with a lack of access to desired destinations, low comfort and safety, and high costs can be a main driver of formation of urban social movements. These intervene in the variety of spatial conflicts for the access to the city existing within the politics of transport: conflicts for public transport investments, for infrastructures and means (e.g. the main spatial conflict between the car and other means of transport). As Vasconcellos (2001) stresses, urban social movements have developed within these conflicts and have supported interventions to reduce costs of public transport.

Similarly, Rawcliffe (1995) and Vigar (2000, 2013), in the UK context, and Sagaris (2014), in the Chile context, report the prominent role of urban social movements to highlight and bring to public attention the environmental impacts of transportation choices, opposing since the 1980s the car society. On a more global perspective, also Schwanen et al. (2012) agree that urban social movements "probably will have to play an important role in reconfiguring high-carbon transport systems and customs" (528).

Also in the literature outside transport the field, these actors are increasingly recognised as possible drivers of change and specifically attentive to issues of resource distribution, equity, and justice. Urban social movements are, as DeVerteuil and Golubchikov (2016) say in their study on resilience, "essential seeds of transformations" (148). Similarly, from a social ecology perspective urban social movements, with their 'transclass' aspects (Bookchin 1995b; Mayer 2006; Castells 2012; Bookchin 1995b) and attention to a variety of urban issues such as "environment, growth, transportation, cultural degradation, and the quality of urban life in general" (Bookchin 1995b: 233), are important actors in building new forms of citizenship. Moreover, the literature has stressed how urban social movements are crucial actors when considering spatial justice and the right to the city (Brenner et al. 2012;

Souza 2006; Attoh 2012). With their radical interpretation of these concepts, they claim them in order to gain access to needs and services and to be able to re-shape the city (Hamel et al. 2000). Moreover, they have a central focus on participation and democracy.

More broadly urban social movements are considered as political actors able to, through contestation, destabilise existing meanings and produce new meanings and concrete alternatives, through radical imagination (Miraftab 2009; Haiven and Khasnabish 2014). They do this in a spectrum of being more protest-oriented or knowledge-oriented (Verlinghieri and Venturini forthcoming). As shown (§2.1.10), they can assume the role radical planners (§2.1.10), able to produce "substantial input to plans, alternatives to official planning proposals and ideas about desired urban development" (Sager 2016: 1264) and can be committed to a variety of causes, working as outsiders or insiders to the institutional planning system (Souza 2006).

Based on this literature, this thesis recognises the pivotal role of urban social movements and their networks to act, at several levels, towards the implementation of ecological futures (Carley et al. 2013). In this way the thesis helps also filling a wide gap in transport studies literature regarding urban social movements as planning actors (few exceptions are the work of Vasconcellos (2001) and Sagaris (2014)). Characterised by a focus on urban issues and a sphere of action mostly at the grassroots level (Harvey 2001), urban social movements are of specific interest from a resourcefulness perspective and often fulfil all the characteristics for a resourcefulness-aligned actor, with their attention to preserving common goods (such as transportation) (Mayer 2006), and a focus on justice and on addressing social and environmental crises. Moreover, in line with the multi-scalar perspective of resourcefulness, they act on a local scale, but with an eye on global scales, also beyond institutional spaces. In line with the utopian attitude of resourcefulness, they are imaginative, innovative, and prefigurative in their practices, being able to give different perspectives and interpretation of the crises (Hamel et al. 2000) and propose alternative visions for the future based on concept of justice.

For this reason this thesis focalises in analysing resourcefulness focussing on the practices and visions of urban social movements as resourcefulness-aligned actors. With the aim to ground in practice the resourcefulness-based worldview, resourcefulness-aligned actors are selected as the ones that more aligned with the resourcefulness-based worldview. However, I am not expecting them to be full expression of the resourcefulness-based worldview: they resonate with it, but are not 'resourcefulness-actors'. Specifically, in this

thesis that looks at resourcefulness-based worldview for transport planning, I focus on resourcefulness-aligned actors that are concentrated on transport issues and have a specific focus on production and support of knowledge in planning. These considerations have guided the selection of case studies for this thesis (§4.2) and grounded the analysis performed in the next chapters (§5, 6, 7).

3.6.1. Resourcefulness-aligned actors: examples from UK

Having introduced the concept of resourcefulness-aligned actors, in this section I give an example of how this can help identify actors and practices that work towards building resourcefulness. I do so looking at two examples from the UK transport policy context, the Campaign for Better Transport (CBT) and the Transition Towns (TT) movement.

As mentioned, resourcefulness-aligned actors are actors that work in direct contact with civic society, focussed on material, civic and intellectual resources distribution. They use prefigurative politics and practices, and are able to form imaginative visions for the future (§3.6). In the specific context of transport planning they align with an agenda for planning as described in Table 3.2. Within these characteristics they can however assume a wide variety of practices and political positions, in a spectrum that goes from more conservative, to reformist or radical, as Saunders (2012) describes for the environmental movements in UK. Groups concerned with transportation issues in UK have assumed through history a variety of these positions. Historically, it is reported how transport related struggles have boosted the emergence of more radical wings of the environmental movements with the anti-road movement in the early 1990s (Saunders 2012; Rootes 2013). These more radical have then converged into different groups in which still conservative, reformist and radical souls coexisted (Saunders 2012); also more reformist groups have often a connection with direct action organizations or events (ibid).

Specifically in UK, advocacy organizations play a fundamental role in the promotion and support of sustainable transport policies. For example, in the case of pro-cycling policies volunteers-based groups such as Sustrans are mostly in charge of supporting pro-cycling policy and initiatives through all the country (Aldred 2012). Their work, as reported by Aldred (2012) has progressively incorporated within governmental bodies. Despite that, they are mostly still forced to work in a pro-car environment that has limited greatly their success.

Among the groups that today lead advocacy for change into transport policy on broader terms, CBT has a role of relevance. This is an independent charity and a national platform run by a Board of Trustees that works closely with advisers and policy expert. CBT has led for 40 years UK campaigns for sustainable transportation, promoting research and local organizations, working with transport firms and practitioners, and lobbying the central government. Its central aim is to promote the development of communities that have access to affordable transport options, to support their quality of life and protect the environment (CBT nd). After decades of anti-road direct action and campaigns several activists converged into this national platform that allowed them to broaden the spectrum of their local actions and contextualise anti-road positions within broader environmental fight against climate change (Rootes 2013). This integration of local campaigns into a national policy debates resulted into a drastic reduction in direct actions against road building and a change of strategies (Rootes 2013).

From a resourcefulness perspective, CBT's values resonate with the ideas proposed of focussing on resources and promoting solutions towards increasing accessibility or use affordable and ecological transportation options (§3.5.4). CBT is also constantly in contact with civic society and supports communities' advocacy for affordable public transport. However, from a procedural perspective, CBT does not seem to engage with prefigurative practices nor fundamentally proposes new pathways to increase participation in planning and social learning, being mostly concentrated in a process of influencing policy making. As such CBT contains resourcefulness elements, but is not fully a resourcefulness-aligned actor as defined in this thesis.

The TT movement is another actor that in UK is concentrated in advocating for more ecological transport solution. It is a movement born in 2005 fundamentally aiming to foster civic engagement for a transition towards more ecological communities, based on permaculture principles. It constitutes at the present days an international network of local communities aiming to tackle global challenges starting building change at the local scale (Transition Network Team 2016). It can be inscribed within the 'new environmentalist' wave of social movements (Connors and McDonald 2010) that are the classifiable as reformist groups (Saunders 2012). It is focussed on the local scale on which community, businesses and government should collaborate to build responses to climate change, building also participatory and direct democracy practices (Connors and McDonald 2010). The TT movement's grounding principles are resilience, social justice, subsidiarity,

reflection, learning, collaboration and visioning (Transition Network Team 2016). Central practice is the promotion of community initiatives, events and local groups that can build new networks and initiatives for change.

The values and practices of the TT movement highly resonate with resourcefulness. TT are embedded at the local level, use prefigurative practices and have a complete vision for a different ecological society. In terms of transportation they promote sustainable transport, especially based on cycling. With respect to CBT, the TT movement proposes a more fundamental change not only in the content of transport planning, but in the processes of planning and community living, challenging the current distribution of resources and the paradigm of growth. The literature has covered in details the development of the TT movement and also criticised it. Specifically the movement has been criticised of falling into the 'local trap' and being grounded into purely 'middle class' values (Connors and McDonald 2010). Most fundamentally, from a social movement perspective, authors have expressed concerns with the "apolitical nature of the movement" (Connors and McDonald 2010: 561). At the same time it risks to flattering possibilities for change, being based on providing a blueprint plan for development of transitions in any context, often risking to loose connection with the specific contextual issues. As such it has been accused to 'colonise' existing networks and to de-politicise movements establishing often unproductive alliances with local governments (Chatterton and Cutler 2008).

These two examples exemplify the span of action of resourcefulness-aligned actors and also their potential limitations. CB has elements of resourcefulness, but is not 'aligned'. TT is a resourcefulness-aligned actor whose practices have been deeply considered in the literature and whose problems highlighted.

This thesis, starting from this literature, aims to explore more examples of resourcefulness-aligned actors, considering how they overcome the limits of TT or propose other ways to build transformation for transport planning.

3.7. Summary and conclusions

In this chapter I introduced the key framework that grounds this research. I firstly revise the literature that aims at redeeming resilience, introducing the idea of resourcefulness, a theory, social ecology, and the two concepts of spatial justice and the right to the city.

Secondly, I defined resourcefulness as a system property, as the ability of a system/subject to adapt and resist to the current social and environmental crises (adaptation to crises) and, at the same time, induce transformations that can stop and avoid these crises to reproduce (resolution of crises). I also clarified that the key point of resourcefulness is to inspire actions and practices, based on the analysis current crises, in order to stop and avoid their reproduction.

Thirdly, I expanded the definition, building a resourcefulness-based worldview with its own approach to crises, its understanding of nature, and its philosophy of change. This worldview has been built enriching the initial formulation of resourcefulness proposed by the literature, by theoretical understanding proposed by social ecology, spatial justice, and right to the city, which allow it to be used as a comprehensive worldview to inform planning and transport-planning. This worldview is of different nature with respect to sustainability and resilience and contains procedural and processual elements that consider the present conditions for communities and citizens to be able to shape more ecological futures. I demonstrated that under the resourcefulness-based worldview, change should start from addressing issues of distribution of resources that are material, civic, and intellectual. I showed that in order to do so a specific transformation should be implemented, starting from the bottom up, but with a multi-scalar perspective able to understand the complexity of the systems and the interrelated dynamics. I revealed how participatory processes and prefigurative practices are crucial for the resourcefulness-based worldview.

Fourthly, I considered how the resourcefulness-based worldview can inform planning theory, showing its linkages with radical planning.

Fifthly, on the basis of these concepts I derived a hypothesis for a resourcefulness-based worldview for transport planning that should be centred on the concepts of accessibility, transport equity, participation, and ecological solutions.

Sixthly, I presented the characteristics expected by resourcefulness-aligned actors, i.e. actors whose nature and practices resonate with the resourcefulness-based worldview and that are prone to implement resourcefulness in the system. I also examples of different resourcefulness-aligned actors committed to transport issues in UK showing which actor this research will focus on.

In the next chapter (§4) I propose a methodological approach to further investigate resourcefulness and guide the analysis of the practices of

resourcefulness-aligned actors, working in a context of mobility crisis, in order to learn from them and ground in empirical data the resourcefulness-based worldview for transport planning (§5, 6).

Chapter 4: A research approach for resourcefulness-based transport planning

In this chapter I set out the methodological approach for this thesis. In the first part, I start by considering the epistemological and methodological position of the resourcefulness-based worldview. Secondly, I look at the main methodological traditions in transport studies, highlighting the emergence of qualitative and participatory approaches. Thirdly, having highlighted the potential of participatory and action research approaches for transport, I review the main characteristics of the action research paradigm subsuming these approaches. I then specifically focus on the Participatory Action Research (PAR) approach, as one that shows a higher degree of compatibility with the research questions of this thesis and the resourcefulness framework. In the second part of the chapter I focus on what I did during the research, describing how I designed my PAR research approach, selected the case studies, and which specific data collection methods I used. I finally show how I conducted my data analysis.

Before going into the details, it is important to define what research paradigm, and its approach and methods mean to me, as these terms on which I built this chapter are often not used in transport studies.

What I intend when mentioning a research paradigm are the fundamental underlying assumptions that a researcher has about the nature of reality (ontology) and of knowledge (epistemology) that inform, intentionally or not, the whole research design and methodology (Kuhn 1996; Guba and Lincoln 2005). The paradigm serves as the basis for defining what constitutes a coherent methodology and a "good research" (ICPHR 2013: 5). Different research paradigms have developed throughout history, giving different answers to these fundamental questions. Guba and Lincoln (2005) have produced an in depth analysis of this development. In Table 4.1 the main characteristics of the three main paradigms are reported.

Table 4.1: Research paradigms (Coghlan and Brannick 2005: 5)

Philosophical foundations	Positivism	Post-modernism	Critical realism, action research
Ontology	Realism	Relativism	(Critical) Realism
Epistemology	Objectivism	Subjectivism	Subjectivism – Intersubjectivism
Role of researcher	Distanced from data	Close to data	Close to data

On the basis of the chosen research paradigm, different research approaches and methodologies can be designed. Specifically, the research approach "is a set of principles and practices for originating, designing, conducting, analysing and acting on a piece of research" (Pain et al. 2012) (see also Cresswell (2009) and Richards and Morse (2013)). Research methods are the strategies adopted by the researcher to collect data, analyse it, and guide the interpretation.

Using this terminology, in the next sections I consider the research paradigm subsuming resourcefulness, the main research paradigms and approaches used in transport studies, to then select the appropriate paradigm, approach, and methods for this research.

4.1. Building a research approach for resourcefulness

The main aim of this research is to explore new frontiers for transport planning theories and practices in the face of social and environmental crises (§1.1). To do so, a resourcefulness-based approach was revealed as a consistent option (§3). Resourcefulness, more than being the grounding concept and worldview I investigate, constitutes the conceptual framework (Leshem and Trafford 2007) that informs the research design, resonating with the research paradigm, and frames the analysis phase. It is important to take into account how knowledge and knowledge production (epistemology) are understood within the resourcefulness-based worldview, to build a methodologically consistent research towards resourcefulness-based worldview for transport planning. This would allow me to design a research able to critically explore resourcefulness in transport planning from real-life examples.

4.1.1. The epistemology of resourcefulness

In developing resourcefulness, MacKinnon and Derickson (2012) make strong assumptions on the epistemology of a politics of resourcefulness. Resourcefulness is not only, as resilience, a normative ideal to which policy and political action should aim to. It is a worldview that includes "as set of empirical questions, a normative ideal, and an ethical practice of scholarly research" (Derickson and MacKinnon 2015: 307) (§3.2.2). Resourcefulness contains an "epistemological posture" (ibid: 306) that can inform research design. As such, it satisfies what Lather (1986) considers fundamental properties for a theory that guides a praxis-oriented research:

> "Theory adequate to the task of changing the world must be open-ended, nondogmatic, informing, and grounded in the circumstances of everyday life; and, moreover, it must be premised on a deep respect for the intellectual and political capacities of the dispossessed" (262).

Resourcefulness, as a worldview adequate to support transformation and an open approach to utopian thinking, is not a blueprint programme and is based on ensuring the ability for the marginalised to shape their futures, taking control of their knowledge and knowledge production (§3.2). To do so resourcefulness research should communicate with other popular knowledges and create spaces for "view from the margins" (Derickson and MacKinnon 2015: 305) to emerge.

The epistemology of resourcefulness research is grounded in the idea, reported by Derickson and MacKinnon (2015), that "knowledge is always partial and situated, both geographically and in relation to power and political structures" (305). Under this assumption, theories and research practices more than aiming at universalizing knowledge, should better be situated, looking at "how and by whom knowledge and associated visions of the future can and should be produced" (ibid). Knowledge production is constantly shaped by its specific socio-political conditions, which need to be constantly taken into account when researching for future possibilities.

In particular, resourcefulness "aims to produce knowledge about the form that just socio-natural futures might take" (Derickson and MacKinnon2015: 306). Despite not being a blueprint, resourcefulness contains an ethical direction, aiming at building justice (§3.3.2). As an 'interim politics' (§3.2), resourcefulness is not just a property of a system, but a politics aiming at enabling the emergence of "climate, environmental, and social justice" (ibid).

Within this epistemological framework, resourcefulness is proposed as a comprehensive worldview that should guide the construction of a research approach and methodology (Derickson and Routledge 2014; Derickson and MacKinnon 2015; Derickson 2016). As a research ethics, resourcefulness can inform the research attitude, preferring practices in which research questions and processes are constantly informed by the objectives and needs of the marginalised. Specifically, as reported by Derickson and Routledge (2014), a politics of resourcefulness can guide research to: firstly, channel resources to support the work of grassroots actors; secondly, design research that explicitly answers the questions of non-academic collaborators, recognising their fundamental right to research as tool for social change; thirdly, build research that explores and challenges the barriers to participation and citizenship.

Derickson and Routledge (2014) suggest that a resourcefulness production of academic knowledge should use a triangulation practice in which the devise of research questions should be balanced between the three corners of the research triangle in Figure 4.1. With the use of triangulation techniques, research is built not only to guarantee academic advancement, but also consider "the needs and priorities of the communities with which we work, as well as the political projects that are advanced by the findings of the research" (311). In this view, resourcefulness has the dual aim to fulfil the direct needs of the marginalised and advance academic knowledge for emancipation.

These are the basic epistemological assumptions that I need to take into account in order to build methodologically coherent research exploring the unfolding of resourcefulness in transport planning practices.
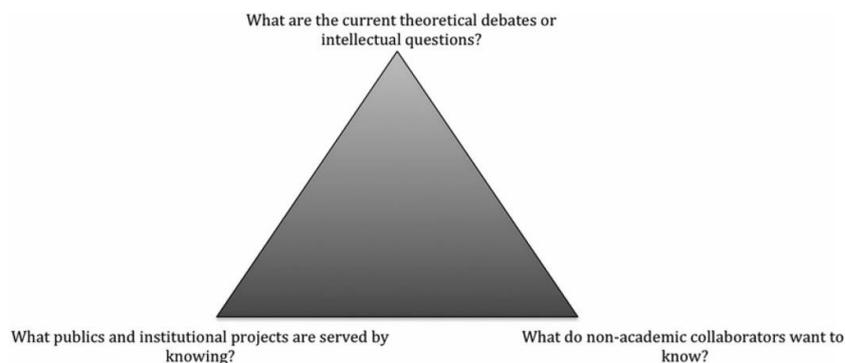
Figure 4.1: The research triangle (Derickson and Routledge 2015: 2)

4.1.2. Research paradigms and approaches in transport studies

In transport studies, authors are often unlikely to explicitly state their subsuming research paradigms, that however emerge from the preferred methodologies and disciplines of reference. Historically treated by engineers and economists, transport study is traditionally grounded in positivism (Willson 2001; Schwanen et al. 2011; Banister and Hickman 2014) (§1.2, 2.3). Within positivism, a variety of approaches and methods are used. Specifically, transport studies are based on interdisciplinary quantitative methods (Schwanen et al. 2011), in which the analysis of empirical data is performed using a variety of analytical techniques often based on complex modelling through which we can "prioritize and value" (Currie 2011:3) and build "robust and reliable evidence" (ibid: 31).

For its embedded multidisciplinarity, transport studies have also recently opened to more qualitative approaches under the influence of disciplines such as sociology or geography (Fincham et al. 2010; Lucas 2012; Porter et al. 2015) (§1.3, 1.4). Qualitative research is increasingly adopted for its ability to give "depth and breadth" (Grosvenor 1998: 1), adding creativity to the research process and being able to deal extensively with situations that are changing rapidly. Qualitative researches "celebrate richness, depth, nuance, context, multi-dimensionality and complexity" (Mason 2002: 1). As such, it can support and validate modelling, enriching their construction and interpretation, especially supporting their response to wicked problems. At the same time it allows modelling to include behavioural and societal change towards sustainable transport (Książkiewicz 2012). Qualitative research in transport is used together with more quantitative methods, under a positivist or mixed paradigm or, in other cases, under post-modern paradigm, especially, for example, in the case of the mobilities approach (§1.2), in the attempt to establish a postmodern approach to transport planning (Searle and Thompson 1999) or critical transport studies (Collective of Critical Transport Scholars 2016). In these last cases, qualitative research assumes a value per se as able to capture "less tangible aspects that cannot be expressed in quantitative terms" (Wright and Curtis 2002: 145). It is increasingly used, for example, in transport behaviour research to fill the gaps that previous more quantitative focussed research left in the field (Clifton and Handy 2003).

Also critical, participatory and action-oriented approaches, under an action research paradigm (§4.1.3), are starting to receive increasing attention in transport research (e.g. McAndrews et al. 2006; Porter 2016) and have been considered by various scholars for they ability to advance transport research

(§1.4). For example, Schwanen et al. (2011) recommend the use of PAR to advance climate change mitigation research in transport studies. For the authors, this is an approach able to bring novelty and depth in understanding for climate change mitigation, complementing the existing research practices mostly focused on techno-economic and psychological approaches. Also Curl and Davison (2014) stress the potential of action research to enhance our understanding of transport policy and practices, thanks to its focus on praxis and on producing research impacts, responding promptly to the calls for impactful research (HEFCE 2014). Other transport scholars have opened a debate on Participatory Modelling approaches, highlighting their ability to bring together different stakeholders, allowing communication and knowledge production towards a more holistic planning practice (Modelling on the Move 2014; Macmillan et al. 2014). For those authors, participatory modelling can bring out the narratives behind the models, allowing a focus on small-grind narratives necessary to complement 'Big Data'.

Lucas (2013), in a dedicated paper titled *Qualitative methods in Transport Research: the 'Action Research' Approach*, stresses the value of action research as an approach able to address current social and environmental challenges posed by transport impacts. For Lucas (2013), action research, with its participatory methodologies, its close-look at phenomena, and its dialogical processes, can build in-depth understanding of small-scale projects and their behavioural impacts. For the scholar, action research is particularly suitable when the research is concerned with "the delivery of sustainable development, social equity or community wellbeing" (ibid: 429) for its ability to produce two interconnected outcomes: grasp the possible drivers of behavioural change, and enable change to happen during the research phase itself, as part of the interactive exchange between researcher and participants. Specifically, as a collaborative process:

> "Action research can also be a useful tool for empowering communities to participate in the transport decision-making, infrastructure design and transport planning processes. This could help to make schemes more sensitive and reactive to local needs and concerns and plans more transparent and publicly accountable" (ibid: 438).

Action research analyses how change happens whilst also enabling this change to happen. This second aspect emerges, for example, in the work of Egmose (2016) that in his PhD thesis developed a PAR research on sustainability, using this methodology to help the implementation of sustainability focussed initiatives and study them as social learning spaces.

Similarly, the ability to build change with PAR emerges in Macmillan et al. (2014) work, which use PAR to develop a system dynamic model of cycling in Oakland, showing how within the action research paradigm also quantitative methods can be used to collectively develop causal theory linking transport, energy, and wellbeing.

Particularly useful in a context in which transformative change is necessary for its ability to support change to happen, action research is important for transport study as it is able to "promote technological innovation and social learning about what needs to be done. It might also identify new and more politically acceptable pathways for change" (Lucas 2013: 431). Value is added, for Lucas (2013), by undertaking an action research approach, also by the ability to increase reflexivity in the research practitioner. Reflexivity (§4.1.4.2) enables not only the development of high quality research outcomes, but also the establishment of a learning process that involves both researcher and participants that feeds then, in a cycle, into the research outputs, as in Figure 4.2.

Due to the novel attention that it has received and its promising value indicated in the literature of the action research paradigm to be able to address themes strictly close to the ones on which this research is interested, more in-depth attention is given to explore this paradigm in the next sections.

4.1.3. The action research paradigm

As mentioned in the previous section, different approaches, such as Participatory Research, Participatory Modelling or PAR, have been developed across varied fields and disciplines and are also suggested in transport research. These approaches, that mainly use qualitative methods and an emic approach to research (Castellan 2010), have created a strong reflection on the role and position of the researcher, becoming, more than only a set of methods, a research paradigm (Nind 2014).

In particular they can be considered part of a specific research paradigm called *action research*. This is a paradigm that has been influenced by a number of theoretical frameworks, as listed in the *Handbook for Action Research* by Reason and Bradbury (2001). These include, among others, pragmatic philosophy, critical thinking, system thinking, and complexity theory. It focuses on praxis and concrete solutions to real life problems through collaboration and co-production, aiming to produce research with a moral humanistic goal towards social justice (Fals-Borda and Rahman 1991;

Morgan 2012). For Nind[27] (2014), the action research paradigm contains some fundamental assumptions on the role of research, of the researcher, and of the research participants: to use research as an empowerment process; a focus on enhance participation, competence of researchers, and authenticity of the research grounded on the "experiences and values of those concerned" (ibid: 24); careful consideration on authorship, accessibility, readership, and research ethics.

Specifically, action research aims to revisit the role of the researcher that in qualitative research is the primary actor in designing and carrying out the research (Kiernan 1999), establishing a different relation with the research participants. They are actively participating as co-researchers and considered not as objects of the research, but as subjects that conduct research alongside all its development (Gallacher and Gallagher 2008). The research is never *on* a certain group or community, but *with, by,* or *for* them (Nind 2014). To the relation of subject/object, action research substitutes a new relation of subject/subject of research (Fals-Borda and Rahman 1991), surpassing the hierarchy between researchers and researched and making research a "cooperative experiential enquiry" (Kiernan 1999: 44), in which particular attention should be given to power relations. Action research is based on deep epistemological reflection both on how knowledge is produced (participatorally) and on what the purpose of the knowledge produced is (help the people included). For these reasons it is considered a research paradigm.

Given these general assumptions on research and knowledge production, several authors make a connection between the action research paradigm and the philosophical paradigm of critical realism (Wainwright 1997; Coghlan and Brannick 2005; Morgan 2012) visible in Table 4.1. Analysing the epistemological and ontological position of action research it emerges that, first, as critical realism, action research is founded on realist ontology. As such, as Morgan (2012) reports, it gives "a concession to pragmatism; it is an attempt to 'sustain a principle of relativity while rejecting relativism' (Giddens

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[27] In her book *What is Inclusive Research?* Nind (2014) names this paradigm 'inclusive research'. Despite the different name, this paradigm overlaps with the epistemological and ontological positions of action research as defined for example by Coghlan and Brannick (2005), Fals-Borda (1991) or Dick (nd). Nind (2014)'s name put more emphasis on the inclusivity of the paradigm, a concept that is however part of action research, especially when it grounds PAR (§4.1.4). Given the commonalities of the two paradigms and considered the broader historical tradition of action research, I prefer this second name.

1976: 18)" (np). Second, as emerges from its idea of co-production of knowledge in action research, the realist ontology is coupled with a subjectivist or inter-subjectivist epistemology (Cunliffe 2010). Moreover, as with critical realism, action research recognises the fundamental importance of reflexivity as a guiding practice for research (§4.1.4.2).

With this ontology and epistemology, action research goes beyond the classical positivist versus post-modernist dichotomy in the research approach, in which it is not possible to overlap a subjective epistemology to an objective ontology (Guba and Lincoln 2005). For Reason and Torbert (2001), that analyse the epistemological position of action research, this paradigm constitutes an *action turn* in research, able to ground meaningful social research not trapped in the "tension between the 'empirical positivism' view which dominates the academy and a counter-movement which we call 'post-modern interpretism'" (2). Action research differs from the positivist approach due to it being "future oriented" (ibid: 3) and grounded in practical action. As such it surpasses the risk of reductionism of positivism, when it inscribes realities in fixed structures and understanding. At the same time, for the authors, action research surpasses the limits of postmodernism, that, despite having opened to subjectivity, has not developed an action-oriented focus: it is the action that makes it "inquiry contributing directly to the flourishing of human persons, their communities, and ecosystems" (ibid: 6). At the same time, action research, not only aims to go beyond positivism and post-positivism, but:

> "Also draws on and integrates both [positivist and post-positivist] paradigms: it follows positivism in arguing that there is a 'real' reality, a primeval givenness of being and draws on the constructionist perspective in acknowledging that as soon as we attempt to articulate this we enter a world of human language and cultural expression" (Reason and Bradbury 2001: 7).

Action research aims at integrating positivism and post-positivism, developing a new epistemology focussed on "timely, voluntary, mutual, validity-testing, transformative action at all moments of living" (Reason and Torbert 2001: 6), which is less interested in universal truths but still aims to grasp and transform the reality.

At the same time, action research opens as a research practice that "concentrates on epistemic reflexivity which looks at exposing interests and enabling emancipation through self-reflexivity" (Coghlan and Brannick 2005: 7). It is crucial to understand that the primary purpose of researching is changing the world enacting in it, as Coghlan and Brannick (2005) stress:

> "Sharing the power of knowledge production with the researched subverts the normal practice of knowledge and policy development as being the primary domain of researchers and policy- makers" (7).

In this action researchers are explicitly recognising that there is no neutral research: researching is a value-laden activity (Reason and Bradbury 2006; Morgan 2012), with precise political, cultural, economic, and social impacts. Action research is part of what Smith et al. (1997), drawing from Habermas (1972), call 'critical research'. This critical research aims to the creation of spaces of democracy and is deliberately not-objective, being based on a subjective interaction with the reality. Core of action research is producing collaborative knowledge and actions to change the present and the future. In this, knowledge, as participatory act, is not only a fruit of academic elaboration, but is produced outside of academia as popular knowledge, whose value needs to be recognised and supported by academia with the final shared objective of "advancing knowledge in search of greater justice" (Fals-Borda and Rahman 1991: 152). It can be argued that the final aim of action research is the production of an emancipatory knowledge. Lather (1986) with her *Research as Praxis*, well summarizes this point, considering the importance of research as a praxis with a transformative agenda:

> "Praxis-oriented inquirers seek emancipatory knowledge. Emancipatory knowledge increases awareness of the contradictions hidden or distorted by everyday understandings, and in doing so it directs attention to the possibilities for social transformation inherent in the present configuration of social processes" (259).

As an approach devoted to emancipation and transformation, action research is a research paradigm particularly suitable to ground research seeking to understand possible alternative futures and change.

4.1.4. PAR approach

Among the research approaches included in the action research paradigm (§4.1.3), PAR has received wide attention in various disciplines and also in transport studies (§4.2). In particular, among the approaches included in the action research paradigm, PAR poses "greater emphasis on process and on seeing people as agents of change" (Nind 2014: 9). At the same time it focuses on the need of inclusivity and participation to produce actions. The main objective of using a PAR approach is the practical production of knowledge and strategies for amelioration of the living condition, with a clear reference to environment protection and social well-being (Smith et al. 1997;

Reason and Bradbury 2001). As such, the PAR approach results particularly adapt to explore new frontiers for transport planning (§4.1.2).

Being embedded in the action research paradigm, the PAR approach shares the same position on producing knowledge to respond to the need of empowerment of disadvantaged groups, as an answer to the increasing individualism-based society and its issues (Smith et al. 1997). It is focussed on a research that is never merely descriptive, but is based on an active transformation of the social realm through participation. Three principles are the basis of PAR: 1) belief on popular knowledge and on the possibility of a community-based individuation and solution of problems; 2) shared ownership of knowledge and resources; 3) authentic commitment of participant and researcher and focus on community action (Smith and al. 1997; Kemmis and McTaggart 2005). Moreover, PAR is a research approach based on practice and deep consideration of power issues (Kemmis and McTaggart 2005). Specifically the PAR approach uses participation as a way to involve all the people directly and indirectly affected by an issue, allowing them to have the right to have a say and act to transform the circumstances of the issue researched (Kemmis and McTaggart 2005). The actions to take are agreed between the participants, building a sense of legitimacy and involvement (Kindon et al. 2007). Research is a process of developing and testing new understandings in order to solve shared problems, under a frame of ethical authenticity and truth. For this reason, the research questions themselves are developed with the participants and the research follows a cyclical structure, as visible in Figure 4.2.
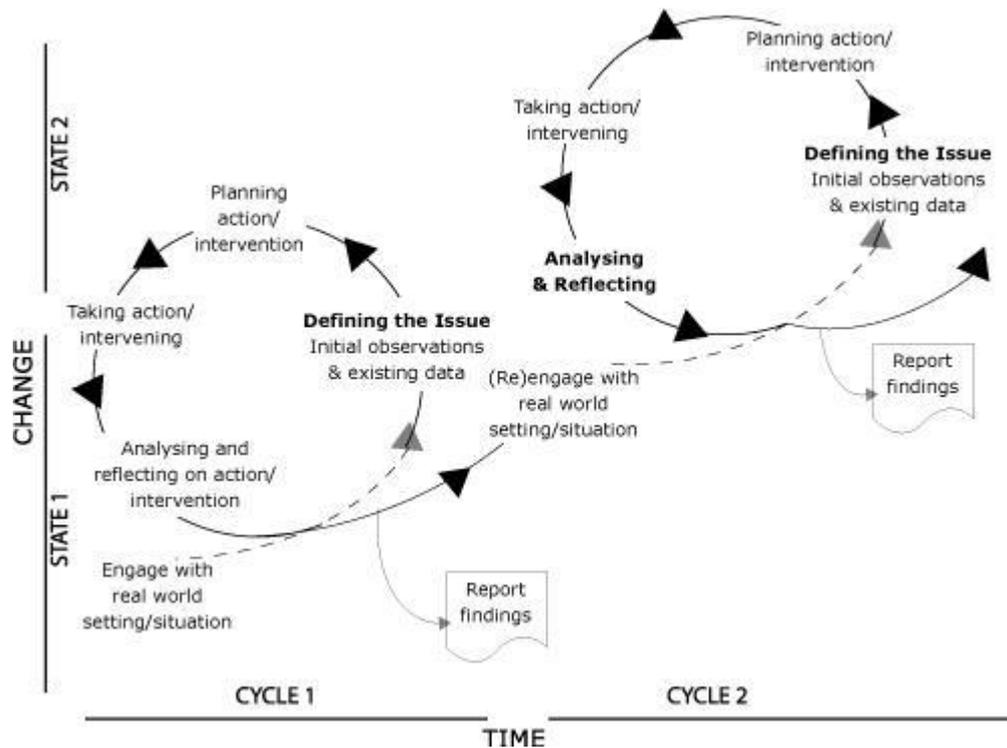
Figure 4.2: The PAR cycle (Velasco 2013: np)

Even being a "highly 'path dependant'" (Lucas 2013: 427) research approach that easily readapts itself depending on the context and the specific needs of the participants, the PAR approach is structured as a process of planning, acting and observing, and reflecting, as visible in Figure 4.2. In the first phase the researcher and the participants (better called co-researchers) observe the phenomena and collect data; then they go through a phase of analysis on reflection on the base of which they plan possible actions to take. Finally actions are taken to implement change, to then be analysed again and improved through another cycle. This structure is dynamic and based on positive feedback loops: the PAR cycle is repeated several times until the outcome is commonly agreed as the best. This iteration of the process is the basis on which the PAR approach produces knowledge and social change. With this cyclical structure and its context dependence, the PAR approach is always in evolution, in a process of "borrowing, constructing, and reconstructing research methods and techniques to throw light on the nature, processes, and consequences of the particular object they are studying" (Kemmis and McTaggart 2005: 293). Finally, the flexibility of the PAR approach implies also the possibility of adopting a wide range of strategies depending on the issues considered and the actors involved, as McIntyre (2008) stresses:

"Participant-generated actions can range from changing public policy, to making recommendations to government agencies, to making informal changes in the community that benefit the people living there, to organizing a local event, to simply increasing awareness about an issue native to a particular locale" (6).

PAR, as an approach, is open to a variety of strategies and methods, which ensures validity thanks to a set of criteria explored in the next section.

4.1.4.1. Validity

From a positivist perspective, the PAR approach is not able to produce covering laws that generalize explanations (Susman and Evered 1978). However, situated in an adequate and legitimate research paradigm, it has a recognised scientific value of producing "action principles or guides for dealing with different situations. Action research provides a mode of inquiry for evolving criteria by which to articulate and appraise actions taken in organizational contexts" (ibid: 599) whose validity is grounded in praxis. Differently from positivism, it aims at understanding rather than explanation and at making things happen rather than predicting change. It enables the generation of actions able to guide future understanding.

As such, the PAR approach can be criticized for a loss in reliability and reproducibility (Nind 2014), grounding a research based on a strict relationship with the research participants and with the particular case study is rarely reproducible and generalizable. However, the real validity of the results is part of the participatory exercise itself and confirmed by the use and sharing of the results by the community that produces it (Smith et al.1997). Moreover, production of knowledge internal to the specific PAR approach contains a general validity that can be highlighted utilizing triangulation techniques (Smith et al.1997: 242).

In this the PAR approach satisfies the requirement of validity and research quality developed for qualitative research (Creswell 2007). For example, it clearly inscribes in the criteria that Lincoln (1995) proposes for interpretive research: positionality needs to be clear, the research should be directed to help the community that it involves and there is reciprocity, egalitarian relation, the research gives voice to participants, and self-awareness is made clear. Similarly, Lather (1986) considers that in praxis-oriented research data-trustworthiness can be ensured through triangulation and construct validity (theory building) can be ensured by careful reflexivity. This is ensured also within the PAR approach by the action-reflection cycles, visible in Figure

4.2. At the same time face validity and catalytic validity, the ability of the research to pursue conscientization (Freire 2005), are ensured by going back to the participants.

The action research paradigm values 'insider' knowledge, starting from the epistemological premise that people, as empowered researchers, know themselves, their needs, and are able to build the means to solve their problems (Nind 2014). This is not necessarily claiming that insider knowledge is the most accurate or authentic, but that it needs to be taken into account in order to build valuable knowledge. The PAR approach ensures validity by bringing together knowledge from diverse actors with different understandings and point of views, opening up to different knowledge and particularly valuing the voices of groups or minorities that are often missed out. Moreover, the PAR approach builds a 'transformational validity', guaranteed by its capacity to make a difference to the world (Nind 2014). The International Collaboration for Participatory Health Research (ICPHR), after having carried out an extensive research of the use of Participatory Health Research, proposes a set of validity principles relevant also for a PAR approach that provide a useful summary of the validity criteria to take into account:

- "Participatory Validity: The extent to which all stakeholders are able to take an active part in the research process to the full extent possible

- Intersubjective Validity: The extent to which the research is viewed as being credible and meaningful by the stakeholders from a variety of perspectives

- Contextual Validity: The extent to which the research relates to the local situation

- Catalytic Validity: The extent to which the research is useful in terms of presenting new possibilities for social action

- Ethical Validity: The extent to which the research outcomes and the changes exerted on people by the research are sound and just

- Empathic Validity: The extent to which the research has increased empathy among the participants" (ICPHR 2013: 20).

All these criteria need to be taken into account to develop a valid PAR approach based research. Finally, the emancipatory aim of the PAR approach ensures another form of validity: "There is seen to be a correspondence between democratizing knowledge production and increasing the validity of data" (Nind 2014: 26). The embedded aim of a PAR

approach to ensure democratic forms of knowledge production positively influences the validity and quality of its outcomes.

4.1.4.2.   Reflexivity in PAR approach

Reflexivity is an integrating part of action research-oriented approaches and of qualitative research approaches (Mason 2012; Cunliffe 2010). As such it is also an integrating part of the PAR approach as a process that guides both the actions of the researcher and the choices of all the participants in the project. Reflexivity stems from the assumption that "the qualitative research practitioner is, whether one likes it or not, a part of the process of analysis and interpretation" (Grosvenor 1998: 4). As Mason (2012) reports, reflexivity:

> "Means thinking critically about what you are doing and why, confronting and often challenging your own assumptions, and recognizing the extent to which your thoughts, actions and decisions shape how you research and what you see" (5).

Reflexivity is not just reflecting on events, stepping back and acting as outsider, but an act within the events of which the researchers are part. Under reflexivity, researching is a process of 'living in' as self in relation to the others, shaped by the social world (Cunliffe 2013). Research is a social practice on which it is constantly necessary to account for subjectivities. In this Cunliffe (2013), speaks about self-reflexivity of the researcher as a way to "explore how we create understanding from within our ongoing, shared, dialogical relationship" (ibid: 13), explicitly acknowledging and analysing the role of personal assumptions, values, and beliefs in shaping research.

Reflexivity and self-reflexivity are a "way of *doing*" (Mason 2002: 5) qualitative research and are specifically integrating part of the PAR approach, "which looks at exposing interests and enabling emancipation through self-reflexivity" (Coghlan and Brannick 2005: 7). Reflexivity in the PAR approach is part of the knowledge production process and necessary to ensure the possibility of quality research to be conducted with a final emancipatory aim via conscientization (Coghlan and Brannick 2005; Freire 2005). The connection between reflexivity and research quality and validity is made clear also by Mason (2002) who stresses the importance of making explicit assumptions on the analytical procedures adopted in order to support evidence and make possible that others, once they have embraced the same, could potentially 'replicate' the experience.

4.1.4.3.   Methods in PAR approach

Different methods can be used as part of a PAR approach (Richards and Morse 2013), that vary according with the different stages of the PAR cycles, as in Figure 4.2, and with the aim to ensure co-production. Whilst the planning phase of the PAR cycles involves mainly the use of secondary data, in the action phases primary sources are normally used: different tools for gathering data and producing new knowledge, often drawing on popular knowledge and 'indigenous methods', such as "mapping, diagramming, role-playing, drama, music, art, and movement")McIntyre 2008: 20). In any case, multi-methodology and adaptability to the case study remain the core strategies. In that context both qualitative and quantitative methods can be used, specifically calibrated for the research and weighted on participants' requirements. Specifically researchers adopting a PAR approach use extensively interviews and focus groups (Pain et al. 2012).

Interviews are, as Stake (1995) considers, "the main road to multiple realities" (64). They are, among the qualitative methods, the most popular, for their ability to give access to high quality data specifically targeted to the researcher needs. Specifically, as reported by Bergold and Thomas (2012), in PAR semi-structured interviews are preferred to structured ones, for their adaptability. Under an action research paradigm, "the outcome of an interview must be perceived as a situation-dependent co-construction on the part of the interview partners" (ibid: np). Dick (nd), for example, proposes for PAR the use of convergent interviewing, based on a similar procedure to semi-structured interviews and in which is stressed the importance of a dialogic and cyclic approach to interviews' design and analysis.

Focus groups are also commonly used in PAR. Different procedures are indicated under this name all sharing the format of a group guided conversation (Gibbs 1997). Focus groups differ from group-interviews due to the stress on the dialogic dimension and exchange among participants (ibid). During a focus group new knowledge is created as part of an inter-subjective conversation. Focus groups are used in PAR also for their 'transformative potential' (Chiu 2003).

Another method that should be mentioned is participant observation. This is an ethnographic method with which the researcher, immersed in the research context, directly experiences and observes relevant events and records data looking at "social actions, behaviour, interactions, relationships, events, as well as spatial, locational and temporal dimensions" (Mason 2002:

84). This method is based on the idea that, with observation, the researcher can "learn what is taken for granted in a situation and to discover what is going on" (Richards and Morse 2013: 96). Despite not being a method directly linked to the PAR approach, participant observation can be useful to approach the field and collect data to triangulate with that collected in the PAR projects. It allows the researcher to start building a relationship of reciprocity with the research participants. As such it not only allows easier data collection, but also, as research praxis, allows alignment of the research agenda with the needs of the participants, being able to understand and help the situation (Lather 1986). Finally, within PAR a variety of methods such as workshops can be used to set up specific PAR projects.

4.1.5. Participatory action research for resourcefulness

The main aim of this research is to build a worldview for transport studies in order to face current social and environmental crises (§1.1). As such this research focuses on change and ability to change. It does so using the idea of resourcefulness. From the account of the epistemology subsuming the resourcefulness-based worldview (§4.1.1), several overlaps emerge with the action research paradigm introduced (§4.1.3). Despite it never being mentioned directly by the authors that firstly developed it, resourcefulness, as a guiding conceptual framework that should inform the research approach, calls for action in research. More specifically, the principles at the basis of a resourcefulness-based worldview are congruent with the emphasis, in the PAR approach, with liberatory research, social justice, and emancipation. Further than that, the PAR approach focuses on praxis and participation, aiming at changing the phenomena researched. It is a research approach that is particularly effective when the emphasis is put on seeking change and when the researcher aims at researching *with* people and not *on* people. Moreover, the PAR approach can be especially helpful in dealing with "complex social or political situations in which understanding all sides of a controversy is essential but the available documents and discussions defy neat categorization" (Richards and Morse 2013: 26).

As also reported by Egmose (2016), the PAR approach can be used in different unfolding steps to support the whole process of researching about change with particular effectiveness. As a first step, as an approach guiding the selection of research methods, the PAR approach ensures the coherence of this choice with the research framework and questions, given the matching epistemology shown with resourcefulness.

Second, as an approach guiding data collection, PAR enables conduction of fieldwork in which, individuated resourcefulness practices, work with and for them, whilst becoming also able to study them. Using a PAR approach the research can at the same time facilitate the development of resourcefulness examples and produce data for meaningful knowledge on change, as also suggested by Derickson and Routledge (2014) (§4.1.1). The PAR approach, in its focus on praxis, supports the development of resourcefulness whilst at the same time allowing the researcher to reflect, alone or with the groups involved, on feasibility and results. The PAR approach enables both the generation of data and appreciation of its complexity, in the action-reflection cycles, as in Figure 4.2. As Egmose (2016), continues, after having facilitated the unfolding of participatory experiences, within a PAR approach there is a phase of "empirical study of the diversity of participant perspectives in the process. Whilst this cannot be separated from the facilitation perspective completely, the researcher can pay very different levels attention and interest to this task" (30). Whilst participating to the resourcefulness experiences, the researcher remains aware of his role and can detach from the sole facilitation of actions, using a strong reflexivity process to understand those on a number of levels. In this phase the use of triangulation of events with single interviews with the people involved and other actors impacted by the processes enabled helps in the construction of post-events narrative, supporting the reflexivity process of the researcher.

Third, as an approach guiding the analysis of data within the resourcefulness framework, the reflexivity required by a PAR approach helps understanding on how they resonate or not with the concepts embedded in resourcefulness. This also enables feedback and allows for the improvement of the framework, producing useful guidelines for future resourcefulness-based practices. The PAR approach helps "to develop reflexive theoretical interpretations" (ibid) in which core theoretical ideas are applied to interpret the collective narration of the fact occurred. A research based on the PAR approach is able to produce more than just a research document, a thesis, built on personal account of processes and events: it also results in actions and events that increase the possibility of implementing resourcefulness in the real world (§4.1.2). For example, being a collective learning process, the use of a PAR approach results in the increasing awareness of the issues covered in the research by all research participants and an increased effort to act to solve them.

For these reasons, the PAR approach is the research approach adopted in this thesis to guide data collection and analysis, as well as the choice of appropriate methods, attitudes, and ethics in the fieldwork.

4.2. A research approach for resourcefulness in practice: what I did

Starting from a personal position that resonates with the ontological and epistemological position of the action research paradigm and fully embracing its emancipatory aim, I considered PAR as the most appropriate research approach to explore resourcefulness-based transport planning in action and adopted it as the guiding methodological approach to design my thesis (§4.1.5). Aware that different formats exist for PAR approach and of the constraints that a PhD project poses to it (Herr and Anderson 2014), I did so not with the pretention to develop a full PAR, but to be inspired by it in the all research process. I also decided to use it in different case studies in order to explore in depth resourcefulness in different contexts, adding complexity to the data collected. Case studies can be either a research design strategy or, more simply, a method for data collection (Yin 2011; Richards and Morse 2013). They are commonly used in planning research with the aim to develop understanding "of a social situation or process by focusing on how it is played out in one or more cases" (Richards and Morse 2013: 76). Case studies, moreover, are particularly adapt when the research questions ask 'how?' and need to track something changing over time (Yin 2011; Richards and Morse 2013).

I used case studies to structure and focus the data collection within a PAR approach. I did not aim to generate strong comparisons nor generalizations, but to use different urban contexts to better understand urban processes "thinking through elsewhere", as suggested by Robinson (2016). At the same time the gesture of comparison has been possible only to the extent of highlighting what Mason (2002) calls "cross-contextual generalities" (1). In this I followed Stake (1995) that in a famous quote explains:

> "The real business of case study is particularization, not generalization. We take a particular case and come to know it well, not primarily as to how it is different from others but what it is, what it does. There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself" (8).

Case studies look for in-depth understanding of the complex dynamics of a specific context. Focussing, for each context, to specific dynamics and processes allows also to be able to analyse those in other contexts, making highly different urban realities effectively comparable (Robinson 2016). Specifically, I approached two case study contexts, one from Europe and one from Latin America, with the aim to look for differences, learning from those differences (González 2016), and bridging between the differences. Interacting cyclically between the two case studies permitted me to act as a bridge of communication, increasing their ability to learn from the others experiences. At the same time, the research has been searching for commonalities, "tracing connections" (Robinson 2016: 6) on which to base "interurban solidarities" (González 2016: 6), with an attitude similar to the principle of unity in diversity proposed by Bookchin (1996) (§3.1.2.2), or the concept of 'translation' proposed by Santos (2002, 2004) (§7.3.3, 8.2). Specifically, the sequence with which I firstly explored the Rio de Janeiro experiences and then used those to approach and contribute to the Italian ones has contributed to build a process of learning from the Latin American wider experience on participatory and radical planning. In this I agreed with the need, highlighted by González (2016) for "shaking established ways of theorising about cities which have been traditionally based on the Anglo-American urban experience" (1). At the same time approaching two very different urban contexts has represented a unique strategy for enriching the possibilities of rethinking the urban, in a process of tracing differences and connections, composing new concepts and launching distinctive analysis for other contexts to learn from (Robinson 2016).

There is a variety of contexts suitable to explore resourcefulness. However, in order to produce meaningful data over the span of a PhD project, I considered contexts in which resourcefulness appeared to be already in place and that were easily accessible to the researcher. In order to do so, I approached contexts in which the social and environmental crises, together with the mobility crisis, were explicitly unfolding, with a vast magnitude. I selected contexts in which I had ease of access (financially and logistically), that were explicitly crossed by crises and in which I could identify resourcefulness-aligned actors (§3.6). These are actors that, involved in the transport planning process, show understanding and practices resonating with the resourcefulness framework and create a climate of increasing participatory experiments, restructuring of governance, emergence of urban social movements, and resistance practices to crises. I approached these actors not as representative of certain social groups –even though the span of their actions and networks could be interpreted as such-, but as actors that

specifically work to 'give voice' to the marginalised, in line with the interim politics of resourcefulness (§3.2). They do not represent the marginalised but, as it will be clear in the analysis of their practices (§5.2; 6.2), they seek to open channels for the marginalised to be represented or directly intervene in the urban processes. Moreover, aware of the limited time to explore the whole multi-scalar levels influenced by resourcefulness practices (§3.3.3), I adopted a 'meso-scale focus', with the unit of analysis being the resourcefulness-aligned actors as social groups and the local institutions. Similarly, I decided to focus on a short-medium time scale of urban changes: I looked at changes in transport systems over a time-frame of few years (§8.2). I specifically selected two cities.

The first case study has been the city of Rio de Janeiro, Brazil, that I had chance to learn about whilst participating to the World Conference on Transport Research 2013. Thanks to the funding provided by the Contested Cities network[28], I had the chance to be financed for fieldwork in the city. As I explore in detail (§1.4.1, 5.1), Rio de Janeiro is a city facing big changes in its infrastructure, land-use, and social composition in connection with great renewal projects implemented recently in connection with the mega-events hosted. At the same time, it is a city in which there are great mobility issues, typical of urban Latin America (Vasconcellos 2001), enhanced by increasing patterns of social inequalities and segregation that make the Brazilian scholar Santos (1992) speak about 'metropolitan involution'. Whilst being in the city in 2013, I had a chance to experience the climate of great social mobilization around transportation issues (§1.4.1, 5.1.4) and I entered in contact with several resourcefulness-aligned actors. As shown in Table 4.2, I returned to the city 3 times and had the ability to build a relationship with the Forum, a resourcefulness-aligned actor (§5.2). This became a very valid actor to work with in my understanding of resourcefulness.

The case study has been my hometown, L'Aquila, an Italian city hit by an earthquake in 2009, which had to completely restructure itself in terms of infrastructure and land-use and is facing dramatic problems in terms of post-disaster mobilities (§1.4.2, 6.1). Having lived in the city for 25 years, and having also been involved in various citizen-led initiatives there for several years, allowed me to have knowledge of the terrain that would make it easier to access relevant information and actors. In particular, after preliminary contact with the local Department of Geography in 2013, I was informed of

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[28] This is an EU-funded research network that involves researchers from European and Latin American universities.

the existence of a group, the MYC, developing work on youth mobilities and participation in the city. After first contact with the group and research of their aims, objectives, and constitution, I was strongly convinced that this was a resourcefulness-aligned actor and I started collaborating with it (§5). I visited L'Aquila several times, as visible in Table 4.2.

In details, I approached the field in several waves, in order to collect the data. On one side, the fieldwork periods in Rio de Janeiro have been determined by the availability of funds. On the other side, the geographical proximity of Italy made it possible for me to come back to L'Aquila when relevant events or activities were held by the MYC or other actors. I attempted to be present in person during the most important moments of the development of the projects. Moreover, in order to both act as a bridge of communication and be able to fully grasp cross-contextual generalities, I conducted the two fieldworks intertwined. The logistical challenge of maintaining the two fieldworks together has been a successful strategy in generating meaningful data (§8.2). On one side, Rio de Janeiro, my first fieldwork with a PAR approach experience and a city in which I was an outsider (§4.2.1), has enabled me to test my abilities. Here I primarily used participant observation and have been able to set up only one PAR experience. L'Aquila, on the other side, where I had the chance to spend more time, has become a more explanatory case study (Yin 2011) in which I have been able to build on the preliminary findings emerged from the previous one and develop more consistent PAR experiences. Furthermore, after the first contact with the field, I carried out a Pilot Study in my University to test my ability to conduct workshops and in which I discussed the resourcefulness framework with other researchers and planners. In addition to the fieldwork periods, I kept in contact with the actors I was working with via the Internet through means such as Skype.

As evident, my activities in the field developed as I was able to build more trust with the resourcefulness-aligned actors and followed their actions. For this, as I show in the following subsections, different methods were selected to progress each step of the research and each phase of the fieldwork, in a continuous cycle of action-reflection (§4.1.4): literature review has been used in the planning phase, whilst a variety of methods have been used on the field to collect suitable data such as participant observation, workshops, interviews, focus groups, and document reviews.

Table 4.2: Fieldwork dates and activities

Date	Location	Activity
June – July 2013	Rio de Janeiro	Experience of the ground and preliminary secondary data collection
August 2013	L'Aquila	Preliminary contacts with actors involved in transport planning
November 2013	Leeds	Pilot Study
November 2013	L'Aquila	Preliminary contacts an participatory observation with MYC
November 2013- January 2014	Rio de Janeiro	Participation to the Forum activities, Workshop with GPPA, first wave of interviews
April 2014	L'Aquila	PAR experience: workshops with schools
June-July 2014	Rio de Janeiro	Second wave of interviews. Participation to the Forum activities
July-August 2014	L'Aquila	Participation to MYC activities. Focus group
September 2014	L'Aquila	City Workshop
November 2014	L'Aquila	Mobility Panel Meeting and GIS Forum
December 2014	L'Aquila	Meeting with Mayor and Mobility Panel
June 2015	L'Aquila	Interviews

4.2.1. Notes on reflexivity and positionality

A good reflexive practice starts from making clear the researcher's positionality with respect to the matter of inquiry and continues through all the research process, guiding the fieldwork and the data analysis (§4.1.4.2). In this regard, in building this research, I agree with the position of Derickson and Routledge (2014) that, in their paper about resourcefulness methodologies, state:

> "We think it important, given the ongoing economic, political, and ecological crises confronting humanity, for aspiring scholar- activists to enter the logics of an insurrectionary imagination. We need to let our core values (e.g., concerning dignity, self-determination, justice) and feelings directly inform our research" (4).

This means that both the research topic chosen, the research approach, and ethics of the research are founded on my core values and beliefs, starting from the recognition of the necessity of taking a stand and 'do something' with respect to the current social and environmental crises. I chose to produce research and actions with certain resourcefulness-aligned actors because I supported their beliefs and practices and at the same time was critically interested in understanding their elaborations and the effectiveness of their practices.

Reflexivity has been particularly important in understanding the effects of my status and positionality in the two different case studies. Positionality in action research shapes both methodology and research ethics (Herr and Andreson 2005). In Rio de Janeiro I started this research as an outsider, not only to the group involved but also to the whole research context. This was particularly evident in the first interviews, carried out before I met the Forum. During the interviews the participants, male professionals, had a protective and almost paternalistic attitude with regard to a female, foreign researcher non-native speaker. However, it was this attitude that made them feel compelled to introduce me to the field, explaining to me in great detail the issues they were working with, in interviews that lasted more than two hours. Moreover, the novelty of having a European researcher interested in their work made them enthusiastically open access to information, speeding up the snowballing process and inviting me to the Forum. Since the first meeting I felt included, in a group used to welcoming academics.

In L'Aquila, I was an insider to the context. This position allowed me to easily disentangle in the complexity of the relations between the different actors I met and to read behind the intention expressed in several occasions, often

knowing people from before. In any case, as mentioned, I started the relationship with the MYC as an outsider to the group. I entered in contact with them when their work was already solid and established, and clearly presented myself as researcher that wanted to build collaboration. However, the precondition of being known from childhood by some of the participants, to be aged as most of the group participants, together with the openness, small, and personalised size and flexibility of the group helped the construction of a strongly solidarity and friendship relationship. To this it should be added the sharing with the participants of a commitment to work towards improving the conditions of a city whose social fabric had been severely damaged by the earthquake (§6.1.1). This made it possible for me to feel from the first day as a genuine insider of the group, with additional resources (time and monetary) to dedicate to the project. I assumed this as a similar role to all the other participants creating quickly what Herr and Anderson (2014) call an outsider-insider team. The presence of another researcher in the group and their being used to collaborate with the university also helped build this relationship and accept my necessity to 'record data' and discuss together findings. However, as an internal to the community and a 'known person' I also had to maintain my socially conferred status of PhD researcher, that came together with a load of expectations with regard to my knowledge and expertise.

The process of reflexivity was also enhanced through the continuous dialogue with this research community at the Institute for Transport Studies, the Contested Cities network and the conferences and workshops I attended throughout the PhD. This continuous dialogue with colleagues about this research allowed me to maintain external views and assessment in all phases of the research project, being constantly open to counter-interpretations (Lather 1986). Particularly fruitful was the Pilot Study I organised at ITS and the Writing Group organised by PGR students at ITS with whom I have a constant confrontation on my data analysis and interpretation.

4.2.2. Research methods

Having highlighted the research paradigm of this thesis, action research, and the subsequent research approach, PAR, I now delineate the methods used. As I shown, "PAR is not a *method*. Within PAR experiences, many different methods may be used" (Pain et al. 2012: 2). The choice of specific research

methods has different results depending on the paradigm in which the same method is adopted. As Kesby (2000) stresses:

> "There is little that can really be said about a particular technique independent of the theoretical framework within which it becomes a tool. Methods have a polyvalent quality; techniques with the same formal properties can be deployed by different schools of thought in a variety of ways to produce quite different effects" (423).

This is why the methods chosen were applied in light on the epistemological foundations of action research. In the following sections I explain how I used different methods to gather the data necessary to answer to the research questions (§1.5).

4.2.2.1. Literature review

Literature review is a fundamental method to build research. Critical literature review has been carried out in the first phase of this research and has been the substantial method needed to prepare the ground (§2) and build the resourcefulness framework (§3). Documents have been selected for their academic relevance. After a primary screening using online search tools such as Scopus or Google Scholar, material of higher relevance for the research was catalogued in Mendley, analysed, annotated, and resumed using the Mendley tools. From there with snowballing techniques other material was added, up to convenient saturation of the topic.

4.2.2.2. Participant observation

Participant observation was the first strategy I adopted to enter in contact with the research participants. I used participatory observation in the first phase of both fieldworks in Rio de Janeiro and L'Aquila. Once I accessed the field I assisted all the meetings of the resourcefulness-aligned actors individuated as well as the events and activities organised by them. At the same time I participated in meetings and initiatives of other actors related to the work of the resourcefulness-aligned ones, as well as ensuring time to observe the daily mobility practices in the cities, especially in Rio de Janeiro. This gave me important contextual information.

Differently, however, from the canonical participant observation (Mason 2002), but in accordance with the principles of the PAR approach (§4.1.4), during the meetings of the Forum and of the MYC, I never maintained a fully

passive attitude but I participated, as any other member, to the activities, exposing my opinion and proposing ideas, building a relationship of trust and showing my full support to the agenda of the groups. Participant observations have been carefully recorded taking minutes that have then been transcribed and coded (§4.2.3).

4.2.2.3.   PAR experiences: events and workshops

Once a relationship of trust was built with the resourcefulness-aligned actors by attending their meetings, I worked with them in designing and implementing events they envisioned that became more clearly PAR experiences. In Rio de Janeiro, after having attended several meetings of the Forum, I proposed to them to jointly organise with the Grupo Popular Pesquisa em Ação–People's Group Research in Action (GPPA) of which I was also part[29], an open public debate on the mobility issues in the city. This event held in January 2014, that was video recorded and transcribed, allowed me to collect important insights both on the views of the members of the Forum and on their ability to interact and participate with other groups in the city to envision different transport planning paradigms.

In L'Aquila, once I had attended several meetings of the MYC, in April 2014 I helped them design and implement a series of participatory workshops with local secondary schools that the group was planning before my arrival (§6.2.2.3). These workshops were an important source of data for this research and co-analysed during the focus group. Furthermore, in September 2014 I co-organised with the MYC another workshop open to the public to bring forward the proposals emerged from the schools workshops (§6.2.4.2). Data from this workshop was also collected and analysed in this research. Finally, from October 2014 until January 2016 I accompanied the creation of the Tavolo Permanente della Mobilità - Permanent Mobility Panel (Panel) (§6.2.3) that was proposed by the MYC and implemented as an internal structure of the L'Aquila Council. I attended several meetings of this Panel as a member of the MYC and as an independent researcher which was also recorded and analysed together with the documents produced.

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[29] This is a group of researchers and activists I helped set up in Rio de Janeiro in January 2014 with the aim to produce knowledge in support of the urban social movements active in the city, using a PAR approach (Grupo Popular Pesquisa em Ação 2014a).

4.2.2.4. Semi-structured interviews and focus group

I chose to conduct semi-structured interviews in order to have both the certainty of covering all the themes necessary and the freedom to follow the interviewee with the possibility to divert and explore new insights. Semi-structured interviews, moreover, ensured me to maintain an "interactive, dialogic manner, that require self-disclosure on the part of the researcher" (Lather 1986: 266), and built a real reciprocity with the research participants and the resourcefulness-aligned actors, as suggested by Lather (1986). They allowed me to gather exhaustive data regarding the context of the fieldwork, the conceptualizations that different actors had of the main themes I have been interested in, and their understanding of different events.

Semi-structured interviews have been used in this research in two different settings. In the Rio de Janeiro case study, where I was an outsider, semi-structured interviews allowed me to gain knowledge of the transport issues in place, of the general urban context and of the group involved, quickly establishing a trust relation with the resourcefulness-aligned actors. Interviewees were selected using a snowball sampling, starting with online contact with actors individuated through an online material search as possible resourcefulness-aligned actors (§4.2.2.6). I collected in total eleven interviews among Forum's participants and institutional actors.

In the L'Aquila case study, semi-structured interviews allowed me to reflect with the resourcefulness-aligned actors on the processes initiated during the PAR experiences, and were conducted in June 2015, as in Table 4.2. I used them as a triangulation act to discuss in depth with the members of the group their understanding and conceptualizations as well as the events that occurred. Moreover, I am aware of the necessity to open up to different voices, not just stopping at the participants of the PAR experiences (Nind 2014). For this reason, further than the MYC members, I also interviewed other actors that have been directly or indirectly involved in the processes generated, such as the Mayor, Councillors, and Chief Executive of the local transport planning provider, allowing further triangulation. In L'Aquila interviewees were selected among the people directly involved by the events or among the people more informed about the transport planning processes in the city. Here I collected in total nine interviews. Furthermore, I also I carried out one focus group with the MYC members in May 2014. The explicit objective of this focus group was to triangulate my interpretation of the secondary schools workshops results and build a collective evaluation its outcomes. The focus group only involved members of the MYC, facilitated by

me, taped and transcribed to ensure an in-depth analysis of the themes emerged.

A list of the interviews carried out is provided in the Appendix 1. All interviews were taped, transcribed, and coded (§4.2.3).

4.2.2.5. Original documents review

As Stake (1995) reports, document review is a natural practice in qualitative research that goes hand in hand with interviewing and observing. It provides a further means to gather greater understanding of the case, grasping different information and angles of view. In particular documents might enable the researcher to acknowledge activities or facts that they could not observe directly, which might provide unexpected findings. In any case reviewing documents enables the researcher to corroborate and support existing evidences, as occurred in this research, which enabled a further triangulation of the findings.

In this research plan, policies, newspaper articles, and online material were reviewed in preparation for fieldwork, especially in the Rio de Janeiro case where I was an outsider. Here, preliminary material was fundamental in building the necessary knowledge to meaningfully approach the field and responsibly carrying out the interviews (§4.2.2.4). In reviewing online blogs, websites, and newspapers I was able to identify before the fieldwork the possible resourcefulness-aligned actors I wanted to enter in contact with. For example, through the Internet I was able to contact the members of the group O Metrô que o Rio Precisa - the Metro that Rio Needs (MQRP) that through a snowball process directed me to meet the Forum (§5.2.2). I continued gathering material also during and after the fieldwork phase, to support the findings and build a complete picture of the events I assisted. I particular I focused on official websites from transport authorities and of the groups contacted.

For L'Aquila, original documents produced by local institutional and non-institutional actors, such as the Council, the University, or several grassroots organizations have been fundamental in the interpretation of the post-earthquake crisis and in analysing the strategy of the Council and the reactions in the public domain. Moreover, online material and documents produced by the MYC were used to support the analysis of the data collected by other methods.

4.2.3. Data analysis

I am aware of the difficulties that a PAR approach poses to PhD (Herr and Anderson 2014), for its time requirements and for its not strict focus on producing classic pieces of research. Fully PAR approach based research poses a great challenge in being carried out in the time-span of PhD research. For this reason this research on the side of participated actions together with the participants, focussed additionally on a new body of theory on resourcefulness that, even being tested and discussed with the participants, developed mostly as a part of an original work of the lone researcher, and goes beyond the pure PAR approach. In this a certain detachment from the field was required, to enable the data to speak (Lucas 2013). At the same time the research questions were not integrally designed with the participants, but resonate with their needs, expressed and unexpressed and follow the model proposed by Derickson and Routledge (2014) of resourcefulness triangulation (§4.1.1). The results of the investigation have been, directly or indirectly, able to influence in a bidirectional way, the actions undertaken in the field and the research itself.

In this context, a preliminary analysis of the data has been constructed with the resourcefulness-aligned actors during the various triangulation phases explored in the previous sections. This phase has ensured to build the:

> "Dialogic encounter [...] required [...] if we are to invoke the reflexivity needed to protect research from the researcher's own enthusiasms. Debriefing sessions with participants provide an opportunity to look for exceptions to emerging generalizations. Submitting concepts and explanations to the scrutiny of all those involved sets up the possibility of theoretical exchange — the collaborative theorizing at the heart of research which both advances emancipatory theory and empowers the researched" (Lather 1986: 268-269).

The dialogue with participants on the interpretation of the data not only allows validity (§4.1.4.1), but also is a step necessary to make sure that the research can produce the impacts they planned for. I ensured these moments with interventions during meetings, the focus groups, and the interviews that have worked as debriefing moments.

In parallel with this phase, I started a process of cross-sectional coding (Mason 2002; Ritchie and Lewis 2003) during which I ordered all the material collected, coding it with respect to the resourcefulness themes developed in Table 3.1 and 3.2, and annotating other emerging themes, following the suggestions by Lather (1986). I used what Mason (2002) calls interpretive and reflexive coding that is the most appropriate for a research approach

calling for reflexivity. This first coding permitted the preparation of the analytical stage that, as Lucas (2013) recommends, should "move beyond simple descriptions of what has been observed and recorded to explore deeper underlying trends within the data" (10). This first coding was followed by a more detailed one, with which I catalogued the material under the research question themes and other themes emerging from the first coding. NVIVO has been used to facilitate the coding process.

Chapter 5: Critically exploring resourcefulness in practice: the Fórum Permanente da Mobilidade Urbana na Região Metropolitana do Rio de Janeiro.

The purpose of this chapter is to address and fulfil O4, critically identify the relative merits and drawbacks of applying a resourcefulness-based worldview to transport planning practice in a crisis context. This is achieved through reporting the findings of action research work with the Fórum Permanente da Mobilidade Urbana na Região Metropolitana do Rio de Janeiro - the Permanent Urban Mobility Forum of the metropolitan region of Rio de Janeiro (Forum). As introduced (§1.4.1, 4.2), Rio de Janeiro was, at the time of this study, experiencing a significant mobility crisis. The Forum was the selected organisation from the range of urban social movements operating within this crisis context (§1.4.1), as a resourcefulness-aligned actor (§3.6).

This chapter is divided into two parts. In the first I present the context of Rio de Janeiro and its mobility crisis. In the second I present and analyse the Forum as resourcefulness-aligned actor. Finally, I surmise and conclude. The empirical data presented in this chapter will converge into Chapter 7, where it is discussed in light of the resourcefulness framework proposed in Chapter 3.

Figure 5.1: Rio de Janeiro and its metropolitan region (Fundação CIDE nd: np)

5.1. The context

Below is an overview of the metropolitan region of Rio de Janeiro, followed by an examination of its transport system and its mobility crisis.

5.1.1. Rio de Janeiro and its metropolitan region

The city of Rio de Janeiro is the capital of the State of Rio de Janeiro (in brown in Figure 5.1) and the core of the Rio de Janeiro metropolitan region, visible in Figure 5.1, whose extension is of 4,539.8 Km2 with over 12 million inhabitants[30]. The city and the Region represent, nowadays, one of the most interesting cases in Latin America of fast regeneration and infrastructural development. After a period of decline in the 1980s, since the 2000s it entered a new period of expansion and economic growth connected to industry (specifically connected to oil extraction and refining) and logistic services (Palladini 2011). This growth has been boosted by the investment made in co-ordination with several mega-events, among which have been the 2014 FIFA World Cup and 2016 Olympic Games (Sistema FIRJAN 2012, 2014). Specifically, the city has faced deep and rapid transformations in its landscape and main infrastructures, with an overarching vision of becoming a competitive, world-leading attraction for investments and tourism, promoting its fame of Marvellous City (Rio 2016 2014). The city has attracted national and international capital, especially thanks to the promotion of several Public-Private Partnerships (PPP) and the adoption of a strategic planning strategy inspired by the Barcelona model (Vainer 2013; González 2011; Pontes 2013). Thanks to an "extremely dynamic context (economic growth, pre-salt offshore oilfields discoveries, low unemployment, and mega-events)" (OGI – SAGE/COPPE/UFRJ Research Team 2014: 18), Rio de Janeiro has been expected to become a sustainable and competitive modern city. In particular, in view of these mega-events, the city has undertaken major changes in its transport infrastructure. In the official discourse, these are part of a Program for Sustainability and Environment aiming at guaranteeing low environmental impacts and conservation of the natural

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[30] The metropolitan region is the administrative union of various Councils within the State of Rio de Janeiro that sourround the area of the city Council of Rio de Janeiro. Despite the fact that the Forum considers the transport issues in the whole Region, in this chapter I mainly focus on transport planning within the city of Rio de Janeiro where it is not specified.

patrimony of the city, while attention is given to the provision of public services and facilities (Rio 2016 2014). Public investments also aimed at increasing public security, for example with the controversial Unity of Pacification Police project, which since 2008 aimed at installing special military-police station in favelas (Freeman 2012; Steinbrink 2014).

According to the literature, however, the benefits of this rapid economic development, that can be inscribed in an overarching project of neoliberal urbanism (González 2011) and urban entrepreneurship (Harvey 1989a, 2001; Hall 1992, 2006), have been unequally distributed among the population, especially in the aftermath of the mega-events. Rio de Janeiro has a peculiar demographic and social characterization: the city hosts the largest *favelas* population in Brazil (1.3 million people) and its population landscape still projects patterns of profound inequality between social classes (Souza 2008). Moreover, it is a city that experiences important phenomena of socio-spatial fragmentation (Souza 1999, 2008), with exceptional levels of urban poverty and injustice (Pontes 2013; Alencar 2013) that resemble the patterns of global social crisis (§1.1). The process of commodification of the public space through large privatization and PPP investment in the whole metropolitan region has exacerbated these phenomena (Freeman 2012; Pires 2013). Furthermore, it has additionally generated patterns of periferization and reduced access to public infrastructures of the urban poor that has extended geographical exclusion and loss of spatial capital (Souza 1999).

Various authors (Arantes et al. 2000; Pontes 2013; Abreu 2013; Cava 2013b; Vainer 2013; Legroux 2014) stress how these phenomena are generated as a consequence of the strong relationships between the State, capital forces, and the real-estate in the production of a segregating urban space. These phenomena are comprised by a spatial division among social groups through residential and social segregation, informality (Perlman 1979, 2010), and important phenomena of urban violence (Souza 2005, 2008). Specifically, as Souza (2005, 2008) reports, fear and violence negatively impact on the ability of urban residents to express their citizenship and participate in public life, being often unable to access physically and politically the public space. The ability to participate in public life, for Vainer (2000b, 2013), has been also generally impacted by the new regulation implemented for the mega-events, which has required the introduction of a state of emergency. With this normal democratic structures have suffered (Gaffney 2010), creating a 'city of exception' (Vainer 2013). Similarly, the use of PPPs might have impacted

the normal democratic decision-making, according to the analysis provided by Purcell (2006).

Together with these effects, the literature stresses the need to take into account the overall environmental impacts paid to promote the city at a global level, starting from the loss of traditional economic forms in rural areas (Souza 1999; Comissão de Defesa dos Direitos Humanos e Cidadania da Alerj 2013). These generate an important environmental crisis in the region that has however received little attention from either the institutions or the literature.

5.1.2.   Rio de Janeiro transport system

The main institutional transport planning actors in the metropolitan region of Rio de Janeiro are the State and the city Councils. The Federal State intervenes often as founding body. The State of Rio de Janeiro is responsible for the regulation of trains, metro, boats, vans, and inter-municipal bus services. The single city Councils are responsible for the regulation of municipal vans and bus services (Matela 2014). This organization, for some authors, generates problems of policy integration, especially at the metropolitan level (Rodrigues 2014) (§5.1.3).

The overall mobility plan for the metropolitan region is written on the Plano Diretor de Transporte Urbano - Master Plan for Urban Transport (PDTU) that is released every ten years. At the time of my fieldwork, the available study was from 2003, and the expected 2013 study was still unavailable. The interventions for the mega-events have been proposed outside of this plan, integrated into a new PDTU that was produced in December 2015.

Since 2010s Rio de Janeiro has undertaken major investments to improve its transport infrastructure (urban mobility, airport, and port), amounting at US$12.1 billion for the period 2012-2014 (Sistema FIRJAN 2012). Specifically, the Transport Planning Strategy approved within the Olympic bid aimed to implement a High Performance Transport Ring connecting all the Olympic zones (Rio 2016 2009; Silva and Torres 2013). In particular, as visible in Figure 5.2, which depicts the public transport system in 2016, main infrastructural work have been implemented at the metropolitan level, and integrated with the main tourists and Olympic attractions (labelled in brown): the Metro Line 4, the 4 new BRT lines, the renovation of the rail system, the development of the International Airport and the Port, the expansion of the road network, the construction of three new cableways, and a light rail vehicle. These new infrastructures complement the existing transport system

composed of 2 Metro lines, a network of suburban trains, and numerous bus services. With the new investments, high importance was given to the improvement of public transport facilities that represent the main transport means, in a city in which the majority of the population (75% in 2009) relies on public transport, mostly on city-busses with the general demand for public transport steadily increasing (Secretaria de Estado de Transportes 2014).
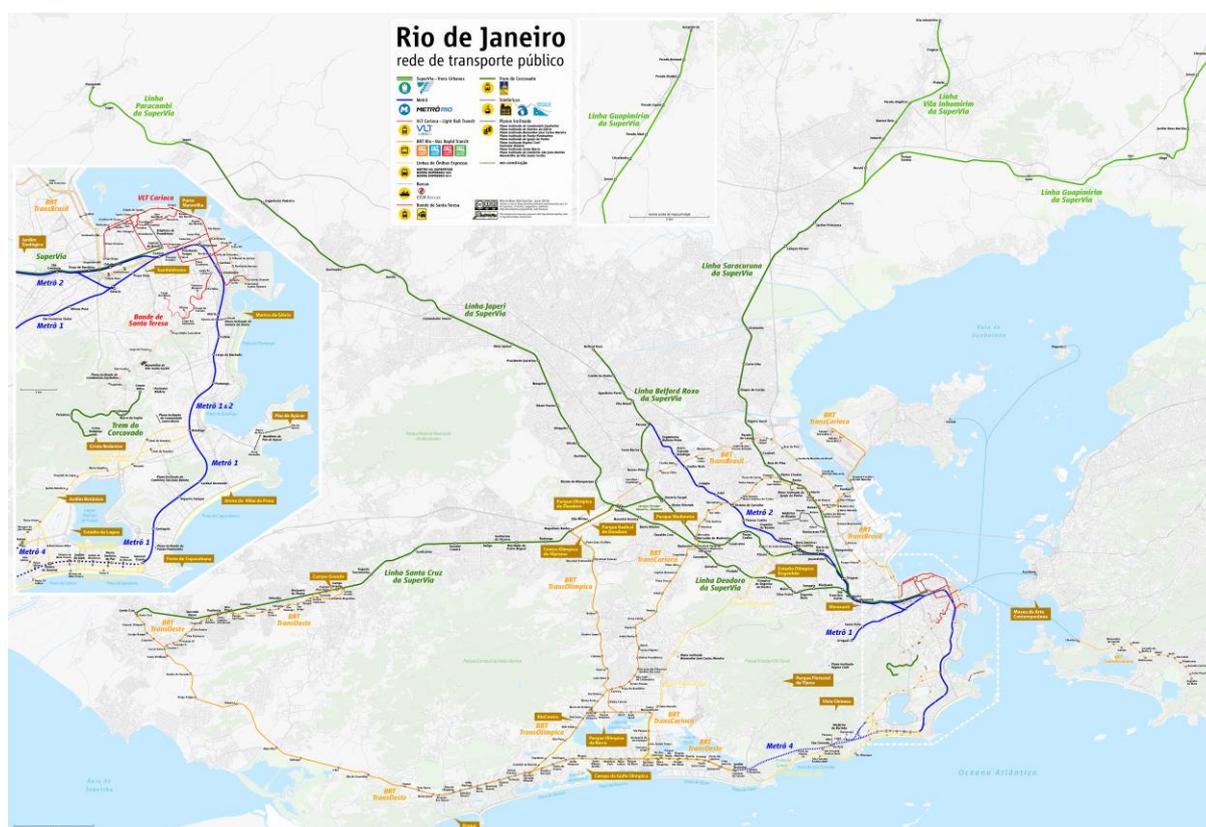
Figure 5.2: The State of Rio de Janeiro and its public transport system (Dörrbecker 2016: np)

5.1.2.1. Car mobility

The use of individual cars has consolidated in the Region after the substitution of the rail system with buses, in the 1920s. This was a consequence of a period of great transformation in which a convergence of economic, political, and urban processes favoured the emergence of car mobility (Rolnik and Klintovitz 2011; Costa et al. 2013). In line with a national trend, Rio de Janeiro experienced an important increase in car ownership over the last decade: the amount of cars has augmented by 66% between 2001 and 2011 (Rodrigues 2014). Despite this growth, car ownership is still mainly concentrated among the higher income groups. These tend to live in the areas better served by public transportation (Rodrigues 2014). The

growth is, as Ludd (2005) stresses, in line with the national widespread 'cult of the auto-mobile' resulting from the "pact between the Brazilian elites and the big automobile corporations" (11). The car manufacturing industry is heavily protected and financed by the federal government (Ludd 2005). Part of this pact is a trend that can be described according to Hickman and Banister (2014) as government's support for car industry in order to allow for economic growth, which will be connected to increased direct and indirect work-force demand. In a public interview Maricato, famous Brazilian urban planner and academic, highlights that in Brazil the car is at the heart of the whole industrial economy of the region, based on oil and on production of urban infrastructures: "the car is at the core of a huge network of interests, which are among the largest in the capitalist market" (Mano 2011: np).

In line with these views, data shows that the city is undertaking important investments for car mobility. In particular in the State on Rio de Janeiro four new car manufacturing industries (Renault-Nissan, Man, Peugeot-Citroen) have received 15% of the overall public and private investments in the State between 2012-2014 (SistemaFIRJAN 2012). Moreover, important road infrastructures have been financed within the Olympic bid (Rio 2016 2009). There are no policies in place to reduce car mobility, whilst incentives are available for purchasing cars, including the very low petrol price (Rio 2016 2009).

Kleiman (2001) stresses that the configuration of the road system constraints and shapes the urban development of Rio de Janeiro, and it is in its historic process preferred over rail transport. Road infrastructure investments have been used to support all urban development processes undertaken since the 1920s (Kleiman 2001). For Ludd (2005), however, the promotion of a highly car-based culture is also connected to the increase of social inequality and urban violence.

5.1.2.2. City buses

Buses are the most used public transport service in the region, which in 2015 accounted for 467 bus services. Buses in Rio de Janeiro are run by four main private consortia that have each been assigned a specific part of the metropolitan region. These consortia were created in the 1960s after the incorporation of different providers. This incorporation was guided by the public regulatory system that considered a bigger monopoly easier to control (Rebelo 1999; Peci and Cavalcanti 2004). The consortia operate under a State regulatory system that defines the tariff in the concession contracts.

The tariff is readjusted every year according with the inflation rate. The evolution of the tariff is shown in Figure 5.3 together with the pattern of decreasing demand for buses. Despite remaining the most popular transport mode, the advance of informal transport and the large increase in individual transport has led over time to constant declines in demand for bus companies that, however, remain highly influential (Matela 2014).

Figure 5.3: Evolution of public transport demand and price of bus ticket in Rio de Janeiro (McDowell 2013: 8)

According to the literature, these consortia have concentrated political and economic power that, together with their ability to implement or suppress new bus services, makes them effectively highly influential planning actors (Peci and Cavalcanti 2004; Kleiman 2010; Matela 2014; Rodrigues and Bastos 2015). According to Matela (2014), they are able to influence the State at the legislative, executive, and judiciary level, imposing on the State a logic in which bus services are run as a business aimed at private market capital.

Since 2011 the State introduced the Bus Rapid System (BRS) constituted of preferential corridors for buses in the South zone and a system of organization of bus stops according with their destination in the whole metropolitan region (Rodrigues and Bastos 2015). In the same year some bus services in the south zone were interrupted. These were the first steps

for a major reorganization that occurred in 2015 when 10% of bus services connecting the North and South zones were interrupted or redirected to improve traffic and avoid overlapping of lines, affecting thousands of passengers. In the literature there is a record of an important number of complaints from bus users from the North and West zones (Rodrigues 2016), that highlights how this measure had an important impact in increasing the socio-spatial segregation in the city (§5.1.1). Specifically the interruption regards to the services connecting the wealthier neighbourhoods, with the higher number of car per inhabitants (in the area lives 9% of the population which contains 13% of car-owners families) to the rest of the city.

5.1.2.3. Bus Rapid Transit

Rio de Janeiro has recently implemented four new Bus Rapid Transit (BRT) corridors, visible in Figure 5.2. In line with international recommendations, and also as best practice in the Olympic Games transportation policies (Legroux 2013), BRT has been the preferred infrastructure to guarantee capacity and low cost solution in sight of the mega-events. The BRT serves an area of 150 Km. The BRT have substituted previous bus lines and are served now by feeder lines.

Several authors have however criticised this choice over improving the already existing train lines. Specifically, BRT provide a lower capacity and might be connected to land-speculation patterns (Damasio 2012; Legroux 2013; Kleiman 2014). The construction of BRT lanes has also allowed for increasing road space and lanes for cars (Legroux 2014). Several criticisms are also posed to the high number of relocations that have been necessary for the implementation of the corridors, which have often been performed without prior warning and also assumed violent connotations (Pontes 2013; Comitê Popular da Copa e Olimpíadas do Rio de Janeiro 2012-2016; Legroux 2013, 2014, 2016) (§5.1.3). Finally, Matela (2014) expressed concerns with the lack of fiscalization of the consortium that operates the BRT, which was formed by the existing bus consortia that increases power in public decisions on transportation (§5.1.2.2).

5.1.2.4. Metro and trains

Rio de Janeiro has two metro lines, Line 1 and Line 2 that, as shown in Figure 5.2 and 5.5, follow the coast line and connect the North and South zones. The two lines, that in the original plan (visible on the right hand side of

Figure 5.5), were independent, are joined and continue as a unique line after the city centre stops (left hand side of Figure 5.5). In 2015 Line 4 was implemented, as extension toward the South zone of Line 1. The Metro, that mainly serves the city centre and the South zone, had an extension of 57 Km. The city also has a network of suburban trains called Supervia, that mainly provide a West-East link, with 9 different lines that extend for 270 Km.

Both the metro and the Supervia suffer overcrowding at peak times and low reliability (Fonseca 2012). This situation is worse for the Metro that, due to the convergence of Line 1, 2 and 4 into one corridor, suffers also with train congestion problems that often generate delays in the service.

5.1.2.5. Cable-cars

Cable-cars are used in Rio de Janeiro to serve favelas. The first was implemented in 2011 and serves the agglomerate of favelas called Complexo do Alemão, which accounts for a population of 69,000. Another was implemented in 2012 in the favela Morro da Providência, but started functioning only in 2014 (Johnson 2014).

These interventions, aimed at increasing accessibility of residents, have shown, for residents, criticalities in meeting the basic needs of mobility, social integration, and improving their quality of life, as was suggested in the original project (Freitas 2013). According to data from 2011, the cable-car that was designed with a capacity of 30,000 passengers per day, receives a demand of only 12,000 passengers per day, of which an higher number are tourists (this is despite the fact that residents have the right to two free rides per day) (Freitas 2013).

5.1.3.   The mobility crisis

As shown, mobility in the metropolitan region of Rio de Janeiro relies mainly on road transport, specifically on buses/BRTs and private cars. Road transport is therefore where the core of the investment has been concentrated since the 1920s. In this system, the citizen dissatisfaction with transportation is mainly connected with congestion, security, and cost of public transport (Cava 2013b). The literature shows also the important social impacts of the mobility model adopted. Specifically, referring to the classification of social impact proposed by Jones and Lucas (2012) there can be individuated impacts in terms of accessibility, health-related, financial-related, and community-related impacts (§1.2.1).

In terms of accessibility, the differential mobilities patterns in the city determine sharp differences across social groups, at all levels of micro, meso, and strategic accessibility (Jones and Lucas 2012). In a city of sharp differentiation of spatial distribution of residences, services, amenities, workplaces, and infrastructures (§5.1.1), Pires (2013) speaks of excluding mobility. Low-income groups generally find it difficult to access cars, which is the mode for which the transport system is mainly designed for and that guarantees easier access. Many of them are also deprived of access to collective transport (Avila 2006). At the meso level, whilst a percentage of the low-income group walk to destinations, this is not always applicable given the varied level of connectivity of the network. At the strategic level, the region suffers from generalised issues of accessibility connected to the socio-spatial fragmentation and to the patterns of distribution of residential locations.

In terms of movements and activities, there are important patterns of differential mobility (Vasconcellos et al. 2011; Carvalho and Pereira 2012; Pereira and Schwanen 2013; Pero and Mihessen 2013). For example, commuting requires an average of 55 min by public transportation against 34 min by private vehicle. This is due to the large commuting distances, poor infrastructures, and high congestion (caused by the high number of private vehicles and lack of segregated lanes for buses). In 2008 a survey showed that people in the region spend 22% of their daily time on transportation (86 min per day) (IBGE 2008).

In terms of health-related impacts, the rates of car incidents and transport related deaths are very high (Costa et al. 2013; Maricato 2015).

In terms of financial impacts, data shows high transport poverty[31] in the region (Pero and Mihessen 2013). Whilst the quality of public transport is below the expected standards, with very poor intermodal integration, families spend a significant portion of their incomes on transportation (Rodrigues 2014). This is dramatic for lower income groups. For example, at the end of the 2010, families in Rio de Janeiro were spending 19.8% of their income on transportation, whilst data from 2003 showed that 35% of population cannot afford to pay a bus fare (Gomide 2003).

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[31] I refer to the definition of transport poverty provided by Lucas et al. (2016), in which transport poverty is the result of the overarching combination of transport affordability, mobility and accessibility poverty, and exposure to transport externalities (§1.2).
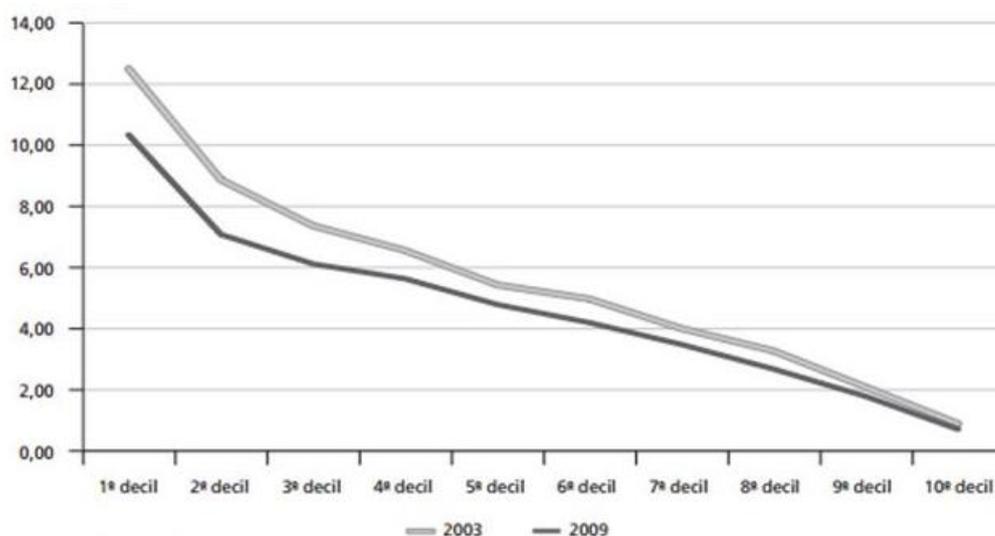
Figure 5.4: Percentage of individual income spent in public transportation between 2003 and 2009 (Cravalho and Pereira 2012: 16)

The percentage (from 0 to 14) is given for deciles (*decil*) of individual income. The 1st decile is the lower income

Finally, community-related impacts are specifically sharp as a consequence of the implementation of new infrastructures that often generate segregation processes and forced residential relocation (§5.1.2.3, 5.1.3). For example, the implementation of the BRTs has required the relocation of a total of 77,206 people (Comitê Popular da Copa e Olimpíadas do Rio de Janeiro 2015; Prefeitura do Rio 2015) from poor settlements (most of which legally set up (Prefeitura do Rio 2015)) (Comitê Popular da Copa e Olimpíadas do Rio de Janeiro 2012-2015; IPPUR/UFRJ 2012; Legroux 2013, 2014; Santos Junior et al. 2015). For Pires (2013), since 2008, public policies on housing, security, and public transport have been part of a process of commodification of the public space that resulted in important phenomena of gentrification and consequent 'white' removals[32] (Assis 2014; González 2016). Forced to relocate, lower income groups have experienced increased accessibility issues and decreasing social capital. To these effects needs to be included the overall social consequences of low mobility for lower income groups.

All these aspects contribute to build what the literature calls an urban mobility crisis in the metropolitan area of Rio de Janeiro (Costa et al. 2013; Rodrigues 2014; Legroux 2014; Maricato 2015). This crisis, for Beyer (2011) "leads to a growing physical fragmentation (by saturation) and social (by the unequal distribution of accessibility)" (8), generating sharp distributional

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[32] This is a form of not-violent or soft removals consequence of the prices increase in gentrified regions.

effects and social justice issues (Jones and Lucas 2012) and social vulnerability (Pontes 2013).

5.1.3.1. The mobility crisis: segregation and spatial inequality

Rodrigues (2014) stresses the importance of considering as part of the mobility crisis the effects of the spatial and social organization of the metropolis. Issues are present both in terms of available infrastructures and in terms of management of the existing ones (Pontes 2013), together with the lack of planning and investments in public transportation, especially in a context of quickly expanding peripheries (Rodrigues 2014). Specifically, in the region the evolution of the transport network has determined a distinction among what Pontes (2013) calls, a "city of network" and a "city outside the network" (np). The former, mostly geographically located in the Centre, the South zone, Barra da Tijuca e Recreio dos Bandeirantes is where the wealth is located and receives the infrastructural investments. The latter, where the urban poor live, remains disconnected from the transport network.

This intensification of urban segregation, based on wealth concentration in specific localities, is intertwined with intense processes of real estate speculation. This has favoured the development of the South zone for example in the Barra da Tijuca neighbourhood, connected to the State investments for the construction of main motorways (Autoestrada Lagoa-Barra) (Pontes 2013: np). The unequal spatial configuration of transport investments, for Pontes (2013), is a sign of the "subordination of investments to commercial interests of some economic agents" (np). In this regard, several authors (Vasconcellos 2001; Kleiman 2010; Abreu 2013; Pontes 2013; Rodrigues 2014) highlight the long history of lobbying by higher income groups in the development of specific transport infrastructures in Brazil.

For those reasons, for Pontes (2013), "both mobility and accessibility are related to class conditions" (np). The low mobility of lower income groups, and thus their low access to work and social opportunities, is consequence not only of a low purchasing power and a high public transport tariff, but also of unequal access to transport means. Inhabitants of the farthest areas are also directly disadvantaged in the job market, which often constrains offers to residents within a certain mileage (Pires 2013). Moreover, once a job is obtained, they tend to experience a detriment of social life outside of work time, reducing their life to a several hour daily journey and continuous

dislocation from home to work, from work to home (Pires 2013). As such there is a direct correlation between urban segregation, social exclusion, and poverty. As an effect of segregation, poor groups remain in areas of lower estate value, which have fewer services and opportunities, alongside higher urban violence, creating effectively an absence of citizenship (Maricato 2015). Despite poverty and social exclusions being two different concepts (§1.2.1), in this context being poor results also in being socially excluded.

5.1.4. An answer to the crises: street mobilizations and radical planning

Rio de Janeiro and its metropolitan region are crossed by a mobility crisis typical for a metropolis in Latin America that strongly impacts on the social and environmental crises of the city (§5.1.1). The institutional actors have attempted to address the crisis by imputing important investment in new mobility infrastructures since 2010. However, in June 2013, a series of protests against the public transport fare increase started (Cava 2013a; Fernandes and De Freitas Roseno 2013; Nobre 2013; Judensnaider et al. 2013). This occurred after the fare was re-adjusted and increased by 7%. The population strongly opposed this increase in protests that reached an unexpected magnitude, bringing up to a million people to the streets of Rio de Janeiro and other Brazilian cities. People protested for cheaper and higher quality public transport, and at the same time criticized the investments planned for the mega-events and the non-transparent management of public transport. As effect of the protests the ticket increase was revoked in July 2013.

The literature considers among the reasons for the explosion of street protests the malfunctioning of the representative democratic system in Brazil, but also the existence of a variety of urban social movements able to organise and plan the protests (Harvey et al. 2012; Randoph 2014; Zibechi 2014). They inscribe both in the worldwide tradition of popular movements against highway constructions (Zibechi 2012) and also in the long history in claiming for participation in Brazil, a country that has in its history built important examples of participatory planning strategies such as the participatory budgeting or the proposal for an urban reform (Souza 2001b). Among the others, the Movimento Passe Livre - Free Pass Movement

(MPL)[33] has had an important role since the 2000s' in bringing transport issues into the public domain and igniting the street protests.

According to what was theorised by Vasconcellos (2001), these urban social movements combined different strategies besides protesting, producing knowledge and alternatives, assuming often the role of radical planners (§2.1.10) or of knowledge-oriented actors (Verlinghieri and Venturini forthcoming). Most expressed clear elements of resourcefulness-aligned actors, intervening in a crisis situation to challenge the patterns of resource allocation and investments plans as well as producing new forms of material and intellectual resources.

In the rest of this chapter I focus on one specific among these urban social movements, the Forum. This is a forum that unites a variety of actors active in transportation themes in Rio de Janeiro. Despite not being directly involved in the 2013 mobilizations as a whole, the Forum, as a network of different actors with their practices and analysis symbolizes the variety of resourcefulness-aligned visions and practices in Rio de Janeiro.

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[33] At the Brazilian level the MPL has been campaigning in Brazil since 2003 for zero fare transport. It is a popular movement, mainly composed of students that aim at addressing transport inequality as a symbolic struggle against social, racial, and sexual segregation in Brazilian cities. It makes an explicit connection between the right to mobility and the right to the city (Tarifa Zero 2011: np). In the specific context of Rio de Janeiro, the creation of the MPL is only in July 2013, while in all the others Brazilian cities it has been the main actor behind the June 2013 uprise. In Rio de Janeiro its role has been taken by other groups, while the MPL, with a low presence, started existing only in December 2013. The main group that promoted the Rio de Janeiro's struggle for better public transport condition has been the Forum de Luta Contra o Aumento da Passagem -Forum for Struggle against the Increase of Public Transport Fare (Venturini 2016; Verlinghieri and Venturini forthcoming).

Figure 5.5: Critiques to the Line 4 (MQRP 2011: np)
On the left the current status of the metro, before the implementation of Line 4.
On the right the Line 1, 2 and 4 as originally planned

5.2. The Forum

In this second part of the chapter I present the Forum. Firstly, I consider how the Forum's practices and visions make it a resourcefulness-aligned actor. Secondly, I consider the Forum's analysis of the mobility crisis in Rio de Janeiro showing how it is caused by a lack of long-term and coordinated planning, that results in misplaced investments, and of a model of planning based on a market-oriented rationality. Thirdly, I consider the Forum's strategies to implement transformation in transport planning, based on knowledge and participation. Fourthly, I analyse the approach that the Forum takes on the question of spatial injustice in the Rio de Janeiro metropolitan region. I specifically focus on its advocating for the right to ecological and just mobility.

5.2.1. The Forum as resourcefulness-aligned actor?

The Forum is composed by transport engineers, representatives of Residents' Associations and Federations, Professional Councils and Service Clubs, Unions, various institutions, NGOs, and citizens that weekly discuss mobility issues within the Rio de Janeiro metropolitan region. The Forum was established in 2011 within the Rio de Janeiro Engineering Club as a result of the debates held in the Transport and Logistic Division (TLD) of the Club under the assumption that "society is willing to propose new directions for transport and mobility in Rio de Janeiro" (Clube de Engenharia 2014: np). According to Felipe, one of the engineer founders of the Forum I interviewed, the TLD engineers realised at a certain stage that even though they were having regular meetings for more than a year, there were no tangible results. In his own words: "here we have meetings, people come, and every time we improve [our ideas], but we do not produce anything beyond the meetings themselves and the self-knowledge".

The engineers decided to contact the Federação das Associações de Moradores do Estado do Rio de Janeiro - Federation of Residents' Associations of Rio de Janeiro State (FAMERJ) in order to have a better idea of "what the population needs", as Felipe states, and as a result they founded the Forum. As such, the Forum is a structure created from the will of engineers to open up their horizons towards the construction of solutions to

the mobility crisis in the region (§1.4.1, 5.1.3) with the contribution of popular knowledges and in direct contact with the population affected, towards "a democratic and participatory transport politics" (Fórum Permanente da Mobilidade Urbana do Rio de Janeiro nd: np). As Felipe remembers, it is this direct contact that allowed a new approach to emerge:

> "The Forum was created because we had only technical experts and discussing only between experts produces nothing. Now, when you have the participation of society, of social movements, it adds a value".

The Forum has been founded seeking collaboration between engineers and social actors to produce new answers to the mobility crisis. The Forum lacks a formal structure and is managed by two coordinators, one from the TLD and one from FAMERJ. In 2014 it counted more than 300 members in a network of associations, NGOs, and urban social movements. They meet weekly "to discuss and listen to the civil society on issues of mobility and its modes, in addition to developing diagnostic and technical discussions on public policy in this sector" (Fonseca 2016). In this way the Forum aims to provide information and research instruments to community groups, urban social movements, and disadvantaged groups to understand mobility issues or to facilitate their actions aimed at achieving a better and more just transport system. In its manifest the Forum aims to be:

> "Committed to society, to fight for the guarantee of the Article5, XV of the Constitution: 'movement within the national territory in time of peace is free, and any person, under the law, can enter it, remain or leave it with his/her assets'" (Fórum Permanente da Mobilidade Urbana 2011: np).

The Forum acts in the transport planning arena outside of formal institutional spaces, in direct contact with civic society, and with a focus on popular knowledge and participation, characteristics in line with the idea of resourcefulness-aligned actors (§3.6). This makes it likely that the Forum can provide a contribution towards understanding how a resourcefulness-based worldview for transport planning can be achieved.

Before considering in detail the Forum's practices and vision, in the next section I consider the process of internal deliberation by the Forum that needs taking into account to understand the positions and actions of the group.

5.2.1.1. The Forum as a network of different actors

The Forum is a network of different actors that pursue a common goal, but have different views. The members of the Forum work voluntarily on the mobilities issues they are passionate with and often pay the risk of being partisans also within their jobs. In the Forum the agendas tend to be flexible, adapting to the dynamics of events and to the range of subjects covered by the actors involved[34]. Some of the members concentrate on studying and analysing the failures and issues in specific modes of transport or on specific policies. It goes beyond the scope of this thesis to look at the micro-dynamics and micro-politics within the Forum (§8.5), but I am aware of the importance of taking into account the personal dynamics (Tewdwr-Jones 2002) that effectively form the Forum as a complex, stratified, and dynamic structure.

For example McDowell is a member of the Forum who strongly advocates for investments on Line 2 and is a Brazil-famous transport planner involved in the construction of the first Metro infrastructures. He openly assumes a role of equity planner (Metzger 1996) whilst working within the government agencies. In his interview, he highlights his role as actor internal to the institutional planning processes (Sager 2016), in having being able to reshape, in the 1970s, the politics of mobility while being "respected" by the public authority. He conducted various interventions aimed to "give mobility to that part of the population that didn't have it" and to "redistribute income" through free or low fares for low-income communities or investing in the development of the North zone. Once he finished his contract with the public sector, he continued working as consultant and as member of the Forum, producing important documents, intervening in public debates, and supporting several initiatives. McDowell is an example of the importance of the individual role in the planning system, as stressed in the literature, especially concerning communicative and postmodern planning (Tewdwr-Jones 2002). This role determines also the role of each individual within the Forum: depending on the position in the planning system, of internal or external (Sager 2016) (§2.1.10), each of the members pursues its cause, working and reaching with different actors, that then contributes more to the

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[34] For example one interviewee, coordinator of the Forum for several years, has been suspended from his job at the Metro "because of militancy", or Felipe who is unable to obtain a PhD for his position on the Metro project. Also McDowell, despite his fame, reports to have problems in making public his critical analysis of the politics of mobility.

general goals of the Forum. In this process, each of the planners speaks as the Forum but is not the Forum's representative.

Another engineer member of the Forum, Thiago, for example, produced an alternative plan for the Metro system in which the use of tunnels in the mountain would make it possible to extend the network with relatively low impacts, reducing the costs on implementation. He is a partisan of his work that presents to various meetings and joins other struggles to obtain support. His work recalls strongly what Davidoff (1965) defines as advocacy planning. In his interview he explains his support of the Grupo em defesa da Praça Nossa Senhora da Paz – Advocacy Group of the Praça Nossa Senhora da Paz, with whom he mobilised to oppose the plan for the Metro station in the Praça Nossa Senhora da Paz[35]. This plan, according to the residents, would have compromised the square as a meeting and leisure space (Bastos and Magalhaes 2013). The members of the group came to the Forum seeking technical support and Thiago, as a geologist, helped them in building an alternative construction plan that was presented to the Tribunal of Justice. Under the pressure created, the project was partially modified to accommodate the needs of residents. In exchange with this technical support Thiago also gains support and strength for his work in defence of a different idea of planning for the Metro.

McDowell and Thiago are only two examples of the work that each of the members of the Forum carries on in the metropolitan region, building alliances with residents, associations, and organizations. The Forum is not a monolithic entity, but a network of individuals and groups all working, as reported in the Forum's Manifesto (Fórum Permanente da Mobilidade Urbana 2011) in the attempt to guarantee the right to mobility in the Rio de Janeiro metropolitan region[36]. As I witnessed, members of the Forum integrate each other, support and interrelate building a network of intentionalities under a common vision. The single activities of each of the members converge and are discussed at the weekly Forum meetings where each planner reports and obtains support. The meetings have an audience

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[35] The Grupo em defesa da Praça Nossa Senhora da Paz is a group of citizens of the neighbourhood Ipanema created to oppose the construction of a new Metro Station within the central square. They reached over 14,000 residents with a petition to protect the trees in the square (Araujo 2012). In order to support their request they developed a public questionnaire and alternative plan for the Metro station. I interviewed 3 members of this group.

[36] For a detailed analysis on the way the Forum uses the concept of the right to mobility see Verlinghieri and Venturini (forthcoming).

that varies between the 10 and the 50 people depending on the topic, which is publicised a week in advance. Clearly this *capillarity* of fronts of action requires high commitment and resources from the Forum (§5.2.3, 7.3.2.2). It might so challenge, on a long run, the ability of the Forum to fully impact on the politics of mobility. For example, Felipe reported to me several times the lack of resources to finalise research projects started by the Forum (§5.2.4.2).

Both the analysis of the mobility crisis (§5.2.2) and the specific positions are defined by the Forum through a process of internal deliberation. In this process the members of the Forum aim at maintaining a continuous dialogue between an expertise/technical core, that bounds to its instrumental rationality and that uses typical classical rational planning tools, and a dialogic approach in which the outcome of a classical rational planning decision-making process are evaluated through communication and exchange (§2.1.8, 7.3.3).

The process of exchange is devoted both to reinforce the position taken collecting more evidence and also to increase the support for that position, reaching out to other actors. As Felipe told me:

> "Everything that is decided [in the Forum], is decided this way: we promote a study, someone sets out to do it, and we discuss it internally. Then we broaden the discussion, and as enlargement of the discussion, we use the Club [of Engineering], which is an entity founded in 1880. It took part in several movements in Brazil, with firm positions [...] and then when it supports our position, that becomes its position, we gain force".

The Forum developed its position on the different issues through data collection, best practice research, and utilizing the expertise of its members and of the people from its network. Direct example of that is the way the Forum builds its position in support of the residents of the favela Rocinha opposing the construction of the cable-car (§5.1.2.5, 5.2.3.2). Felipe in the interview stresses how this support has been given after one member of the Forum had carried out an evaluation of cost-benefits of the intervention, and presented to the Forum his views on the unfeasibility of the cable-car to the Forum and the unfeasibility of the government proposal. This initial position was supported and discussed in an open debate organised by the Forum in which residents of a favela provided with a cable-car (the Complexo do Alemão) (§5.1.2.5) reported their negative experience (Freitas 2013). This is a main strategy of the Forum: once a mobility issue is acknowledged, thanks to the personal involvement of one member or because contacted by a

citizens' group, the Forum firstly carries out a primary internal research using its expertise; secondly, it opens the debate to other point of views; finally, it produces a technical report to be facilitate the achievement of their goals.

5.2.2.   The Forum analysis of the mobility crisis

As both the documentation produced by the Forum and the Forum members whom I interviewed stressed, the Forum was created under the perceived need to deal with the pressing mobility crisis in the metropolitan region of Rio de Janeiro. In its analysis of the current status:

> "The metropolitan region is experiencing a major crisis […] as the main [transport] modes are responsible for gradual increases in travel time over the years, vertiginous increases in the cost of tickets, great transport difficulties in the morning, accessibility barriers, shameful gratuities to be given to operators being imposed by law, and lack of preparation in the administration of Vale Transporte and Bilhete Unico[37]" (Fórum Permanente da Mobilidade Urbana 2011: np).

The Forum's description of the crisis resonates with the literature (§5.1.3) in which the mobility crisis' main symptoms are considered to be high travel costs and journey time, and a generalised lack of accessibility. The Forum attributes this crisis to different factors.

Firstly, for the Forum, the mobility crisis is generated by what it refers to as 'lack of planning'. The Forum observes how most of the interventions are based on "inconsistent projects without sufficient detail, without a sufficient long-term planning, and without the necessary debate in society", as stated in one article published by a member of the Forum (Fonseca 2013). This lack of planning is manifest, for Eduardo (another active member of the Forum), in the "lack of executive design and execution of detail, showing improvisation and incompetence". Despite the existence of the PDTU (§5.1.2), interventions are implemented, in the Forum's view, without appropriate executive design and impact assessments, deviating from original plans.

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[37] These are schemes for fare integrations across modes.

In particular, the investments designed for the mega-events are considered by the members of the Forum as waste of public money (MQRP nd). Major criticisms are expressed especially in relation to Line 4 and the BRTs as for example stressed by campaigning groups that participate the Forum specifically concentrated in advocating against these investments, such as O Metrô que o Rio Precisa - the Metro that Rio Needs (MQRP)

[38] or the MetrôAteAlvorada campaign[39]. McDowell, spokesperson for these groups, in his interview considers the BRT as a "stillborn investment" implemented in a corridor in which the demand is already far higher than the capacity that it could offer (§5.1.2.3).

Secondly, the Forum contests the transport authorities choices in terms of prioritization and scheduling of transport projects whose implementation is either prioritised not following the original plans (such as Line 4 built before Line 2, as in Figure 5.5) (§5.1.2.4) or scheduled in a different order with respect to previous studies (for example the BRT is not part of the original PDTU 2003). As such, the Forum is not criticising the actual plans or the planning instruments used, but the lack of coherence in planning implementation where changes are made without a long-term vision.

Thirdly, the Forum considers as part of the mobility crisis the lack of integration in the planning system among departments and among different levels of State governance[40][41]. This is seen as limiting the ability to congruently plan transportation interventions and a symptom of a "lack of systemic vision" (MQRP np: nd). Moreover, low institutional integration limits the ability for the public to influence public policies, as separated silos are of

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[38] This is a campaign group integrating part of the Forum. It is composed of a network of 30 neighbourhood associations of the areas to be served by Line 4, supported by other groups, individuals, and politicians. It has a core group of about ten very active member and the support of hundreds of residents. With an overarching objective of a better development of the Metro system than the one planned for the Olympic bid, it developed a manifesto claiming for a new plan looking at the public interest, putting together the request of "1.5 million residents — increasingly concerned with the harmful legacy of a subway route that will serve principally the two or three weeks of the Olympic Games, but which will not serve the need for rapid and comfortable transport in the years after 2016" (MQRP 2011: n.p). Under this platform it undertook a number of legal actions to promote its counter-plan, developed with the support of experts as a series of precise guidelines for a new Metro line. Thanks to its political pressure, some modification on Line 4 have been introduced.

[39] This is a campaign group that advocates for the extension of the Line 4 until the Terminal Alvorada, further into the West Zone of Rio de Janeiro.

[40] This analysis contrasts with what Legroux (2016) instead considers to be a conjunctural alignment between the three levels of government that permits the implementation of a project of urban marketing. Depending on at which level of institutional governance the analysis is concentrated, given the multifaceted aspects of institutions (Ferreira et al. 2009), both analysis might be valid and dialogue with the idea of a 'market-oriented rationality' that whilst governs a long-term plan of neoliberalization of the urban space, corresponds also to a 'irrational' provision of transport facilities for whom is not part of the process of neoliberalization.

[41] The Forum stresses also the lack of an institutional coordination body such as the Metropolitan Authority for Planning and Development of Urban Mobility.

difficult access also during public hearings. In an article by a member of the Forum it reads:

> "It is curious that the municipality has a Department of City Planning, another of department of Works, another of Transportation, and when they are questioned at the public hearings they respond that they cannot interfere with the jurisdiction of the other" (Fonseca 2013: np).

In this way lack of integration can become, the Forum argues, an obstacle to participation.

In this context of 'lack of planning', of coherence in implementation, and of integrated planning structures, the Forum sees transport planning as an irrational activity from a perspective of social necessities. In this, as stressed in the study of the transport system produced by the Forum in 2014 titled *Joint Study of Elaboration of a General Mobility plan for the City of Rio de Janeiro*[42] (Joint Study), "specific and particular interests of private partners investors are allowed to prevail in social projects of strategic importance to the State [over] social necessities" (np). From the quote it emerges that, for the Forum, the rationale for current transport planning choices in Rio de Janeiro is to accommodate specific interests such as the ones of private investors. In light of this Forum position and of the literature on planning theory (§2.1.2), this can be named as a *market-oriented rationality*. I use this term building on Friedmann's (1987) definition of market-rationality as "unrestrained pursuit of self-interest by individuals and corporations" (20) (§2.1.1) and more recent literature that defines it as part of a project of neoliberal modernisation (Lovering and Turkmen 2011) or neoliberal revolution (Harvey 2007; Otsuki 2014). This market-oriented rationality is what guides policy choices at the institutional level within a project of neoliberal urbanism (González 2011). The Forum, especially in its Joint Study, assumes an explicit anti-neoliberal position. For example it criticises:

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[42] This is a fundamental document to understand the practices and vision of the Forum that has been produced trough intense debate in the period I was conducing my Participant Observation with the Forum.

"The role of public managers approaching, in an undesirably promiscuous degree, the irresponsible private enterprise without any sense of nationalism. It is the called 'capital without a country'[43] from the 1990s, with another guise, and now 'tropicalized' and continuously protected in bank accounts of tax havens around the world" (np).

However, not all the members of the Forum share this radical stand.

Planning theory authors from Rio de Janeiro stress similar views. The model of planning in place in the region, carried out following planning mechanisms such as PPP within a strategic planning model concentrated on urban competitiveness (Vainer 2000a) (§6.1.1). This conduces, in the words of Vainer, to an 'abdication of planning' of public transportation by the State that cedes the responsibility to private sector companies whose only aim is to "maximize profits" (Tosta 2014: np), in line with the project of neoliberalism in place in Brazil (Zibechi 2014). Similarly, Legroux (2016), highlighting the wide spatially unjust effects of the mobility crisis in the Region, attributes them as effects of the 'patrimonial urban capitalism' governing Rio de Janeiro. The market-oriented rationality is based on a 'conservatory modernization' (Legroux 2016), in which under the idea of modernising the transport system, old privileges are maintained.

For the Forum, transport planning grounded into neoliberalism, or, into a market-oriented rationality, affects also the land-use, making possible an "uncontrolled real estate expansion[44]" (Joint Study: np). This expansion generates "evictions and segregations" (ibid) and produces new unjust spaces where lack of public adequate transport boosts social, cultural, and economic segregation. The Forum's position agrees with the literature that stresses how new transport infrastructures in Rio de Janeiro are reproducing patterns of socio-spatial inequality (§5.1.1), under what Vasconcellos (2001) defines as a 'liberal-neoliberal' approach to equity: transportation is planned as a service for those able to pay for it and not a right on which to base equity policies. In this way the Forum highlights how the mobility crisis is a result of a specific political project of resource management that, understood

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[43] In line with the literature, with the expression 'capital without a country', the Forum refers to the economic power of global financial markets and transnational companies that are central actors of global economy, that "expand across the planet assimilating non-capitalist social organizations" (Tessarolo 2011: 203).

[44] As a member of the Rio de Janeiro's architects association, explained during her interview, there are specific speculation interests in the development of the BRT corridors, especially in the under-developed West area of the city (§5.1.3.1).

under a resourcefulness perspective, can be considered as generating an induced scarcity of transportation for low-income groups (§3.3.1, 7.1).

A symptom of the functioning of the market-oriented rationality is the reproduction of the car-based model that, for the Forum, is part of the mobility crisis. Despite its high social and environmental impacts (§5.1.2.1), the model is at the core of transport planning in Rio de Janeiro and promoted both through direct financial investments and indirectly by low-quality public transport alternatives[45]. The Forum recognises this as an effect of the historic role of the automobile industry and bus companies in shaping transport planning in Rio de Janeiro, as also stressed by the literature (§5.1.2.1). As underlined by Eduardo in one internal communication, in the city there is "an incompetent reversal of the universal parameters for the application of greater capacity transport modes that privileges the modes by the road oligopoly of which we are hostages". In this view, the presence of bus oligopoly distorts the planning rationality, and generates corruption that modifies outcomes of previous designs and re-shapes investments[46]. In his interview Felipe highlights the power of these lobbying forces to impose planning priorities:

> "When a government makes a study of the application and determines that the demand for this trait is X, you have to see the type of transportation in the table [see picture], is this, it cannot be something else. But there is the lobby, right, [that says:] put a BRT! And the guy says so, what is coming in my pocket? The lobby is terrible".

The quote refers specifically to the implementation of the BRTs in various part of the city to favour the bus consortia that run it, despite technical analysis that would have suggested implementation of a Metro line for the demand in the area, as shown in Figure 5.6. For the Forum, the bus oligopoly is not only economically favoured, but able to direct investments to specific areas of the city and specific modes of transport.

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[45] Also the BRT is not seen as a possible solution to car-dependency by the Forum. In the online page of MQRP it reads: "It is a joke to have the BRT […] passing overcrowded and expect people to leave their cars at home to face the long queues […] to board an overcrowded bus" (MQRP nd: np). In the view of the Forum, the BRT is not attractive to existing car users.

[46] The problem of corruption has been widely stressed in the literature that developed after the 2013 protests (§5.1.4).
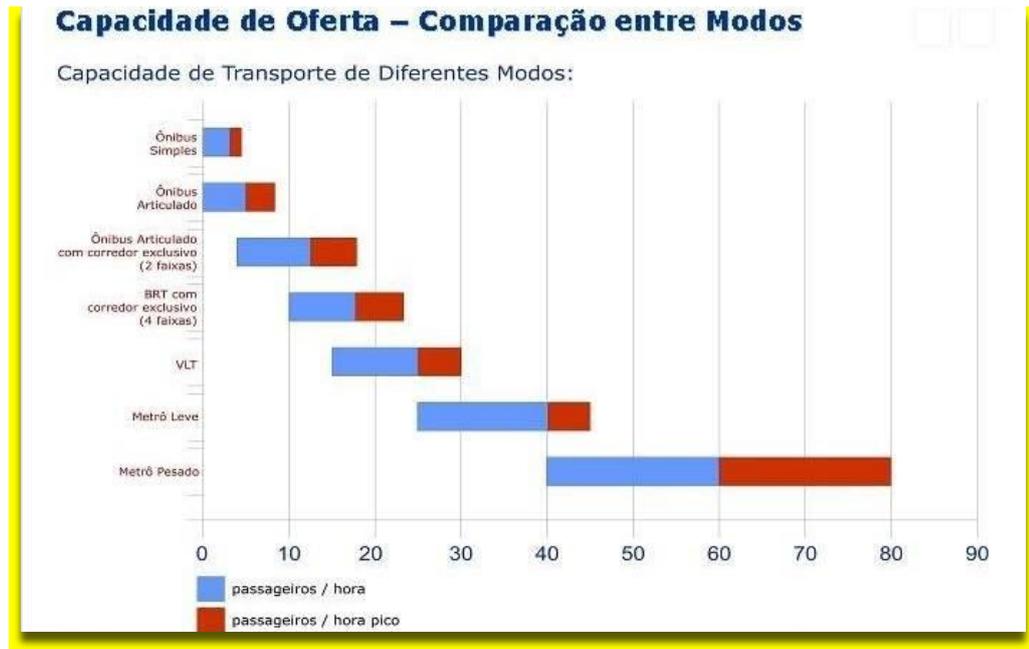
Figure 5.6: Comparison of capacity of different transport modes (Fórum Permanente da Mobilidade Urbana do Rio de Janeiro 2013: np)

From the top: Bus, Articulated Bus, BRS, BRT, VLT, Metro, Trains. Passengers per hour on peak hours (red)

The bus oligopoly has built its power thanks to the privatization of public transport implemented in the region, that, for the Forum, has allowed "public transport operators [to] decide on the timing, frequency, type of equipment, management of cards and tickets, and even the right to set gratuities by law" (Fórum Permanente da Mobilidade Urbana 2011: np). For this reason most members of the Forum oppose the trend of privatization of public transport (§5.1.2.2), that, as stressed in the Joint Study, is the only metropolis in Brazil that privatized all modes of transport, "fully supporting the neoliberal policy agenda of the central government of the decade of the 1990s" (np). Moreover, for the Forum, with privatization the population is dispossessed of its right to have a say on the functioning of the public transport service, that is instead designed only to allow transport operators to increase their profit[47.] Opposing privatization, the Forum calls again for a shift in rationality in the way mobility is designed, in which the Forum advocates for what could be

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[47] According with the analysis of the Forum, privatization is also one of the causes of the reduced investments in rail services. In the interviews, both Felipe and Thiago mentioned the closure of several rail services after the privatization, such as the one between Rio de Janeiro and San Paulo.

called a *right to mobility focused rationality* opposed to a market-oriented rationality.

Despite recognising the impossibility of implementing rapidly a shift in rationality and in the model it is embedded in, the Forum considers it important to challenge the market-oriented one, with also emergency regulation, reintroducing State intervention in the transport market. This would, for example, regulate the tariff, answering the wide demand for farer tariffs (§5.1.4):

> "If it is impossible to change, in the short term, the excessively liberal model that was adopted in the State of Rio [de Janeiro], for the provision of essential transport services, a device of emergency restoration of a State operator entity should be used, to force the tariff regulation of the mobility market, today totally subjected to the interests of private dealers" (Joint Study: np).

Introducing emergency measures of State intervention, for the Forum, is a possible step to oppose the private interests that guide planning. To oppose the market-oriented rationality opposition to this situation, for the Forum there is the need to reintroduce the way mobility is designed as a planning process and a rationality able to oppose an 'interest' driven implementation of projects that is performed without a coherent vision and adequate impact assessment. This is part of a vision in which, "what Brazil needs is long-term planning that clarifies the development model for the next decades*"* (Braga 2014: np).

5.2.3.   Practices and visions of the Forum

In the previous section I considered the Forum's analysis of the mobility crisis, which is considered as being the effect of a market-oriented rationality in transport planning. I considered how this is in line with the idea of an induced scarcity embedded in resourcefulness. In the next sections I analyse the practices of the Forum that, specifically focussed on knowledge and participation, propose a different vision on how to perform transport planning in the region, mobilising both intellectual and civic resources.

5.2.3.1. Knowledge

Since its foundation, the Forum has been thought of as a space to "orientate people in need" given the fact that, as Felipe said, "the people knew that things needed to be changed, but did not know how to do it, they did not know what rights they have". As such, the Forum can be considered as

working towards building access to the political arena for part of the population that suffers barriers to participation (Gaventa 1995) (§2.2.3), in line with the interim politics project of resourcefulness (§3.2.1).

Firstly, for the Forum knowledge production and diffusion are important to allow better decision-making, in a context of "manipulation of public opinion", as Eduardo reports in an internal communication. With several examples, members of the Forum stressed how the lack of planning is accompanied by a misinterpretation or falsification of data by institutional actors and media. Constantly monitoring the data produced by institutional planning actors, the members of the Forum consider how "the Council adopted, since the letter of intent for the Olympics, the practice of publishing in official public hearings, fictitious numbers that do not give account of capacity, not even in the most basic arithmetic calculation" (Joint Study: np). Inexact information was circulated regarding the capacity, feasibility, impacts, and costs of the new transport investments. This position is supported by the literature that highlights how in Rio de Janeiro media, local and federal Government, and transport providers form a 'dominant alliance' at the service of a neoliberalization of the city for the benefits of the local elites (Vasconcellos 2001; Legroux 2016) (§5.2.1) that often manipulates official information.

The Forum considers this misinformation as 'cheating' the public and it concentrates on producing documentation to show its inconsistency and irrationality. For example, in several interviews and conversations with Forum members, the "ridiculous calculus of demand" for the BRT lines was stressed. Official data reports that they are forecasted to accommodate a 400,000 demand, but the members of the Forum calculated the maximum capacity of the system, considering number of buses, their capacity, and frequency and concluded that their maximum capacity is 307,000, with a frequency too high for being reached by the system as planned. The knowledge and research produced by the Forum aim to make the public aware of the reality of the investments. Different means are used to this purpose among which online tools assume increasing value: social media and blogs are daily updated by members of the Forum, who produce also a variety of visualizations to support their points.

Secondly, knowledge is for the Forum not only technical data and analysis, but also historical awareness and memory. This would help understanding present phenomena and avoiding repeating errors. In the Joint Study it reads: "knowledge brightens the prospects of citizens and improves the expectations, and the population starts to seek more when it knows his own history" (np). Historical knowledge is for the Forum a way to potentiate the

ability of the population to imagine alternatives and raise its expectation, reducing the threshold of silent acceptance. The quote continues:

> "The first mass transit in our coastal lands was the waterway, now relegated to 3rd level in the political strategies. Expanding their knowledge, reacting as they did in "Revolt of the Boats"[48], without vandalism, the population saw the full possibility of having the best in transport quality" (np).

The reference to this historical 'revolt of boats' in which the population violently reacted to the malfunctioning of an essential transport service, is part of the Forum's understanding of the population as a powerful force able to shape policies and oppose abuses. Knowing its potentialities the affected population could increase its ability to bargain and oppose certain policies. This could happen "especially when it concerns a service of extreme need for the population" (DaMatta 2000: 11).

Knowing the history of the evolution of the transport system in the metropolitan region of Rio de Janeiro, for the Forum, would clarify also the reasons for the malfunctioning of the public transport services and inform on which strategies have worked in order to demand for better investments. Strategies among which both institutional and non-institutional paths need to be considered and practiced, as the actions and practices of the Forum and also of the other actors active in the city in 2013 demonstrate (§5.1.4). Having recognised the importance of historical knowledge, members of Forum have been publishing historical accounts and use historical narratives in interviews to support their arguments, opposing this to the lack of institutional memory.

With this knowledge, the Forum aims to enter in the debate between the civil society and the institutional planning actors in order to support the "daily construction" of possible different futures and the "vigilant maintenance" of the forms of democracy and rights that have been built through a "suffered collective social history" (Joint Study: np). As stated in the Joint Study, the Forum aims to support, in a cry for more democratic processes, the production of alternatives and coral voices, whilst maintaining and expanding

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[48] This is a popular revolt occurred in 1959 in Niteroi, city part of the metropolitan region. During the revolt, that caused hundreds of injured and 6 deaths, all the fleet and other properties of the company that was running the boars was burned by the public. The revolt started as consequence of discontent with the quality of the service that was running on reduced capacity due to a workers' strike and ignited by the violence of the police forces trying to control the crowd queueing to board (Nunes 2000).

the rights and positive conditions that are already established. This is in line with the idea of change embedded in resourcefulness (§3.3.3, 3.5.3, 4.1.1, 7.3.1). Specifically, "as a non-profit organization without ties to political parties, the Forum, acting as a link between civil society and government, sets the agenda on technical aspects that should guide public policies" (Fonseca 2016: np). In this project, the Forum, providing technical instruments as intellectual resources, does not aim to speak in the name of other actors or struggles, but to support the richness of diversity of experiences and actions that work towards the construction of democracy:

> "We do not want at all to abdicate of joining social stakeholders that decide to react to what is established insidiously and contrary to the wishes of the vast silent majority" (ibid).

The Forum, assuming an epistemological position very close to the one subsuming a resourcefulness-based worldview (§4.1.1) and a radical planning approach (§2.1.10), believes in the importance of popular knowledge and knowledge 'from below' in affirming the right to mobility (Verlinghieri and Venturini forthcoming). As stated in the Joint Study, for the Forum, peoples' ability to analyse and supervise on the current situation needs to be part of planning:

> "We have much to say, it is sufficient to win the appropriate institutional corporatism, which stigmatizes popular participation, disqualifying the natural surveillance that the people are able to do better than any temporary public" (np).

In order to allow this knowledge to emerge, the Forum attempts to set spaces in which knowledge can be exchanged. It does so via the organization of specific initiatives such as debates, some of which I have been able to attend or co-organise (§4.2.2), or digging a niche in pre-existing spaces in which to allow transparent information to circulate among the population, for example during public hearings, events, or online. In this way it aims to "provide a comparison of ideas and the evaluation of public policies that are being promoted, so that the public have sufficient time to participate in the discussions and judge them" (Fonseca 2016: np). In opposition to the "management aberrations" (Joint Study: np) in which public money is devolved to powerful elites to implement un-needed or misplaced planned public services and infrastructures, the Forum aims to bring to the public domain more information, increasing the ability of the population to understand, criticise, and choose. It attempts to guarantee that the public can attend participatory arenas, being informed of its rights and of the

technicalities of the different options, allowing them to climb Arnstein's (1969) ladder (§2.2.1).

In this aim of providing knowledge and performing research, the Forum potentially responds to a popular cry for information and transparency on the functioning of the transport network that strongly emerged in June 2013 (§5.1.4). This in a context in which the same "County Court of Auditors has stated officially in numerous audits [...] that has no free access to values and spreadsheets numbers" (Joint Study: np) on the management of bus operation. For example, under popular demand, the Council had to open a Parliamentary Commission of Inquiry on Buses (CPI), to guarantee the population access to information on actual costs and revenues (Nitahara 2013; Magalhaes 2014) that however failed rapidly due to internal corruption and political inconsistency (Blog Ponto de Onibus 2014). In a situation of lack of information both on the functioning of the transport system, its financing and governance system, and daily mobility information for passengers, different groups of users (some of which are actively part of the Forum) have organised different online tools to provide information (e.g. ADUT-RJ nd) and a platform for complaints (e.g. ADUT-RJ 2014). Similarly, in response to the failure of the CPI, urban social movements and popular assemblies established in 2013 a 'popular CPI' aiming to investigate the malfunctioning of the bus system and the black box of the bus companies (Nitahara 2013).

These are further strategies that are adopted by the actors in Rio de Janeiro and the Forum in order to respond to the lack of information, mobilising new forms of intellectual resources. Among those, it is also important to note the use of alliances and exchange of information among different groups that made it possible to both quickly spread the knowledge and also to enrich the debate, building civic resources. It is under this aim that I helped the Forum to organise a public debate on the mobility crisis in Rio de Janeiro. Here the Forum openly started a dialogue with the other urban social movements, starting an alliance able to produce important research on the feasibility of the zero tariff for the city (GPPA 2014b). I consider the importance of this alliance later in the chapter (§5.2.4). Before doing so, it is important to consider a theme strictly related, the one on participation, crucial for the Forum and also for resourcefulness.

5.2.3.2. The Forum's position on participation

According with the interviews, my fieldwork, and the secondary data, the Forum explicitly advocates a more democratic and participatory transport

planning process in the metropolitan region of Rio de Janeiro. For the Forum, participation should be at the core of planning processes, coherently with a resourcefulness approach (§3.3.3, 3.5.3). In a context in which planning goals of the institutional actors are incompatible with the needs of part of the population, participation is seen by the Forum as a process able to introduce a space for dialogue and best practices in planning. However, its implementation in the planning system of Rio de Janeiro is of great challenge.

Searching for arenas for participatory transport planning in Rio de Janeiro

Despite a long tradition of participatory planning in Brazil, the literature has highlighted the limited extent to which it has been implemented with success at the institutional level in Rio de Janeiro (Vainer 2000b; Souza 2005). Here participation of the public in transport decisions is normally ensured through public hearings - whose organization, frequency, and effectiveness is however highly criticised by the public, as I witnessed-, or by informative initiatives organized by transport providers to explain new projects in loco, - which I visited during my fieldwork. There are also formal structures of monitoring and participation such as the Permanent Transport Commission or the Federal Mobility Councils. These, however, as the Forum highlights in an internal document, insufficiently address the "disastrous transport public policy" or as Igor, another engineer member of the Forum, highlights, "have been populated by 'chapabranca[49]'" and manoeuvred at the benefit of rich minorities (similar position is expressed in the literature by Vainer (2000b)). It is a situation that the Forum describes as a "lack of public governance" (Joint Study: np) in which official participatory arenas limitedly function and are controlled by high demanders (§2.2.4). At the same time, as the Forum stresses in the internal document, they are used to ratify and justify choices already taken (§5.2.3.2). These critiques are in line with the idea of a post-political approach to participation under which institutional arenas of participation are not only a tyranny (Cooke and Kothari 2001), but also arenas for reproduction of neoliberalism and domination (Dagnino 2004, 2007; Purcell 2009; Beaten 2011; Mayer 2011; Derickson and MacKinnon 2015; Hilbrandt 2016) (§2.2).

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[49] Literally "white plates", indicates people affiliated to the government and to its power structures.

In this context the 2013 mobilizations are, under the analysis of the Forum, a response to the lack of interlocutors for the populations' demands. Felipe said, referring to the actions of MQRP:

> "People claim, but there is no one to whom complain, and so they try to speak with the prosecutor, which strictly speaking would be the last resort and there is no certainty; or they are appealing to environmental impacts, that now have great weight, but this is because we have no one to talk!"

The lack of channels for participation results, in the opinion of Forum's members, in the explosion of street protests in 2013. A similar opinion is expressed by the vice-president of the Rio de Janeiro's architects association F. Izaga who, interviewed, said: "there is no representativeness", there are no channels in which the demands can be brought and heard, "forums where you can hear and exchange". For this reason, in her view, after the failed attempt in the 1980s to increase participation with the residents associations, newly born groups such as MQRP can do only a "work of resistance". As Igor states, "If there are no channels, we must continue to protest". In a context of lack of institutional participatory arenas protesting is a resource that the population uses to oppose policies and politics.

However, despite proposing these critiques and generally supporting street protests, the Forum, as a knowledge-oriented group (Verlinghieri and Venturini forthcoming) (§3.6), aims also to maintain or open new arenas for dialogue between citizens and institutions, beyond street protests. For example, the Forum asks for the effective functioning of the Permanent Transport Commission in order to, as reported in an internal document, promote more opportunities of real people participation. Similarly, the Forum supports opening Federal Mobility Councils, as an effort to push Councils into having more participatory arenas. Despite being aware of the current malfunctioning of institutional arenas, the Forum considers them as important opportunities for the population. It mobilised to ensure their existence and functioning, also organising itself public debates and hearings, opening the dialogue with the institutions. For example, before the elections for the city Council in 2014, candidates are invited to the Forum to discuss the future of the regions' mobility. At the same time the Forum actively participated and intervened in the existing public hearings.

Building insurgent participation: the Forum at the Rocinha public hearing

Whilst envisioning and claiming for new participatory arenas, the Forum aimed to use and intervene in the existing ones. In doing so, the attitude of the Forum is similar to the one observed by Hilbrandt (2016) in actors that transform institutional arenas into insurgent participatory spaces. I observed this during the public hearing for the implementation of the PAC2[50] in the favela Rocinha.

The event was organised by the Council to discuss with residents the PAC2. Held in July 2014, as criticised in the public domain[51], it presented already at a first analysis great problems of *inclusivity* and *representativity* (§2.2.4), given the location and timing of the event. It was held 20Km or 2 hour bus journey from the favela, at 12pm, making it impossible for the vast majority of the population affected (200,000 inhabitants) to attend it, as stressed in journal article titled: *'Public Hearing for the Rocinha PAC: 30 Residents to Speak for 200,000'* (Coutinho 2014). Further criticisms were expressed with regard to the timing of the hearing in the planning phase: the meeting was only an informative space to present an already finished project, as commented by the residents: "this hearing does not represent the interests of the favela, as a project was already ready [before the hearing], which no longer fits changes by the residents" (Coutinho 2014: np). As such it presents problems of inclusivity, representativity and ability to impact on decision-making (§2.2.4).

A group of residents reunited in a committee called Rocinha sem Fronteiras – Rocinha without Borders, had already complained before the hearing regarding the lack of funding for sanitation, that was considered as the most urgent issue in the favela at the time (Coutinho 2014). The cable-car, included in the PAC2, was seen as diverting needed resources from sanitation. A report by the residents' highlights this:

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[50] The PAC, Growth Acceleration Program, is an investment program that counts on investment from federal, State and municipal government as well as from private and state companies to fund the projects for infrastructure, social issues and energy. The project for PAC2 in Rocinha includes the construction of a cable-car in the favela and the widening of few internal roads.

[51] Via media or in discourses I witnesses whilst on field.

"Rocinha will receive a lot of money from the PAC 2. Lots! More than 25% of R $ 1.6 billion will be used only in the construction of a cable-car in the community. But, in the opinion of residents, architects and engineers, this work is not the priority. Rocinha need sanitation!" (Rocinha sem Fronteiras 2014: np).

As also shown in Figure 5.7, main reasons for opposing the cable-car are the urgent priority of sanitation, the invasiveness of the intervention, its low accessibility for disabled and elderly people, its technical inadequacy, and its high cost of maintenance.

Organised as a frontal presentation of the project by the planning authority that explains the project using videos and slides, as I observed, the hearing had very limited space for debate and discussion among and with the residents. During the entire meeting I witnessed the inability of the residents to fully express their position and argument in support of their cause. This was in part because of their small number in the audience (about 30 over 100 total participants), which was, as Felipe revealed to me, for the vast majority populated by the high-income neighbours of the favela, but also because of time restrictions and the higher argumentative power of the richer residents. This is in line with what hypothesises in the literature on post-politics, for which institutional arenas of participation inscribe in a tokenistic project (§5.2.3.2).

At the same time, the arenas can become an important space for insurgent participation (Hilbrandt 2016) (§2.1.10). This happened, in the context of the aforementioned public hearing, as consequence of the work performed by the Forum. As I witnessed, the members of the Forum printed a document that was circulated among the public and intervened in the debate supporting the points of the favela residents with technical arguments, as a radical planning actor, allowing them to be empowered (§2.1.10). In my interpretation, the Forum was able to assume this role and boost insurgent participation thanks to the preparatory work done, that I call *insurgent non-institutional participation.* I use this term to complement the idea of insurgent participation by Hilbrandt (2016) that takes place only within institutional arenas of participation. Differently, the Forum uses both institutional and non-institutional spaces. Non-institutional arenas and non-institutional insurgent participation practices are used by the Forum as preparation for insurgent participation. In July and September 2013, the Forum organized two meetings at the Engineering Club to discuss the PAC2. During the meetings the residents from Rocinha were able to analyse and discuss with the engineers the project and produce the document subsequently used during

the public hearing to support their opposition to the cable-car (Clube de Engenharia 2013; Rocinha sem Fronteiras 2014). As such, the Engineering Club, in which the residents met with the members of the Forum and other actors, became a place of position formation in which the base for the insurgency was built. As reported after one of these meetings:

> "The Engineering Club held a debate on the controversial construction of a cable-car in Rocinha. Community leaders, architects and engineers were categorical: the work, estimated at hundreds of million, is not the community priority. The great need of Rocinha, at this moment, is the investment in sanitation" (Clube de Engenharia 2013: np).

The Engineering Club was very clear in demanding sanitation as a community priority and not the cable-car. At the same time the work of the Forum supported the connection of the Rocinha residents with the residents in the Complexo do Alemão, in which a cable-car had been implemented, and the favela Santa Marta, where a funicular tram had been implemented[52] (§5.1.2.5). In this way the Forum, as Felipe reported, allowed residents to have a first person discussion on the projects and evaluation of costs and benefits for their communities (Freitas 2013)[53]. In this process, the Forum has acted as mediator both during the hearings, helping the residents in expressing their view, and in building contact among different low income groups that are then able to share and expand their knowledge of possible transport solution and visions for the future.

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[52] The engineers for the Forum show the advantages of the funicular tram because it "facilitates access for disabled people, allows for waste disposal and its construction is much cheaper" (Freitas 2013: np).

[53] These connections form a network of actors that uses also other strategies to oppose the PAC2. For example, as reported by RioonWatch, online magazine, the members of Rocinha sem Fronteiras allied with the "the Instituto Raízes em Movimento - Institute Roots on the Move, from the Complexo do Alemão, [went] to the Public Ministry presenting a case against Rio's government denouncing the violation of human rights and arguing non-compliance with federal law 10.257, which requires public participation in decisions regarding government interventions, in the case of Alemão, and for the non-execution of PAC 1 works in Rocinha" (Freitas 2013: np).

Figure 5.7: Rocinha Opposes the Cable-Car. Flyer produced by Rocinha sem Fronteiras

"Reasons for which we do not want the Telephant[54]. 1: Is not a priority: the most urgent priority is the basic sanitation of Rocinha; 2: it is brutally invasive: 4,000 inhabitants will lose their homes. You could be one of them; 3: it does not resolve [the issues]: is not accessible to wheelchair users and elderly, cannot transport materials, but tourists will love it; 4. is technically inadequate: funiculars are better under any point of view; 5: has a high construction and maintenance cost: after implementation, population will pay the price".

Building knowledge-based insurgent participation

The ability of the Forum to empower the residents during the public hearings was connected to the preliminary work performed during non-institutional insurgent participation. This work was based on mobilizing intellectual resources thanks to a network of actors that allowed knowledge exchange (among residents and engineers, among residents and other favelas) and in having the availability of spaces for new knowledge formation, such as the spaces for discussion organized at the Engineering Club. In facilitating these processes, the Forum itself can be considered as a space for creation and sharing of knowledge. It is a space that "enable[s] resistance" (Kesby 2005:

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[54] The figure contains the word Telefante that is a joke putting together the Portuguese work for Cablecar, teleferico, and Elephant, Elefante, to indicate the infrastructure as a white elephant.

2047), that prepares for the participation in the public hearing, giving instruments able to challenge the power and bargaining unbalances between different groups. Using the work of Kesby (2005) that suggest a similar strategy, the participatory arenas that the Forum creates or in which it intervenes can then be considered as "provid[ing] organizational frameworks through which strategic agency can be reconstituted in ways that can outflank existing power structures" (ibid: 2049). With its activities and practices the Forum exists as a space to increase the chances (both in terms of actual spaces and capabilities) for different groups of the population to access knowledge-based participation.

The Forum, since its creation has been a space in which engineers and planners needed to open a constant dialogue with the population and other actors (§5.2.1) producing various forms of knowledge (§5.2.3.1). The Forum, as a network of engineers and citizens, as reported by its members, learns from the proposals, plans, studies, analysis, and ideas produced together with the population, behaving similarly to the reflective practitioner by Schön (1983) (§2.1.5). The Forum believes in the "surprising value [of] the solutions arising from the most simple-minded and unexpected participation, confirming the not always valued popular sayings about the richness of diversity" (Joint Study: np). The epistemological position of the Forum (§5.2.3.1), close to the one of resourcefulness (§4.1.1), determines also its openness to participation. Moreover, it grounds the strict link between the Forum's work on production and exchange of knowledge and a project of education to participation it seems to pursue. As a space of knowledge the Forum can be interpreted as a space in which a network of different actors build a culture of effective participation and in which empowerment can be continually performed (§2.1.10). In this way, the Forum can be considered to perform a form of insurgency (Hilbrandt 2016) that is a prefigurative practice grounded in knowledge (§3.3.3, 5.2.3.1) and in the use of participatory processes as social learning processes (Kesby 2005) (§2.1.5).

The work of the Forum and of the Club is voluntarily carried out by engineers within a vision in which it is recognised, as expressed by one of its members in an official document, the need for:

"A radical transformation, even revolutionary, in dealing with the education, in general, of the Brazilian people. It is an emphatic statement, made with great emphasis on the priority of the magnitude of this issue, with the main objective the formation of responsible and participative citizens at all levels, from elementary school to university, but without going into the details of ways this transformation, unless, of course, with regard to the re-orientation of engineering education" (Braga 2014: np).

The Forum's work aims to emphasize the importance of education to participation and also the re-orientation of the professions towards a different planning culture and paradigm. In this regard, the position of the Forum is grounded in the culture of the Engineering Club that seems to embrace a radical theorization of planning (§2.1.10). For the Club the rejection of neoliberalism and a call for more State-presence is accompanied by a rejection of "the model of technocratic planning, positivist, in presupposing the effective participation of society in the preparation of the plan and its implementation subject to social control" (Braga 2014: np). The Forum and the Engineering Club are aware of the need to write a new professional ethics. For them focusing on effective participation is:

"Particularly important for the category of engineers, traditionally linked to the scientific-positivist thought and should, therefore, be emphasized as a breakthrough of the democratic spirit that has characterized the last decade Brazil, as an affirmation of complete overcoming of the years of dictatorship" (Braga 2014: np).

Effective knowledge-based insurgent participation is the core of the planning paradigm that the Forum would adopt. In this planning paradigm, a new tension exists between instrumental and communicative rationality (§7.3.3).

5.2.4. The Forum commitment to the right to mobility

In the previous section I showed the Forum's commitment to circulating and producing knowledge as well as ensuring effective participation in the transport planning decision-making. From a resourcefulness perspective these processes potentially address both the problems of distribution and lack of intellectual and civic resources (§3.2.1). To fully analyse how a transport planning process based on a resourcefulness-based worldview works in the practice of the Forum, is important to also investigate the question of access to material resources, specifically as connected to the issue of spatial justice (§3.1.4) and accessibility (§3.4). The Forum

advocates for people's right to mobility in a highly spatially unjust city with highly uneven mobility patterns (§1.4.1, 5.1.3). Is it possible to advocate for the right to mobility as a universal, trans-class right? How does the Forum consider the question of uneven access to resources, uneven mobilities and spatial injustice?

5.2.4.1. Patterns of spatial injustice in the metropolitan region

The Forum acts in and approaches a reality of sharp spatial inequalities and uneven mobilities (§1.4.1, 5.1.3). Some members of the Forum produce research revealing how this inequality is constructed. Specifically, Damasio (2012), researcher and member of the Forum, proposes evidence of the effects of spatial injustice on the transport planning process, especially with regard to the spaces of participation in which the Forum intervenes. In an analysis of different consultation processes and events regarding the implementation of Line 4 and the BRTs in the city, he stresses what I also witnessed during fieldwork: a sharp difference in bargaining power between different income groups in the planning phases. To this adds also a different concentration of material resources for transport investments in regions with different purchasing power.

The effects of disparity in inclusivity and representativity has been already highlighted in the case of the PAC2 public hearing for the favela Rocinha (§5.2.3.1), where the majority of the attendants are residents from the surroundings high-income neighbourhoods worried with the expansion of the favela. Even greater evidence of the direct relation between purchasing power and power to influence planning is given by the episode regarding the Metro Station 'Gen. Osorio' in Ipanema, reported both by Damasio (2012) and Igor in his interview. Expanding the Metro station to implement Line 4 would have temporarily displaced of 290 high-income families in three buildings. The displacement was avoided building an entirely new station and spending a further amount of 377 million of Reais (O Dia 2014). As reported by Damasio (2012) and Igor, this burden was taken by the State to avoid delays in the works connected with having to go through judicial arguments with people of high purchasing power and influence living in the three buildings. The Public Minister justified the choice considering that the eviction would have cost the same as the new construction, considering the amount to spend to accommodate the residents in hotels and payment of commercial losses for at least one year. In similar transport projects,

however, different treatment has been given to lower income groups with lower bargaining power, as reported in the literature (§5.1.3) and in the interviews with Forum members. From the analysis of the Fourm members and the wider literature, first emerges a differential economic investments in ensuring resident's confort: the construction of a second station in Ipanema to avoid relocation of residents "will cost just R $ 80 million less than the Council has to spend with three thousand expropriations in nine districts in the way of exclusive corridor for buses Transcarioca" (Damasio 2012: 43). Second, poor income residents' relocation is often proceeded with a lack of adequate notice, or even violence and psychological pressure as the field-based research by Legroux (2013, 2014, 2016), researcher and member of the Forum, had shown (§5.1.2.3, 5.1.3, 5.1.3.1).

The research by Damasio (2012) and Legroux (2013, 2016), members of the Forum, resonates with the wider position of the Forum that criticises also the unbalance of resource investment for transport projects and its unequal effects (§5.2.2). As reported in the Joint Study, the Forum views an inequity of investments between Line 4, which serves the South zone, and the BRTs which serve the rest of the city: "It stands out the disproportion in investing R $ 6 billion in roads carrying 100,000 people / day (as BRTs), and R $ 8 billion in roads carrying 600,000 people/ day (subway); immobility in Rio is a management problem" (np). There is a disproportional investment in transport infrastructure in different income areas in a region in which higher-income areas receive investments and higher values transport infrastructures (such as Line 4), while the lower-income areas are served by the new BRTs, normal bus corridors, or a very under-developed light rail system. This has been highlighted also by the literature (§5.1.3.1).

In this context of uneven mobilities and spatial injustice, together with the conflict for road space and infrastructural funding between car and public transport users (Vasconcellos 2001), there exists another intense social conflict, on security in a city with a perceived high violence rate (Souza 2008). As Damasio (2012) reports:

> "Despite the apparent concern of the population of Ipanema and Leblon neighbourhoods in relation to the extension of the subway, much of refusal on subway stations of the neighbourhood is related to prejudice against people of lower purchasing power, and the great increase in the flow of these residents through the neighbourhood with the construction of these stations, taking the "tranquillity" of the neighbourhoods" (43-44).

For high-income residents, new transport infrastructures can increase mobility of the poor that would be more likely to access and cross rich neighbourhoods, perturbing their tranquillity. On a similar scale is the discussion on the cable-car in Rocinha (§5.3.2). During the public hearing there was contrast between the positions of the favela inhabitants and the rich neighbours on the relocation of residents. High-income neighbourhoods use environmental arguments to oppose the relocation of low-income residents closer to their settlements. This fact highlights the complexity of interaction between environmental arguments and social impacts, in a conflict for space. For example, the neighbourhood association of São Conrado, of high income, denounces the relocation of favelas' inhabitants closer to their area after the implementation of the cable-car as an "ecological crime". The residents would be relocated in an Area of Relevant Ecological Interest (Schmidt 2014). The members of the Forum, in an informal conversation after the public hearing, made clear to me the social connotation of this conflict that, similarly to the previous example, is a symptom of a fear of 'vicinity' among different social groups.

5.2.4.2. Advocating for the right to mobility in a spatially unjust region

In this highly contested realm, the work of the Forum appears to be constructed as a capillary network: the Forum, as a meeting point, receives the complaint of residents on any mobility issues and mobilizes support for them (§5.2.1). From my analysis it emerges that in the Forum different political visions and ideas of justice live together and collaborate under the banner of wanting to discuss and guarantee the right to mobility. As such, the actions of the Forum seem trans-class and concentrated on advocating for a universal right to mobility. For example, within the Forum there are engineers supporting residents from richer neighbourhoods to oppose the construction of a Metro station in a public square, such as Thiago supporting the Grupo em defesa da Praça Nossa Senhora da Paz (§5.2.1.1, 5.2.4), whilst others work with residents of favelas to oppose the construction of a cable-car, as in the Rocinha example (§5.2.3.2). This work on a variety of fronts, however, might negatively impact on the ability of the Forum of fully impact on the politics of mobility. However, at a closer look at the work of the Forum as a complex, heterogeneous group, a line of action is present.

The Forum advocates for the right to a particular type of mobility, which makes use of certain transport modes. In opposition to the car-based model

and its detrimental impacts (§5.1.2.1, 5.1.3), the Forum, as emerges from the analysis of the interviews and original documentation, strongly supports investment in rail transportation (Joint Study). Differently from the other actors that mobilize in the region on transport themes and concentrate on claiming for lower bus fares (§5.1.4), the Forum further develops the struggle for public transport into a struggle for public transport *on rail* (Verlinghieri and Venturini forthcoming). There are two reasons for this: firstly, rail transportation is seen as more cost-effective, efficient, safe, comfortable, and ecological; secondly, investing in rail over road avoids strengthening the power of the bus consortia (§5.2.2). As such, the Forum advocates for the *right to ecological and just mobility* based on "rail transport, always more economic and just" (Joint Study: np), for the reduction of road investments and the rational use of resources, opposing a market-oriented rationality.

On one side, with this focus on rail, the Forum might seem to advocate for a middle-class[55] public concerned with the quality of public transport, but still able to access private transport or travel on the more expensive bus services[56] (Pires 2013). In Rio de Janeiro, there is indeed a historical income separation in terms of transport means preference, as shown by Pires (2013) and Silva Cruz (2010): the higher income groups living in the richest neighbourhoods are the ones demanding more investment in the Metro (that indeed serves only few neighbourhoods in the metropolitan district and in support of car mobility (Motta 2002; Legroux 2014)), whilst the lower income groups, especially residents of the West zone, demand improvement in the Supervia and on the bus services. Also, at the level of social impact, there is a sharp contrast to the variety of disturbances that impact the construction of Line 4 has had in the South zone neighbourhood and the BRT construction has had on local settlements (§5.1.3.1).

On the other side, the Forum built alliances with the MPL and other urban social movements involved in the 2013 mobilizations (§1.4.1, 5.1.4), considering the issues of bus users and producing research material to

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[55] As definition of middle class, I use the one introduced by Pires (2013) who considers: "middle-class identities in Brazil had been forged historically opposed to the working class, particularly in the distinctions towards manual work, which articulates different educational levels and restricted consumption practices" (172). In the specific geography of Rio de Janeiro, membership to the middle-class is spatially affirmed moving from the North zone towards the South neighbourhoods of Copacabana, Ipanema or Leblon (Pires 2013). For Vasconcellos (2001) the middle-class, with its desire for modernization, is fundamental component of the "hidden movement to adapt the cities for private transport" (83).

[56] In the city bus services with air-conditioning have much higher fares.

support the idea of a free fare[57], recognising the importance of a low price and high quality public transport service for lower income groups. For example, in the minutes of one of the meetings I attended, when the MPL participated in one of the Forums' meetings, it is welcomed by the other members that stress their support to the cause that is "perfectly aligned with the most unique struggles of the Forum, in opposing the institutional favouritism to entrepreneurs who form the oligopoly that dominates the privatized mobility market in the metropolitan area". The fact that the Forum, in contrast to other urban social movements concerned with mobility issues in the city, does not concentrate fully on the bus fare, possibly also connected with the different demographic of the Forum, does not mean that the Forum is not challenging the 'oligopoly' of bus companies (§5.2.2).

As such, the aforementioned focus that the Forum has on rail transport can be interpreted not as a way to preserve the right to mobility for the middle class, but as a demand for an ideal situation in which all the population would be able to move using rail transport, in a situation of ecological and just mobility. In this way it can provide an answer to the problem of the bus oligopoly and to environmental issues (§5.1.1, 7.2). Despite not mentioning it as part of the mobility crisis, the Forum is aware of the environmental damages connected to the car-based model in place. Moreover, despite not having an always explicit political stand in advocacy of solely lower income groups or minorities, the Forum supports the construction of an ecological and just transport system that would more likely take into account the needs of lower income groups. Under this interpretation, the multifaceted work of the Forum is directed towards an ideal situation, a transport post-scarcity city (§3.5.3) in which all the population is able to move using rail transport. In this also the capillarity of action as a network, that is a challenge in term of resources, might result not negative on a long run (§5.2.1.1, 7.3.2.1). This is a reachable utopian future (§3.2) for some of the members such as the members of QueroMetro – I Want a Metro, that I interviewed, whose work

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[57] In goes beyond the scope of this thesis to consider the debate on the nature of the social composition of the 2013 mobilizations. For some authors they have been ignited by the rising middle class and by the student population (Gohn 2013). However, other studies, and several of the people I interviewed conversed with, stress the popular and working class support to the claim for better public transport systems (Cava 2013; Mendes 2014; Venturini 2016).

aims to show the feasibility of a Metro system to serve the varied income groups[58].

The Forum, as a politically heterogeneous actor, demonstrates its part in the construction of the right to mobility in a number of ways including opposing the BRTs, requesting greater investment in the light rail system, and considering the need of prioritisation. For example the Line 3 to Line 4 project having a "much more prominent social role" (Joint Study: np). In this way, the Forum assimilates the spatially just causes with the fight for ecological solutions, which is not always the case in other protest-oriented movements (Verlinghieri and Venturini forthcoming).

5.3. Summary and conclusions

In this chapter I analysed the work of the Forum, a planning actor that works to guarantee the right to mobility, understood as "a fundamental right that directly affects all the basic activities of citizenship" (Joint Study: np). Specifically, the Forum advocates for the right to ecological and just mobility.

I have shown that, mobilising a variety of intellectual and civic resources, the Forum developed an analysis of the mobility crisis. For the Forum the crisis is generated by a lack of long-term and coordinated planning, which resulted in misplaced investments, and of a model of planning based on a market-oriented rationality. Despite the challenge of acting with capillarity on a variety of fronts, the Forum opposes institutional practices of planning in place through circulation of knowledge and effective participation in the planning process. Specifically, the Forum uses insurgent participation and insurgent non-institutional participation as practices to intervene in the planning procedures. Moreover, the Forum mobilises to challenge the material resource distribution, aiming to protect the right to ecological and just mobilities in the metropolitan region of Rio de Janeiro.

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[58] QueroMetro, is a group that works on the issues regarding the Metro system and the development of a new vision for rail public transportation in Rio de Janeiro. The group developed a whole alternative mobility plan for the Rio de Janeiro metropolitan region, based on 12 Metro lines, the rationalization and strengthening of the existing underdeveloped local train and strong cross-modal integration (Quero Metro nd). The whole plan had a great repercussion on the local media and within the local authority.

Having these specific characteristics, the Forum can be considered as a resourcefulness-aligned actor who can inform an empirically grounded resourcefulness-based agenda for transport planning (§7). It concentrates on mobility as a "dynamic, changeable subject, mutant, that during the debate of ideas, will always be subject to new concepts and conclusions" (Fórum Permanente da Mobilidade Urbana 2011: np), considers planning as a constantly dynamic process that needs to adapt to the changing needs and contexts and that should be based on 'expanding the present', and also through historical knowledge and popular knowledge. In this, "there is no need to reinvent the wheel to solve mobility problems, but just some serious planning, that is participatory and regarded as state policy" (Clube da Engenharia 2014).

Chapter 6: Critically exploring resourcefulness in practice: the Move Your City Group in L'Aquila

Similarly to Chapter 5, this chapter addresses and fulfils O4. This is achieved through analysing the actions and challenges faced by an actor whose practices and visions resonate with a resourcefulness-worldview performing transport planning in a crisis situation: the Move Your City (MYC) group working in L'Aquila (§1.6).

This chapter is divided into two parts. In the first I present the context of L'Aquila and its mobility crisis. In the second I present and analyse the MYC as a resourcefulness-aligned actor. Finally, I summarise and conclude. The empirical data presented in this chapter will continue into Chapter 7, where it is discussed in light of the resourcefulness framework proposed in Chapter 3.

6.1   The context

In this first part of the chapter I introduce the context of my second case study. I firstly give an overview of the territory of L'Aquila and its urban-system. Secondly, I present its transport system and, thirdly, its mobility crisis. Fourthly, I consider the civic response to the earthquake and to the mobility crisis.

6.1.1   L'Aquila and its urban-system

Administratively, L'Aquila is the capital of the Province of L'Aquila and of the Abruzzo Region. The territory of the Council of L'Aquila has a particularly extended territory (470 Km²), with a very low population (147,19 ab./Km²). Located in a mountainous region, it has faced a continuous phenomenon of depopulation since the 1930s (Minardi and Salvatore 2012). Its basin of influence, however, goes beyond the edges of this Council territory: since its foundation the city has had a strong connection with the surrounding territory of the Aterno valley, to the point of being named a city-territory (Comitatus Aquilanus 2009) whose urban-system, partially visible in Figure 6.1, with a population of almost 90,0000 extends to incorporate other 10 minor Councils. This urban-system is then inserted within an inter-Council area composed by 29 Councils, in which the city of L'Aquila still has a central administrative and political role (Calafati 2012). The distances between these multiple centres of the inter-Council are however very high (up to 48.4 Km) and result in low

integration and communication between them and the city of L'Aquila
(Calafati 2012).
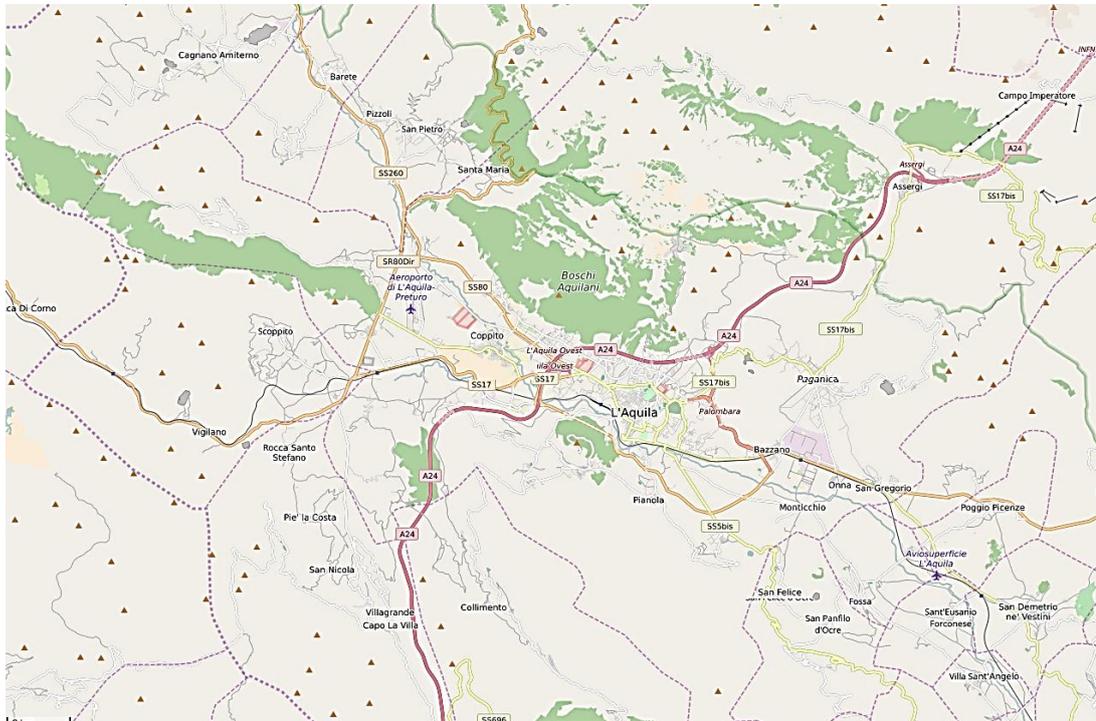
**Figure 6.1: L'Aquila and part of its urban-system (map generated with
OpenStreetMap)**

L'Aquila's economy has historically been based on the service and education
sectors. After an economic boom in the 1960s, the city has faced a
continuous socio-economic decline since the 1990s. This decline, connected
with a national trend, has never been concretely addressed by local politics
(Calafati 2012). In 2009 the whole area was identified as being in a situation
of "impoverishment, degradation and ageing" (ATTAC Italia 2011: 11) and
the 2009 earthquake found a city already in economic recession, with high
rates of unemployment and poverty.

The earthquake severely damaged the city centre and the other centres in
the urban-system, leaving more than 60,000 inhabitants homeless and
crucial infrastructural damage (a total of 100,000 buildings damaged in an
area that encompasses 49 towns (Alexander 2010, 2012), requiring a
comprehensive re-planning of all services allocations and activities. The
emergency situation brought the government toward adopting a novel
approach to emergency relief: skip the temporary shelter provision and build
nineteen permanent new-towns and other numerous settlements with
temporary accommodation, in the process paying an "astronomic cost" (ibid:

3), as Alexander (2012) reports. The construction of the new-towns has been contested by the population and by the local representatives (Puliafito 2010).

Specifically, the economic effort required by the new accommodation left the Council with few resources to invest in providing further services and support to the population. The literature stresses how efforts have been focused on physical reconstruction of the city, while very few resources have been spent to support its social reconstruction (ATTAC 2010; Calafati 2012; Minardi and Salvatore 2012). This has resulted in a drop "in the quality and quantity of public goods and collective goods" (Calafati 2012: 12). In this situation a rise in psychological disorders and social fragmentation has been evidenced (Carnelli et al. 2012; Stratta et al. 2012; Alexander 2012), attributed by the literature to the way the emergency has been managed more than the actual disaster (Puliafito 2010; Carnelli et al. 2012; Verlinghieri and Venturini 2014). Specifically, as Calandra (2012) reports, residents' relocation to new-towns produced "a sudden and violent acceleration of the dynamics of dispersion and fragmentation of society that, at the individual level, [...] produce[d] a sense of disorientation and uncertainty " (130). At the same time, there is an expansion of social fragility and an increase in new poverty (ATTAC Italia), with a peaking rate of unemployment and emigration.

Four years after the earthquake, when I started the fieldwork (§4.2), the rebuilding process was still only beginning, whilst a striking level of urban sprawl had covered an area of roughly 30km². This has required an important change in mobility habits (§6.1.3). Transport issues, including an important number of heavy goods vehicles on a limited capacity network, has become a daily issue (Contreras et al. 2013). To this it should be added that the difficulties of the rebuilding process has involved several long-term planning challenges, political and economic issues and, increasingly, citizens' disappointment with the top-down approach to decision-making and the slowness of the recovery phase (Ciccozzi 2009; Puliafito 2010) (§6.1.3, 6.1.4).

6.1.2   L'Aquila transport system

Several actors are responsible for managing the transport system in the L'Aquila urban-system. The local Council does not have a specific office dedicated to transportation and different bodies take decisions regarding it, such as the Department of Public Works, the Department of the Environment, the Smart City Department and the Planning Department.

In terms of public transport, the Enterprise Mobility of L'Aquila (AMA), a public company under the control of the Council, is responsible for the planning of local bus services. Coaches are run by a similar company, A.R.P.A, which until 2015 was managed by the Province. Also the Regional administration has a voice in terms of transport planning in the area.

As visible in Figure 6.1, the main transport corridors in the region are the SS17, the SS5bis and SS80, provincial roads with no toll, and the motorway A24 which is a toll road. All these connect East to West, linking L'Aquila and its urban-system with Rome and the Adriatic coast. Two of the main provincial roads converge in the centre of the city, completing its network of urban roads. A marginal train line is also present, whose use has decreased in time; it is mainly used as a marginal commuter service that does not provide a connection with other main cities. Road transport is thus the main option both for freight and passengers. The L'Aquila city centre is partially pedestrian-only: access to the city centre is however possible by private cars. In the urban-system there was, in 2012, a rate of car-ownership of over 700 per 1000 inhabitants, which surpassed the national mean (Minardi and Salvatore 2012).

In 2009, the city adopted an Urban Mobility Plan (UMP) developed by external consultants at the Council's request, with the overarching aim to increase safety, reduce traffic and increase public transport demand (Comune dell'Aquila nd). The plan has since been updated after the earthquake in 2012, with the introduction of more pedestrian facilities, increased train services at the urban-system scale, the introduction of a 'Bus with high Level of Service', expansion of the urban road system and of parking areas. However, while the financing of the plan was completed in 2015, large measures in terms of transport infrastructure have been implemented beyond the official plan, during the emergency phase, for example the widening of major urban roads.

6.1.2.1 Public transport

The design of public transport, subordinated to the choices made in terms of land, has evolved rapidly since the 1970s. In those years the urban-system of L'Aquila has moved from a model of a strong monocentricity -in which the city centre of L'Aquila was the main attractor centre- toward conforming to a hierarchical policentricity, connected to the fragmented expansion of the city (Calafati 2012). The decentralization of health and education services required the public transport system to switch from a single-pole radial

configuration to a tri-polar configuration. This was formed along a diametric structure, with main corridors connecting the main hubs and adducting services to augment these corridors. In 2009 this configuration of the city was, however, as reported by Calafati (2012) still needing improvements in terms of "energy efficiency, sustainable mobility, connectivity between places, internal access to sub-settlement systems and quality of public spaces" (13). Specifically, before the earthquake L'Aquila had 32 urban public transport services (10 on minibuses) and a network of 28 inter-urban and inter-regional services. The urban lines were characterized by irregular services and highly reduced services at weekends (Comune dell'Aquila nd).

After the earthquake, the disaggregation of the main centre of attraction, the city centre, the sprawl and fragmentation of the urban tissue, with the emergence of a series of several other secondary commercial and residential poles, has quickly required the reorganization of the public transport services from a tri-polar to a multi-polar configuration, with important increases in distances. The situation has been aggravated by the emergency decisions made in which basic land-use rules have been disregarded, with the repeated localization of essential services out of reach of the residences of the main users (e.g. schools, shops, etc.). This has affected the quality of the service (Comitatus Aquilanus 2009; Frisch 2010; Alexander 2010, 2012; Calafati 2012; Minardi and Salvatore 2012). After the earthquake service frequency has decreased from 5-10 minutes to 20-60 minutes (Contreras et al. 2013; Castellani 2014). Public transport has been subjugated to continuous restriction of economic resources despite the increased area which needs to be covered. This condition of the public transportation has created the ground for the mobility crisis in the region.

6.1.3 The mobility crisis

In contrast to Rio de Janeiro, the literature on L'Aquila does not explicitly refer to a mobility crisis, despite clearly reporting the important social and environmental impacts from the current transport system. Those elements, present since the configuration of the transport system from the 1990s, have been exacerbated by the 2009 earthquake.

The main issue in the urban-system is the heavy reliance on car-mobility. The territory has currently a number of cars per inhabitant which exceeds the national standards (Comune dell'Aquila nd). This pattern, already in place before 2009 due to the morphological conformation of the territory (highly dispersed and mountainous) and the low use of public transport, has been

exacerbated since 2009. This has happened specifically as an effect of the spatial reconfiguration of the city: the emergency planning of the new-towns has resulted in poor provision of services and transport connections (§6.1.2.1) the reallocation in new centres of housing and services has increased journey times and distances between services (Calandra 2012; Calafati 2012). As result of these elements, there has been a loss of 'spatial-connectivity' (Contreras et al. 2013), and car usage has peaked dramatically, with notable energy, congestion and pollution impacts (Minardi and Salvatore 2012).

This effect is intertwined with the inability of public transport services to cost-effectively keep the pace of the urban sprawl; this is also due to the reduction of investments in the sector (§6.1.2). These have resulted in services that are infrequent, especially at the weekends, and often unreliable, with very long journey times (Comune dell'Aquila nd). As Minardi and Salvatore (2012) report, public transport services available are also often very hard to access, especially for groups located in rural communities or new-towns, and have a much higher journey time than private transport.

In this context, after the earthquake, several authors report the "new need for urban mobility" (ATTAC 2011: 23), particularly felt by the weaker groups who lose spaces of autonomy and are often left in isolation. Issues have also emerged in terms of walkability, dramatically reduced in the post-disaster scenario. As reported by a local community organiser: "Perhaps because of the new urban layout that our city has taken, we have lost the habit of walking" (Vegni 2014). In particular, there is a drop in walking habits, both as leisure and a means of transport due to the increased distance between services and the lack of infrastructures for walking (Calandra 2012).

To sum up, the mobility crisis in L'Aquila is generated by an increasing number of cars for inhabitants and a decreasing use of public transport and walkability.

6.1.4   A Collective demand for participation

As shown, L'Aquila is a city experiencing multiple crises: key phenomena of social fragmentation, increasing environmental impacts connected with increasing car mobility (and the heavy reconstruction work), and a mobility crisis. As consequence of these crises the population started asking for more participation in the decision-making process.

Specifically, despite a not particularly generally cohesive social fabric, the historical presence in the urban-system of associative and volunteering experiences played a fundamental role in the post-disaster period (ATTAC 2011). They supported a general opposition by the population to the reduction of spaces of democracy in the emergency phase (§6.1.1) and a collective demand for participation in the rebuilding process. Civic and voluntary associations, citizens' committees and urban social movements, activated both in a "constant and complex task of rebuilding ties and tissues" (Minardi and Salvatore 2012: 85) and in promoting alternative approaches and practices to re-planning of the city (Frisch 2009; Calandra 2012; Verlinghieri and Venturini 2014), in attempts to establish "personal ties and recreation of lost public spaces" (Padovani 2010: 420).

To do so they mobilised individual and collective skills, generating strongly resilient practices (Fois and Forino 2014; Forino 2015; Imperiale and Vanklay 2016), new forms of citizenship and grassroots participation (Padovani 2010; Farinosi and Trerè 2011; Verlinghieri and Venturini 2014). Their emergence, as Padovani (2010) reports, "defies commonly accepted theories that only rooted traditions of civic involvement with organized political parties and civil society (a tradition that is lacking in this town), can be a strong predictor for an active citizenry" (Padovani 2010: 417). They were often also supported by volunteers from other cities and local institutions (Calandra 2012).

Despite acting on different fronts and with different methodologies, these experiences shared certain specific demands that are summarised in the manifesto of a 'network of movements', in which 14 different urban social movements took part (Padovani 2010). It aimed to promote democratization from below and to provide opportunities for citizens to voice their perspectives in the rebuilding phase (Padovani 2010). For this network, as explained in one of the documents produced, participation was "a fundamental act that puts the individual in connection with the community and makes citizens" (417). The possibility of participating was a fundamental step toward building collectivity and citizenship. As result of this demand by the public, for example, the Council approved a 'Chart of Participation', opening more institutional spaces for participation.

Some of the urban social movements also criticised the mobility issues which had emerged from the early stages of the recovery process (§6.1.3). For example, in one of the first participatory events held in the city, the people participating stressed the need to completely reorganize public transportation, increasing the number of services, especially those connecting the new-towns.

6.2 The MYC

In this second part of the chapter I critically analyse the MYC. Firstly, I consider how the MYC's practices and visions make it a resourcefulness-aligned actor. Secondly I present the MYC vision for transport planning processes that are based on a two-level participation model. Subsequently, following the evolution of the MYC through my action research period, I consider the different strategies that the MYC employed for this model. With a vision for participatory transport planning, the MYC developed three strategies that, mobilising different intellectual, political, and material resources, involved evolving to the need of the decision-making structures in place. Specifically I show how the MYC moves from acting as an *ambassador of participation*, to a *catalyst*, and finally to a *networker* and *educator*. For each of these strategies I consider advantages, challenges, and limitations. Finally, I present my conclusions.

6.2.1 The MYC as resourcefulness-aligned actor?

The MYC is an informal group of citizens created in L'Aquila as part of the demand for participation in the post-earthquake planning process (§6.1.4). The group was initiated in June 2013 within the EU project Youth Participatory Budgeting, managed by the Participation Department at the L'Aquila Council, the University of L'Aquila and a local civic association L'Aquila Città Futura – L'Aquila Future City. The group was composed mainly by 10-15 high school and university students that work alongside tutors from L'Aquila Future City. Castellani (2014), Postgraduate Researcher and member of MYC explains the aim of this EU project:

> "To promote the dialogue with the public authorities, in order to contribute to the participation of young people in democratic life, and raise their awareness of the democratic processes and decision-making procedures. The specific goal of the project is to encourage the participation of young people in the definition of the Youth Participatory Budget in 2014"(107).

In a project aimed at increasing youth contribution to institutional democratic processes, the group of students received training in participation, democracy, communication, and active listening. However, the group quickly evolved from this initial aim and half way through the EU project, chose mobility as a central issue to focus on. It took the name MYC, effectively

becoming, at end of the EU project, an informal group[59] that met at the Department of Participation, but acted independently.

The MYC focused on mobility due to its own members' personal mobility issues and its analysis of the detrimental effects of the mobility crisis in L'Aquila (Castellani 2014). As Silvia, university student member of the MYC, stressed, they worked in order to understand the different needs that the population had after the earthquake. It emerged that "mobility is a question that bonds to all the aspects of everyday life", particularly relevant in a context of accelerated urban segregation and dispersion (§6.1.1). In particular, it emerges from the data that the MYC perceived young people as highly vulnerable in the post-earthquake city: as non car-users they suffered a lack of accessibility to services as well as social isolation, or, as stressed by Camilla (a high school student that participates in the group), lack of "communication, of possibility to meet" and of individual independence. For this reason, the MYC focused on youth mobility as a theme that required discussion within the democratic processes the EU project aimed to impact. On this base, the MYC performed a series of participatory activities within and outside the local institutions to understand urban mobility issues and proposed solutions to the Council. Moreover, building on the original focus on Participatory Budgeting of the EU project, it aimed at developing a new method and culture of participation in transport planning.

With its focus on participation and the mobility crisis, the MYC is in line with resourcefulness-aligned actors' practices. As such, it built strategies that were concentrated in ensuring the availability of intellectual and civic resources to the civic society. In terms of material resources, the MYC advocated for better functioning transportation, as a way of ensuring "equality in the freedom to move", as reported by Emma, tutor from L'Aquila Future City who then became an integral member of the MYC. The group focused on public transport as a means to guarantee access to the city for disadvantaged groups, revealing their want for spatial justice. Furthermore, for the MYC, the objective of improving urban mobility and participation, "has the same importance as the method we use to reach it", as Silvia said in her interview, showing a prefigurative attitude. In order to build participation, the MYC used attitudes and methods based on participation, attempting to initiate with its present activities the best practice it envisions for the future. Due to these characteristics, the MYC was a good actor to explore the

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[59] MYC self-defines itself 'informal group' using the terminology of the EU calls for youth participation (European Commission 2013).

unfolding of a resourcefulness-based worldview in transport planning in a context of crisis like L'Aquila.

6.2.1.1 MYC's two-level model of participation

After the training received within the EU project, the MYC developed its own conceptual model of participation that, on the base of the data collected, could be depicted as in Figure 6.2. For the MYC, participation is composed of two layers of horizontal participation, at the grassroots and at the institutional level, and a process of transversal participation. In the MYC's vision, participation is healthy when all the levels function and interact within each other through *active listening* (Healey and Gillroy 1990; Exile and Dennick 2004) and dialogue.

This model presents innovative aspects with respect to the model of horizontal and vertical participation proposed in the literature (Jochum et al. 2005; Billie et al. 2013; Dent et al. 2013). For the MYC horizontal participation needed to occur, not only at the grassroots level, but also at the institutional level, among the members of the Council and other planning institutions. Camilla said:

> "Prerogative of the group has been to trigger the horizontal participation [at the institutional level]. That is, not only transversal between above and below, but also horizontal, because we felt there was a lack of dialogue between those working within the Council, or among various departments".

The functioning of the two horizontal levels of participation in the MYC's view requires a *culture of participation* at the institutional and at the grassroots level. Independent functioning is essential to allow a transversal/vertical connection between the two levels. The existence of two horizontal levels interlinked by a transversal connection in the MYC's model reduces the hierarchic tension in the traditional vertical participation model. In this model the MYC assumed that citizens 'learn' participation through horizontal interaction whilst the role of institutions is to initiate or facilitate this learning process. The MYC's use of the word 'transversal' and not 'vertical' can be considered as restricting this hierarchical relation (despite the fact it then mentions a top and a bottom that are depicted in Figure 6.2).
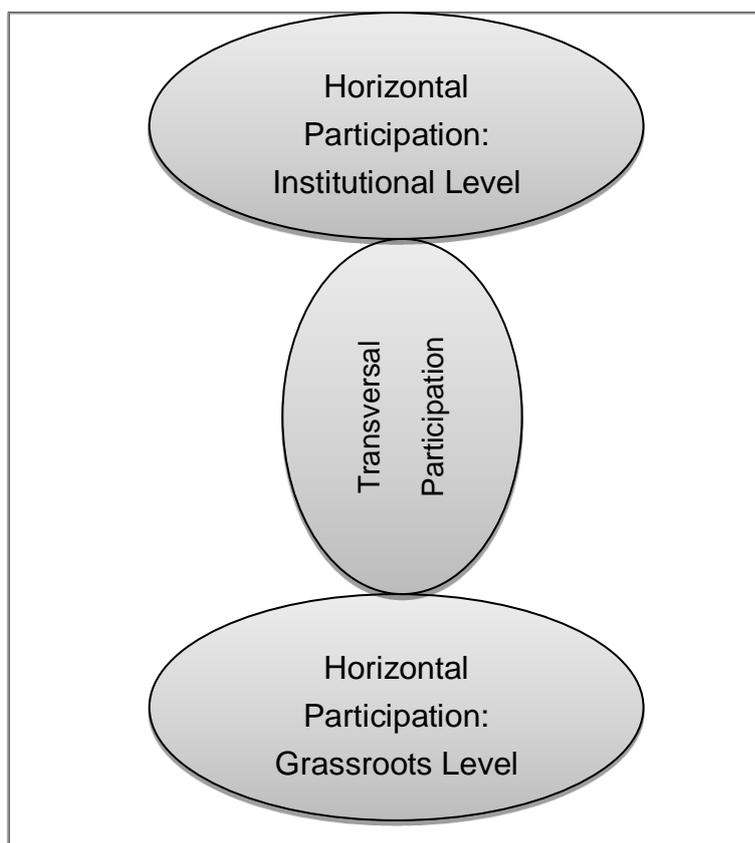
Figure 6.2: MYC's two-level model of participation[60]

The MYC, since its foundation, has been dedicated to deriving strategies to make this two-level model of participation work for transport planning in L'Aquila, promoting the implementation of "shared and more transparent decisions, in order to facilitate the dialogue among the inhabitants of L'Aquila and the Municipality, and to meet both top- down and bottom-up perspectives" (Castellani 2014: 116). This model, despite the challenges to its implementation, can complement and provide an innovative view on participation included in resourcefulness (§3.3.3).

6.2.2 Strategy 1: MYC as ambassador

At the start of its activity, the MYC worked to understand the causes of the mobility crisis and to propose solutions. It structured its work in three phases: firstly it investigated the functioning of the institutional transport planning level; secondly it surveyed population needs and thirdly reported the needs of the grassroots level to the institutional level acting, as shown in Figure 6.3, with a transversal process. Camilla summarised this process as "opening a channel of communication":

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[60] The diagrams in this chapter are produced by the author of this thesis.

> "Let's stop living and working on two separate layers because it is a city that we are talking about and you cannot make decisions that do not correspond to my needs and I cannot continue to complain about things that I know not, or lose interest in things which concern me. So the opening of this channel is the one that I identify as the participation that MYC wants to promote".

The MYC's attitude was then to assume a role of *ambassador*. In my interpretation, the MYC did not ascribe to the complex act of 'advocacy' (Davidoff 1965): it collected information and reported to the institutions, not as a political act, but as an act citizenship aimed to "opening a channel of communication" between citizens and institutions. The different actions performed by MYC are shown in Figure 6.3, indicating the variety of strategies employed.
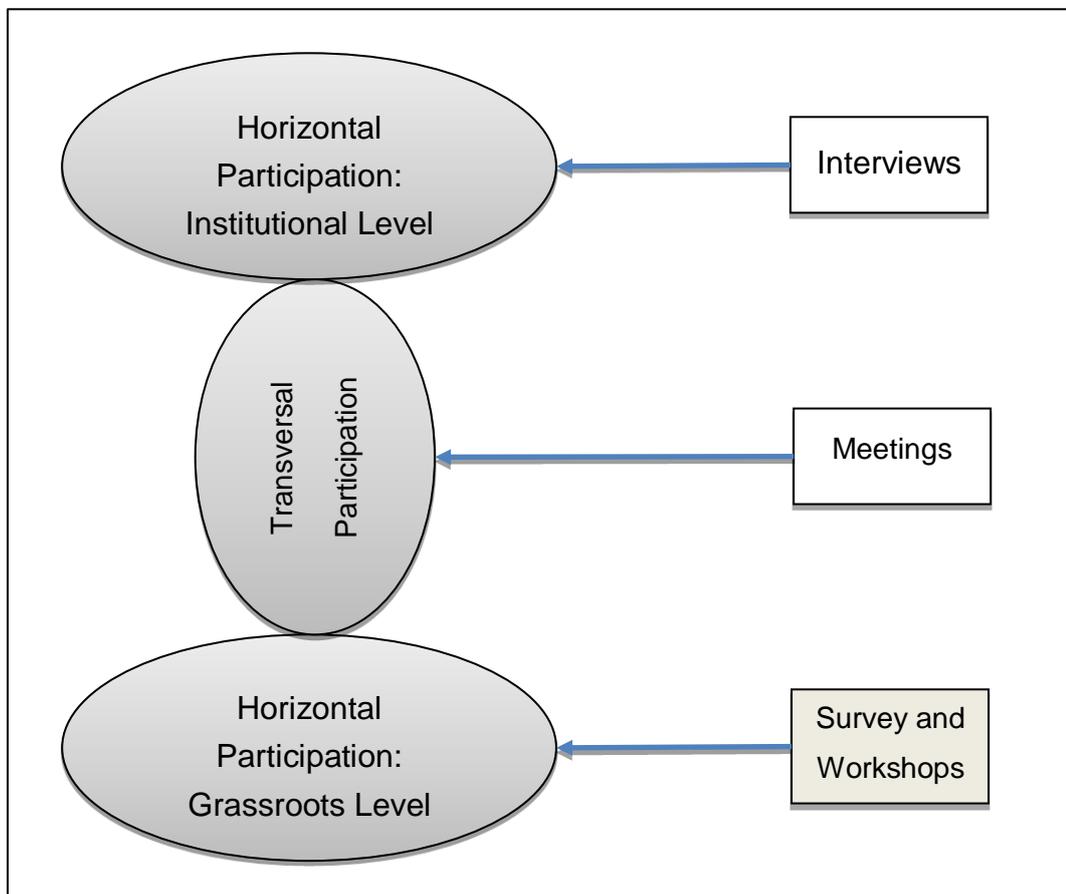
Figure 6.3: MYC as ambassador, the first strategy

6.2.2.1 MYC as ambassador: gathering information at the institutional level

The first phases of the MYC's work was focused on understanding the politics of mobility, collecting information at the institutional and grassroots level, and aiming to increase the communication between the two levels.

Firstly, the MYC traced the responsibilities and budgeting of transport planning at the city Council by arranging interviews with the municipal Councillors, the Chief Executive of the local public transport provider Azienda Mobilità Aquilana – Mobility Enterprise L'Aquila (AMA), and studying the current UMP. However, as reported in the interviews and within the internal documents, the MYC faced challenges in establishing a communication with the Councillors, which were reluctant to open a dialogue, as Emma reported:

> "The answers of the Councillors were all very vague, including those relating to the budget slice that competed, so that after summarizing these answers and tried to systematize on a synoptic panel the things we were able to understand and put together, they did not sum up a 100% budget from the figures. And we do not understand why [...] and above all the commissioners interviewed they well avoided talking about mobility. All of them".

The Councillors did not provide the information that MYC was seeking with a strategy centred on active listening and dialoguing. This highlighted the lack of adequate communication between the Council and the public, or even within Council departments, which could be perceived as a lack of accountability. This attitude, prevalent in Italian institutions as stressed by the literature on the Italian 'democratic deficit' (Almagisti 2009), is evident in the context of L'Aquila post-earthquake (Calandra 2012) and suggests that the MYC effectively found a communication barrier with the institutions. Also other grassroots actors have reported a similar perception of the Council's attitudes towards communication with the public (Minardi and Salvatore 2012; Calandra 2012) (§6.1.1, 6.1.4). Most importantly, officers of the Council themselves, when asked on the internal situation, confirmed the hypothesis of communication with the public being mismanaged by the Council.

Moreover, the MYC reported on a problematic lack of a structure specifically dedicated to the politics of mobility. Giulia, psychologist and university student who was part of the MYC, reported: "we discovered that there wasn't a Department for Mobility!" A similar reaction had been recorded during the first meeting of the Panel initiated by the MYC (§6.2.3), when the Manager of the Public Reconstruction Department discovered that the Council didn't have a Mobility Department. Without a dedicated office or department, both the MYC and experts within the Council believe there was a possibility of a fragmented decision-making process (§6.2.3).

To sum up, the MYC reported problematic mobility governance: it was difficult to contact the administrators, understand who should make

decisions, how they were taken, and which part of budget money is at stake. As Silvia stated: "actually one department, rather than another, does not know what the other is doing, and I think this is a problem that is evident in a lot of things". From a resourcefulness perspective this non-integrated governance process leads to limited political resources available to citizens. The MYC aimed, with its actions, to address this issue.

6.2.2.2 MYC as ambassador: gathering information at the grassroots level. Building collective understanding of collective needs

Within strategy 1, the MYC concentrated on youth mobility issues, in a city where students are the 80% of public transport users. This choice restricted the MYC to fully work in advocacy of a much more varied group of transport disadvantaged, but had been consciously taken in order to concentrate resources into a reachable output.

The MYC, as group of students, had identified needs and critical points in youth mobility through an initial self-assessment. However, it aimed to verify if those are shared by the wider community and, as such, be relevant to be reported at the institutional level, and so be grounds for transversal communication. In line with the hypothesis for resourcefulness-aligned actors, which are in direct connection with civic society (§3.6), the MYC built a strategy to improve communication with the public and its ability to act from the bottom up. From the interviews it emerged that the MYC wanted to speak on behalf of young people only after having widely consulted them. As reported by Giulia, the MYC designed its strategy under the assumption that: "we are taking this issue [mobility and public transport], but is this really in the interests of the average citizens of L'Aquila, the school and university students?" This question is in accordance with the idea of prefigurative practices for resourcefulness: methods are grounded on the same principles that guide visions. In this regard, Emma says:

> "Participation means that there is someone, that there are people, so now let's have a dialogue with people, because if we make a proposal for the Council budget must be a proposal that has the sense of a participatory proposal. So it has to be discussed with people".

This reveals how acting as ambassador for the MYC was based on understanding and reporting the variety of the heterogeneous views of the civic society to the institutions. The initial analysis gave an input that was then verified with data collection. In order to do so, the MYC prepared and delivered a survey for local students on mobility patterns and issues, to which participated 1240 among high school and University students. MYC

does this research effort mobilising both its internal intellectual resources and the resources of the local University that helped with the data analysis The survey, moreover, attempted to provide useful data to the AMA that, in a situation of economic stress, was unable to produce data itself and therefore asked for the MYC's collaboration. In doing so, the MYC showed its ability to gather resources, despite only being a group of volunteers, and to produce valuable information. In a context of a not fully integrated transport planning system like L'Aquila, groups such as the MYC could become themselves planning actors working in support of the local planners, contributing to enhance their ability to act towards resourcefulness using low-cost resources for planning (§7.1). The results of the surveys, which are reported in detail by Castellani (2014), confirmed the preliminary analysis of the MYC on the youth mobility crisis. They showed that "mobility is one of the most relevant problems in the city of L'Aquila" (116). Specifically, youth mobility had deeply changed and young people had a low level of accessibility to services. While access to school was guaranteed with a high travel to destination journey (34% of students spends more than 30 minutes travelling to school) and a high car dependency rate, 55% of the participants reported issues in reaching other locations than schools due inefficient public transport.

Beyond the data, is important to consider the MYC's use of the survey method, normally reported in the information-gathering step of the participation ladder (§2.2.1). The view held was that the creation of a structured dataset with detailed information on the transport needs of young people was required. The existence of this dataset was seen as a prerequisite for its members to be able to act as credible ambassadors on transport policy decision-making circles. In this way the survey allowed the MYC to increase its bargaining power within the local institutions. Having gathered evidence on the shared nature of the mobility problems, it used these results to build a collective narrative, strength, and representative power: the MYC aimed to become ambassador of numerous groups of citizens that were all suffering shared mobility issues. As Emma said, the MYC was the ambassador of a "proposal supported by most people, not only from the group".

With this increased representative power, the MYC organised open events that would enhance the transversal communication, reporting the results of the questionnaires to the public and the institutions. Furthermore, in a continuous learning process, the results of the survey were returned to the participants as a form of sharing knowledge and building consciousness.

6.2.2.3 MYC as ambassador: building a proposal for transversal participation

According with strategy 1, once the institutional actors were contacted and the politics of mobility was fully understood, and having gathered data on the needs of a selected vulnerable group, the MYC aimed to use its results to open a channel of transversal communication. Moreover, it considered the data gathered as a starting point to prepare a proposal for the Participatory Budgeting. As ambassador, it aimed also to facilitate the formation of opinion among the group it represented in highly participatory settings. In particular the MYC organised meetings with local schools in which to report the results of the surveys and, in workshop settings, involved students in preparing proposals for the Participatory Budgeting. The survey results were considered as a resource to highlight the collective dimension of the mobility issues and a platform on which to build shared visions. Moreover, MYC considered them as a means for students to have an input on the content of planning and not just be consulted as source of origin-destination data as potentially happens in classical surveys.

The workshop had been designed using a variety of tools to enhance interaction, inclusivity and engagement. After an initial presentation by MYC members about the results of the survey to the whole school reunited in an assembly, the students were divided in small groups. The small groups were firstly involved in a participatory mapping exercise. This was aimed at visualising spatially the issues highlighted during the presentation and at giving to each student the opportunity to relate the global findings of the survey to his personal travel experience. Secondly, the small groups were invited by MYC members to play a card game, as visible in Figure 6.4. After having read a set of card presenting the main environmental and social impacts of car mobility, other sets of card, containing main infrastructural, technological, behavioural or policy instruments for mobility were displayed and catalogued as 'feasible-unfeasible' and 'we like it-we don't like it'. The content of these cards was intended to inform and inspire the students with respect to possible changes in the transport systems. Thirdly, the small groups filled a form with a specific proposal to solve the mobility issues they highlighted in the first exercise. Finally, the small groups gathered together into an assembly during which the proposals were voted with a participatory budgeting setting. With this design, during the workshops the MYC aimed to take the students into a path of informed deliberation. The workshops were organised using what the MYC, in the project proposal, called "horizontal and participatory didactic methods" that would give to the students the "the ability

to understand the nature of the problems in mobility, explore the solutions adopted in other cities and/or imagine new and, through an experiment of active citizenship, building their proposal to improve mobility". Beyond the simple scope of ambassador, it aimed to use these workshops to enhance horizontal participation at the grassroots level, increasing its functioning through education (§6.2.4.3). At the same time, the MYC wanted to use the outcomes of the workshops to generate proposals to input in the planning agenda.

Figure 6.4: Students playing the card game during the schools workshops organised by the MYC

For this reason, in the design of the workshops, the MYC's members put great emphasis on the feasibility of the proposals that should indicate guidelines for the future development of the city. According to the literature on the importance of having an impact for participatory processes to be successful (§2.2.4), the MYC aimed to create participatory exercises that give credibility to the project of the group and are grounded on the possibility of preparing a concrete proposal for the Participatory Budgeting, ensuring that the outcome would be taken into account in the Council agenda through a channel of communication already opened.

6.2.2.4 Advantages, challenges and limitations of strategy 1

The workshops allowed the MYC to collect data on the needs and desires of the youth in L'Aquila. They involved a total of 269 in three schools in which the full length workshops were held, plus about 200 more students in an

open assembly in the fourth school. At the same time, as emerged by the quantitative analysis of the workshop's results and the focus group with the workshop's facilitators, the workshops allowed the students to collaboratively build proposals for mobility. The proposals were then voted on in a general assembly. The foremost winning proposal was one to improve the provision of public transport evening and night services. At the same time there was high demand for rationalization of the services and incentive for the use of public transportation, including the reduction of fares for students. Together with proposals, students were asked to provide guidelines for a vision of the future city. Due to this data the MYC writes in a document circulated in the city:

> "By directly listening to the flow, the habits, the difficulties and critical issues raised by the citizens, central focal point emerged on which, according to all respondents, planning of the reconstruction of L'Aquila should be structured: sustainability[61], safety, efficiency and beauty. It is therefore necessary to rethink a city mobility network capable of allowing, respect and promote conditions dictated by these principles".

On the basis of a collective analysis of the issues, constructed through sharing the results of the surveys and through collective visioning exercises in the workshops, the MYC derived principles for mobility planning to report at the institution level. With these results in hand, the MYC met with the institutions, aiming to understand the feasibility of new night services and improvement of the public transport services. When interviewed on the outcomes of these meetings, however, it reported increasing difficulty in communicating with and among the various actors involved in the politics of mobility. As emerged also through an analysis of internal documentation, the meetings resulted in inconclusive conversations or were not attended by the needed stakeholders.

At the end of this process, as specified in an official document produced by the MYC and circulated at the city level, the MYC considered that: 1) there are substantial economic issues in managing public transport within the Council; 2) mobility is a "a dynamic, changing entity that during the clash of ideas, it will always be subject to new concepts and conclusions"; 3) there is a lack of dialogue and coordination among the actors responsible for mobility; 4) there is the necessity of a "double action to build awareness in favour of public mobility (of its democratic nature, its intelligence, its

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[61] According with the interviews, the MYC uses the term sustainability to indicate ecologically-focussed solutions.

importance) both towards the administration and citizens". For these reasons the MYC changed its strategy and moved from acting as ambassador to acting as a catalyst of participation and ecological mobility practices.

6.2.3 Strategy 2: MYC as catalyst
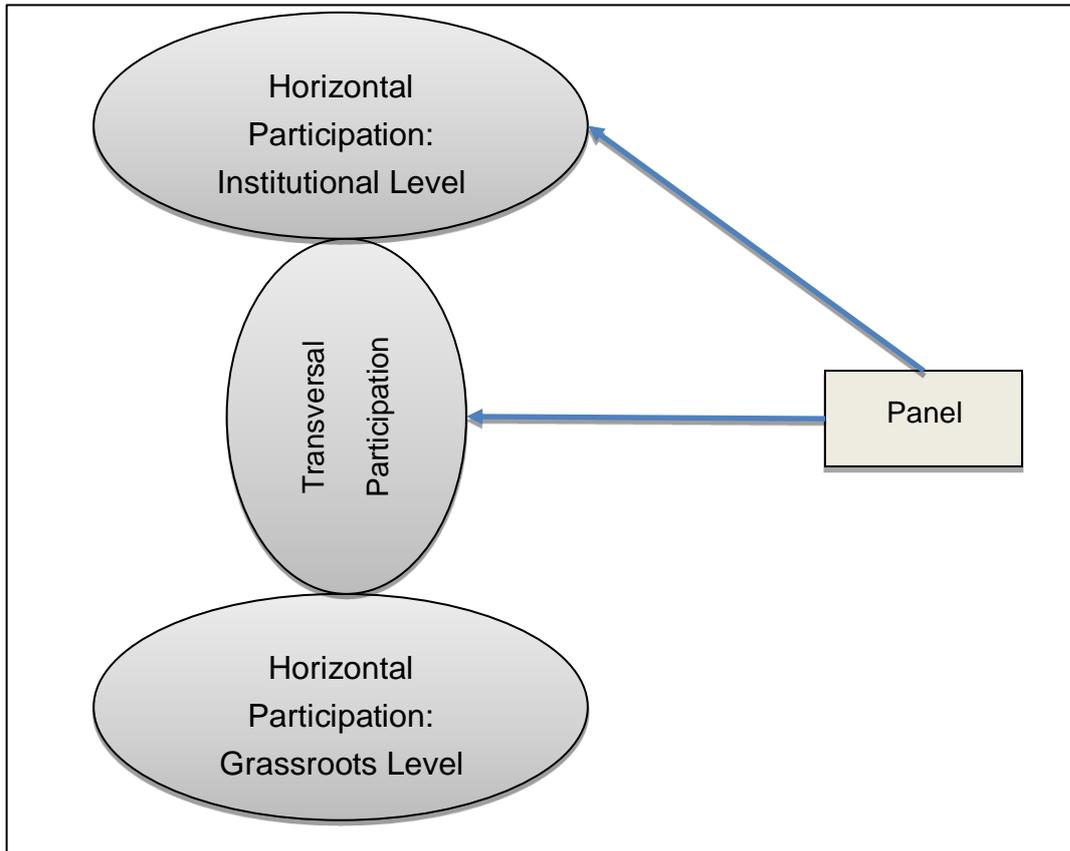
Figure 6.5: MYC's second strategy

Working as ambassador the MYC found obstacles that, according with my analysis, are attributed to a low level of horizontal participation at the institutional level. As Camilla reports, there was a:

> "Lack of participation among people who need to collaborate on administration and construction of public affairs, [that] is absurd, and it is harmful, because I think it's the easiest way to waste resources. Economic, but also of 'personality'".

Specifically the view held at the MYC is that the Council lacked tools for coordination of decisions in terms of mobility and for an integrated governance structure to coordinate these decisions with reconstruction and zoning plans. To deal with this situation, the MYC developed a new strategy

assuming a role that can be defined as *catalyst*, aiming to catalyse horizontal participation at the institutional level. The MYC view is that this improvement would also result in an improvement in the transversal participation, as shown in Figure 6.5.

Specifically MYC acted in this direction using the resources accumulated within the previous projects for the Participatory Budgeting. Instead of generating a structural proposal for public transport, it developed an articulated procedural proposal aiming at institutionalising a new transport governance structure, the Tavolo Permanente della Mobilità - Permanent Mobility Panel (Panel). Proposal that, for the context of the Council of L'Aquila, was a novelty in terms of governance, as stressed by all the actors present at the first meeting.

The Panel aimed to bring the issue of mobility to the attention of the Council, coordinating all the actors involved in transport planning: the planning departments, the local transport providers, and the local University. At the same time the Panel was open to the participation of all citizens. Formally it aimed to promote research and experimentation on the themes of citizens' participation and ecological mobility, promoting the transition, via participatory planning and awareness campaigns, from the Urban Mobility Plan (UMP) to Sustainable Urban Mobility Plan (SUMP) for L'Aquila (May 2015). With compulsory attendance for institutional actors, the Panel was a hybrid governance structure between a space for public consultation and a technical panel on mobility issues. The MYC wrote in the initial proposal: "the bet we propose is to put together the two formats, creating a table of discussion and participation with citizens which also has its own decision-making and implementation power". In this way, in the vision of the MYC, the Panel was an experimental tool of participatory governance where: experts could coordinate; citizens could get informed and synchronize in offering their vision for the city; and these two actors could dialogue and undertake common actions for short-term mobility, with an eye to the long-term effects of their choices. As such, the Panel aimed to innovate the politics of mobility in L'Aquila, while also becoming a permanent structure inside the Council. For the MYC this was important especially to deal with a topic such as mobility, that, as Emma said, "changes every year, every three years, in a city that will always change; we should bear in mind the objective of planning, the aim of the plan, and should bear in mind the need to continuously update it with taking into account mobility issues, always".

The MYC envisaged the Panel as a planning space in which is guaranteed permanent discussion about the future development of mobility. The MYC

pushed the Panel to embrace a role similar to the one described by Albrechts (2015) for radical strategic planning (§2.1.10), whose objective:

> "Should not be the production of plans themselves (not even strategic ones) but the production of insights of prospective change and encouraging public debates on them. It is a way of probing the future in order to make more intelligent and informed decisions in the present" (9).

For the MYC, this space should be built into a more technical planning process, ensuring consultation on the final decision-making and implementation processes[62]. These characteristics, as written in the proposal, would allow the Panel to "actually create a change in the landscape of the future of L'Aquila's mobility, and become a model example of a profoundly democratic management of public affairs". The objective of the MYC was to create a 'method' for citizens' participation that can be reproduced also in other policy contexts.

From a resourcefulness perspective, the Panel can be interpreted as a proposal to optimize the use of intellectual and political resources at the institutional level (§3.2.1). At the same time, it is a participatory project for mobility planning that aims at boosting transversal participation thereby establishing a permanent channel of communication between the grassroots and the institutional level. The Panel became an institutional and physical space in which the MYC two-level model of participation for transport planning could take place interactively and simultaneously, without the need for an ambassador. Within the Panel, institutional participation, grassroots participation, and transversal communication occurred at the same time and were integrated one with one another, as shown in Figure 6.6. Moreover, they facilitated each other: institutions would be invited to higher internal collaboration under the direct scrutiny of citizens and citizens, sitting together, would have a chance to better coordinate and participate. Within the Panel participation is understood at a partnership level (§2.2.1).

The MYC, with the support of data collected with its strategy 1, brought its proposal to the Council and the Panel which were welcomed by the local

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[62] The fact that the MYC explicitly refers to implementation processes emerges from its analysis of the planning situation in L'Aquila. The MYC is more concerned with the difficulties that the local institutions find in implementing transport plans than with its ability to plan (which is normally performed by external consultants) (§7.2.1). The MYC does not critique the UMP, but the scheduling of the intervention and the issues of implementing them attributed to a bad management of resources.

Council. In June 2014, with an official municipal decision, the Panel was institutionalised and started holding monthly meetings.
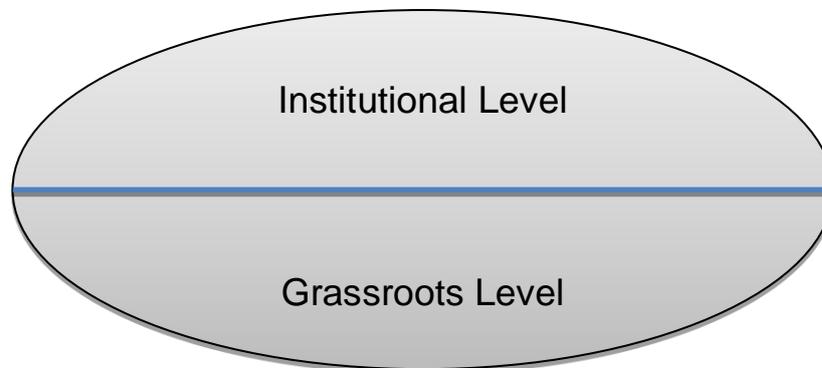
Figure 6.6: MYC's participation model for the Panel

6.2.3.1 MYC as catalyst: the relation between citizens and expert

Since the first meeting, the experts expressed concerns with joined experts-citizens Panel and proposed to instead structure it 'on two levels': one of experts that coordinates institutional efforts to improve urban mobility; another of participation and engagement with the population. The MYC was asked to organize the second level. This view of the Panel replicates the initial participation two-level model proposed in Figure 6.2.

From an analysis of the transcripts of the Panel meetings, the quest for separation lies in the necessity for the experts to reduce contact-time with citizens. In the expert's views a permanent attendance at the Panel by citizens would slow down the planning process. For example, the Official in charge of reconstruction stresses the importance of:

> "Maintaining a distinction between the participatory phase of the Panel, which will undoubtedly be carried out in order to collect the needs of the population, and the engineering design phase of the future of mobility Aquila, which addresses the problems in operational, urgent, and deferrable manner, which a technical committee so broadened cannot definitely do".

Citizens' participation was considered by the experts as, in the words of the representative of the local University, a moment of "aggregation of positive energies that we could take from the population, i.e. of needs" that has to be separated from the phase in which "turn them into projects and undertakings.

That is a job that belongs to the experts, because it is very complex". In a typical clash between the instrumental rationality of the experts and the communicative rationality proposed by the MYC (§2.1.2, 7.3.3), the experts wanted to affirm their different position with respect to the citizens, seen as valuable sources of data, but not able to deal with the complexities of planning. The experts proposed a tokenistic vision of participation (§2.2.1) and a separation of the Panel into two levels. This separation did not correspond to the original idea of the MYC of a conjunct strategy to tackle the mobility issues in which the expert's choices were constantly accompanied by citizens' scrutiny and contribution.

However the MYC did not deny the importance of experts in planning mobility, also within communicative and participatory practices. For example, Silvia highlighted:

> "The role of experts is essential. The most important thing is knowledge. Of course, the participatory process must be based on the experts. I am not a mobility expert, so I cannot provide any solutions, participation must give way to experts to [...] operate and fill the gaps".

For the MYC, expert knowledge is essential to plan mobility. At the same time, Silvia continued to stress the need to introduce an element of communication and citizen scrutiny on this knowledge:

> "It is important that the expert is able to tell the city how it works, to frame the scope so that the citizen has the tools to objectively understand also if the instance he brings is valid. And according to the instance of the citizen, the experts and the institution should operate".

This citizen scrutiny would be a response to a typology of transport planning that, under the analysis of the MYC, suffered from relying on one-man vision or one-citizen necessities that biased the expert-based approach. Especially with regard to the planning of the public transport services the MYC highlighted the risks of personalism. For example, it criticised the reliance of planning choices on the vision of the Chief Executive that has been responsible since the 1980s for the design of the bus network. As Emma said, "he has his idea, he is convinced that you have to make a single line that starts from L'Aquila east and to L'Aquila west, that's it. And for him is unquestionable!" This reliance on personal visions was also connected, according to the MYC, with the fact that the AMA had limited resources to conduct data collection or to run appropriate modelling tools and uses manual programming for the services (§6.2.2.2). Similarly, leaving the decision of which bus services to maintain to the Councillors' decisions

could, under the analysis of the MYC, leave space on personalisms. Within these boundaries, the mobility planning risked becoming composed of a "series of random gestures", as Emma said.

Recognising the importance of expert knowledge, the MYC advocated for a planning practice in which this is submitted to a communicative rationality (§2.1.8, 7.3.3). The aim was to ensure the best possible outcomes for the city. The MYC itself, as a catalyst, wanted to, as Camilla said:

> "Assist the experts in sharing with the public their choices so that choices are informed by both parties, which is on the side of the experts and of the citizens, in order to not end up with abstract plans thought beyond the actual needs of the city".

The relationship among experts and citizens, for the MYC, goes beyond consultation: experts should communicate with the public through all the planning phases and be constantly guided by the needs of citizens. This direct contact would allow citizens to alert the experts when they are "doing something too distant" (Camilla) from the public.

The tensions between the MYC two-level model of participation and the tokenistic vision by the experts, that, in the MYC's perception and as Camilla considers, "distrust participation", created within the Panel a clash that played a role in its failure. As the interviews report, when the Panel got ready to 'open to the city' and have public meetings, after the initial coordination meetings[63], Councillors stop attending the Panel, decreeing informally its end. An analysis of this failure (§6.2.2.4) needs to take into account both the non-compliance of the experts towards the Panel and the inability of the MYC to effectively lobby for it within the Council. The MYC's insistency for a direct participation of citizens at the Panel's meetings since its first establishment, a timing possibly inappropriate for the institutional actors, may have caused its collapse.

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[63] Firstly, the Panel meetings function as coordination; for example, at the first meeting when different Departments share their projects, Emma comments: "I'm excited, because the Council speaks with the Council and tells it what the Council is doing. Because for us this has been the first discovery [...]: that the [different departments do not coordinate]". Secondly, the Panel attempts to set a Department of Mobility to coordinate all the efforts and, as preliminary activity, proposes to all the members to share their documentation and projects on mobility. Both these two last proposals are never fulfilled due to uncompliance of the institutional actors involved.

6.2.3.2 MYC as catalyst: the need for a culture of participation at the institutional level

In the MYC's view, the two-level model of participation could work only in presence of a *culture of participation* both at the institutional and grassroots level (§6.2.1.1). But what is a culture of participation, for the MYC and in more general terms?

The literature does not provide a full definition for a concept that is normally associated with children participation (Kirby et al. 2003; Jochum et al. 2005). Given the variety of meanings that 'culture' has (Kroeber and Kluckhohn 1952), a culture of participation can be defined as the set of attitudes, beliefs, knowledges, and capabilities towards participation that an individual or an organization has. This includes the set of practices and discourses, and the extent to which they are participatory. Different cultures of participation exist (Kirby et al. 2003). I consider a culture for participation to be *an attitude of openness towards and a capability of supporting the existence of participatory decision-making processes at the 'citizen power' levels of the ladder* (§2.2.1). Specifically at the institutional level, a culture of participation can be considered as "part and parcel of the formal and informal ways in which [they] take decisions" that is "embedded within organizational processes" (Kirby et al. 2003: 30). In light of this definition it is worth exploring to which extent the Council of L'Aquila has developed its culture of participation.

From an analysis of official documentation, the Council has in its political agenda a strong commitment to participation and reveals important elements of resourcefulness. The agenda of the Mayor for 2012-2017 was based on the ideas of "unity, democracy and participation" (Cialente 2012: np). The city is considered as a 'political and cultural laboratory' in which to "experiment and define new models of governing the city, making politics and being citizens" (ibid). Participation is seen as "an assumption and the highest form of democracy" (ibid) to which to dedicate new structures within the administration and a system for information-transparency-communication. Part of this is the institution of a Participation Department, of the Participatory

Budgeting, the Territorial Council of Participation[64] (TCP), and the Urban Centre (UC)[65]. These institutions are implemented as a response to the popular demand for participation (§6.1.4).This appears to replicate what happened in Italy during the 1970s with the first institution of the TCP (Bobbio and Pomatto 2007). Specifically, the installation of the Participation Department is, as the Participation Councillor said:

> "An attempt to follow a path towards a paradigm shift in the governance, i.e. switch from [...] the power in the hands only to the elect, to a horizontal model, that would give the opportunity for citizens to count in the choices, i.e. achieve and reach shared decisions".

The Councillor's idea of participation is in line with the partnership level of the participatory ladder (§2.2.1). The attempted paradigm shift is a response to an historic necessity for participation strongly expressed by citizens after the earthquake (§6.1.4). A shift that, as the Councillor continued, poses several challenges:

> "Participation may be declined in so many ways, and it is a continuous experimentation. Because it is very tiring, because it does not bring consensus, at least in the immediate, and because although aside goes to undermine the deeply rooted administrative methods, it is not at all simple".

Building participation, in the view of this section of the Council, required a change in the administration and a multidimensional approach:

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[64] These are participatory structures implemented in the city in 2015 as a personal vision of the Mayor, as reported in his interview. They are decentralised Council structures with no deliberative powers composed by 12 volunteers per area that can "express advisory, and not binding, opinions on the draft resolutions of interest of the area of competence or of general interest of the Council, as well as intervene in the promotion, participation, public information and the exercise of the right of initiative on the matters for the Council and the municipal council, through petitions and proposals" (Comune dell'Aquila 2016a: np).

[65] The Urban Centre of L'Aquila is an institution founded in 2015 under the demand of the National Urban Planning Institute and a series of civic committees and organizations that demanded its institution since 2013 (Comune dell'Aquila 2016b). It is inspired by a series of similar participatory institutes built in Italy since the '90s to support the local institutions in urban planning. In L'Aquila is composed by 82 entities among private citizens, organizations, and committees. It aims to "enable information, communication, participation and sharing by citizens on themes regarding the city and the territory" (Il Centro 2015: np).

> "It is clear that to carry forward the participation as we understand it, that is, a participation that is horizontal, effective, independent, third also by the municipality, we need to equip ourselves with many tools. I.e. not just uniquely pursue a way, at least as I see it I, but you have to equip yourselves with many tools".

In this view, participation requires the implementation of a variety of instruments to allow both the administration and the public to learn it. This learning process, that contributes to build a culture of participation, as the MYC experienced, brings challenges at each level. Also the Mayor was aware of them and of the underdeveloped culture of participation in the city: "I am seeing that there is a great difficulty, not only for us, but also for citizens [...]. Participation is a very complicated path that should be learned both by the public and by the population". Also for the Mayor, participation required a process of institutional learning.

This political commitment by the Mayor, however, did not necessarily correspond to a strong culture of participation in the Council as a whole. This emerged from the literature (§6.1.4) and is evident in the tokenistic attitude towards participation by the Councillors at the Panel meetings (§6.2.3). Furthermore, it emerges in the different views on participation within the Council.

For example, compared to the Participation Councillor, the Smart City Councillor that organised a series of participatory workshops holds a diverging viewpoint. When asked about the underlying idea of the workshops he considered: "the workshops are first of all a presentation of what we are doing, partly because of course we are pleased that there is the cooperation of all, the cooperation of citizens". This position is in line with the information level of the participation ladder. As such refers to a lower area of the ladder with respect to what the Participation Department envisions.

Similarly, the understanding of participation as a continuous multi-strategy experimentation and learning process as expressed by the Participation Councillor, contrasts with the position of the Smart City Councillor. For him, if different strategies of participation were present:

> "We must try to put them together, and if there are some conflicting we must either choose one or the other. Once you have chosen the way…then of course participation should be delivered not only to the substantive level, but also at the formal level on a regular basis".

Whilst one part of the Council proposed participation as an open cycle and learning process, another sector was willing to regulate it and limit it to rigid

structures. As such, from the interviews, informal conversation, and from having attended participatory activities organised by the Smart City Department, there emerges an understanding by this Department of participation as professionalized activity. This ought to be organised in contained spaces and times under the responsibility of external contractors. This contrasts with the holistic vision of the MYC, of the Mayor, and of the Department of Participation. There was a fundamental tension in the different understandings of functioning of the democratic processes. The Smart City Department referred to a traditional representative democracy structure, with a slight tilt towards concise participatory exercises for specific consultations. The MYC and the Participation Department championed an alternative model of participatory democracy (Bobbio 2006) whose implementation might require changes much deeper than the implementation of the Panel, based on a process of learning participation.

This demonstrates the variety of understandings of participation the Council held. Some of those can be interpreted as being within the citizen power section of the ladder (§2.2.1) and would be then part of a culture of participation, as defined in this section. However, despite the intention for some part of the Council to express this form of participation, it had reduced capabilities and practices to perform this to a full extent.

Specifically, the various strategies attempted have had a limited success and popularity, like, as I witnessed, the Smart City workshops. Moreover, often the Council had difficulties in giving to the participatory initiatives continuity or transforming them in spaces of decisions beyond a space for citizens to complain, as reported in the interviews. An example is the Participatory Budgeting that was being reduced in size and resources allocated year after year. Moreover, the strategies that have greater attendance were only the ones implemented under direct demand by civic committees, such as the UC. The only initiative from the Council was the TCP that had however been implemented to not initiate this process of learning, but, according with the Mayor, to constitute a "school of politics" to prepare a future "ruling class" in a context in which political parties are not anymore available to do so.

Finally, there was a difference between the MYC's and the Participation Department's visions, emerging from the MYC view on the UC. The Council championed the UC as the solution to the participation problems. However for MYC, whilst the Panel was an institutional planning structure proposed by citizens in which the citizens were allowed to monitor the actions of the institutions in direct contact with them, the UC was a citizen structure organised by the Council under the pressure of specific interests groups of

citizens and the National Institute of Urban Planning. As such the UC resulted, in the analysis of Emma, "as something very cumbersome, very institutional, very driven by engineers, very targeted to urban planning, to that vision there". In proposing the Panel, the MYC envisioned a structure based on a different model of participation. As Emma stresses:

> "Different because the Panel proposed a participatory planning, first of all on a specific topic, so much simpler, and then a theme that is so specific that it is the heart of all the other issues[66]. That is, you can also make a speech on urban planning, but you have to talk about mobility".

Despite this analysis, the MYC entered in the UC after the crisis of the Panel in an attempt to use this as support for the Panel itself. In any case, as the MYC expected, the UC was never able to function properly since its first formation because of internal disagreements whose analysis goes beyond the scope of this thesis.

All these elements bring the MYC to consider the Council as having an underdeveloped culture of participation. It also clarifies the reason why the MYC, after its attempts to support the Council path towards participation, addressed the Council of being, as Emma said, "not capable, it is not up to the participation". Despite a potential attitude to higher levels of the ladder, the Council appeared to have yet developed capabilities, knowledges, and practices to coherently support and implement them.

6.2.3.3 Advantages, challenges and limitations of strategy 2

The Panel was seen by members of established local organisations as an innovative driver for the enhancement of transport policy-making in L'Aquila. Indeed, several local actors had demonstrated great sympathy towards it, among which one can count the Gran Sasso Science Institute, an international school for advanced studies based in L'Aquila. The Panel stated as first priority the institution of a Mobility Department within the Council, to respond to the need to enhance transport policy integration. With the institution of the Panel, the MYC was able to make the Councillors aware of the need of coordination at the institutional level and to enhance integration

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[66] The preference that the Council has for instituting the UC over the Panel might instead be positively seen in light on the debate on the need to go beyond single-issue processes that do not allow an increase of social capital (Bobbio and Pomatto 2007). This is however contrasted by the reality of the failure of the UC due also to a lack of focus on specific topics.

among planning actors. What emerged also from the analysis of the transcripts of the Panel's meetings was the development of a common understanding of mobility as an issue to be addressed conjunctly. The Panel as such was a tool to enhance participation at the institutional level. Moreover, the Panel aimed to organise public meetings on mobility and hold a Sustainable Mobility Day, in line with the strategy of the MYC to involve the civic society. Also, the Mayor decided that the Panel would have an effective power to propose policies and intervention at the City Council, ensuring the effectiveness of participation.

However, the Panel stopped working after less than ten meetings, and in 2016 while still formally existing as structure, it is practically dormant. The reasons for this failure are many and having interviewed the main actors involved and having attended most of the meetings I can conclude that they are as follows. First, the traditional governance paradigm was too strong at the institutional level to make space for long-term participatory practices such as the one proposed at the Panel. Furthermore, there are pre-existing conflicts that prevent its success. The Smart City Department, in particular, did not welcome the MYC projects and never attended Panel meetings despite being required to be present by municipal decision. The reasons given are connected with problems of representativity: the Smart City Councillor did not consider participatory democracy as compatible with representative democracy, as evident in his words:

> "Citizens can collaborate at the level of proposal, anyone can do it; but to write that at this Panel all citizens can participate seems to me something a bit too excessive, in the sense that I do not say that 70,000 people were to be all on the same day, I de facto exclude this".

He also commented negatively on the nature of the MYC as informal group with no legal representatives or internal hierarchies: "we need to speak with a representative!" This is despite the fact that the MYC had received Council funding to implement the Panel: having proposed at the Participatory Budgeting the construction of a Panel, the MYC received a part of its budget to coordinate this project.

Second, there was a discontinuity in the political will. The Mayor was initially highly supportive towards the Panel and urged for its approval at the Council. However, after a few months, under the pressure of the Smart City Department, concentrated on the implementation of the UC and the TCP as broader participatory structures. These facts show that benevolence of political parties is still crucial to allowing the start of a new governance

methodology. Emma was clear on this point: a project such as the one of the Panel:

> "As long as it remains a speech, say political, say even superficial, but also of good will of the individual Councillor or Mayor, it goes on. Then when the participation must become a reality, that is, when it needs that the municipal structure starts acting respecting the interface with citizens, then hangs around".

The conflicting political agendas of the Mayor reduced the possibility for an effective implementation of the Panel in a Council, not having the human resources itself to act towards greater levels of participation. The AMA's Chief Executive, which participated all the Panel meetings, highlighted how the bureaucratic and personalistic situation at the Council was an obstacle to the MYC's work:

> "MYC has had the merit of putting in a 360° firing the mobility needs [...] It started with a big desire to have an impact on these needs, on the phenomenon of mobility, but then it got lost a bit in the mazes of the functioning of the Council. Because there are so many sectors that were supposed to make the contribution in the planning of mobility that then in fact MYC was not then able to properly engage all these areas. The last meeting there was someone who came grudgingly, perhaps yawning. [...]. At this stage probably the various sectors of the municipality have been inattentive to these overall planning needs because everyone is overwhelmed by their internal problems, [in a context] where unfortunately can prevail more everyday issues than a speech about medium and long-term planning".

In the view of the AMA's Chief Executive, the Council, structured on silos and lacking of economic and intellectual resources, had not the capacity to be receptive to the innovations proposed by the MYC, as it was not able to coordinate a medium or long-term planning effort.

Third, there was limited support to the campaign for participation on transport planning within the Council and the public. In this context the MYC, alone, was not able to create enough political pressure. Furthermore, the MYC itself had to deal with a loss of internal cohesion and reduction in the numbers of participants, when it started concentrating on more policy oriented goals. The MYC was increasingly aware of the importance of having more citizens sitting at the Panel. As Camilla said:

> "I feel that if there had been more people to attend those meetings, more people from other groups, the whole thing would have been less frontal and then would it not perhaps be so unnoticed".

In the MYC's interpretation, the lack of plurality of parties and the centrality given to institutional actors at the meetings was another factor that prevented the Panel to function. In order to institute the Panel, the MYC attempted to firstly coordinate the institutional actors, sitting at their table as facilitator and developing with them the Panel, and then called for other citizens to join. This resulted in the MYC being left in a minority position, and having to reshape its project accordingly with the necessities of the institutional actors. Those in the end, despite positively praising and supporting the initiative, were not available to input time and resources into its functioning. This failure is connected with the MYC overvaluing both its power to shape governance and the possibility for a group of citizens to intervene in the complex Council structure.

The MYC aimed to build the Panel to increase institutional participation and transversal communication. However, its effort was insufficiently structured to have an impact in a context of low political will and citizens' support. Created within the institutions and with the aim to facilitate the functioning of those, after one year of work as ambassador and then catalyst, the MYC had not had any concrete results and considered once again to change its strategy. Inspired by principles resonating with resourcefulness, the analysis of actions of the MYC showed the challenges of implementing resourcefulness practices in a context in which silos within the Council are not receptive. Camilla and Silvia both said in their interviews: "[institutions] have made us what we did not want to be". The MYC felt obliged to change its role from a collaborator of the Council to the one of an actor that criticises the Council's malfunctioning. In a context in which the MYC felt no room for effective participatory planning, its work as an 'informal group' on the side of the institutions, moved towards the one of a 'city committee', created in response to a crisis of representativity in the local institutions (§3.6). As described by della Porta (2004) these city committees are:

> "Organised groups, but structured in a weak sense, formed by citizens that reunites on territorial bases and that mainly use forms of protest to oppose intervention considered to be damaging to the quality of life on their territory or ask for its improvement" (della Porta 2004: 7).

City committees can be considered assuming the form of urban social movements (§3.6) that coordinate using participatory structures on themes that go from environmental issues to planning or social services. The MYC, despite considering a vast urban territoriality and using forms of action often not of direct protest (Vasconcellos 2001), felt forced to take a similar role, with an oppositional stance in order to impact on the political agenda.

6.2.4   Strategy 3: MYC as networker and educator

With its first two strategies, as ambassador and as catalyst, the MYC had attempted to implement its two-level model of participation. The first strategy had been not successful because of the situation of ineffective communication between the Council and the public, and within Council departments. The Panel, which the MYC aimed to create to catalyse institutional participation, had attempted to solve these issues, but found difficulties in a context of under-developed culture of participation and discontinuity within the political will. Moreover, the MYC suffered a lack of civic support. If the Panel had still potential to become a powerful governance tool, it had several limits and the MYC found it difficult to work on its own with the institutions. For this reasons, as emerged from the interviews and from the conversations had with the MYC members, the MYC started concentrating on enhancing the grassroots level participation.

At this stage the concept of *critical mass* became increasingly used by the MYC to indicate the need to build a network of grassroots actors able to weight in the political decision-making and in mobility planning. In the vision of the MYC, this network could, in the short term, create political pressure on the Council to make the Panel functioning and, in the long-term, ground a functioning two-level participation model. This critical mass should be composed by actors that assume, in the words of the MYC members, an attitude of *active citizenship* (§6.2.4.3).

As represented in Figure 6.7, the MYC strategies in this phase developed towards boosting transversal participation through the creation of a demand for it by a functioning grassroots level horizontal participation. This strategy mirrors what was stated also at the European policy level in which the ladder model of participation is substituted by a pyramid, symbolising "the fact that the ability of a small number of residents to get involved 'vertically' in decision-making arenas [...] depended on the ability of the mass of local residents to get involved at a variety of levels 'horizontally' in general community activity" (Chanan 2003: 27). Horizontal participatory processes are at the base of healthy democratic processes, also in traditional vertical models of representation.
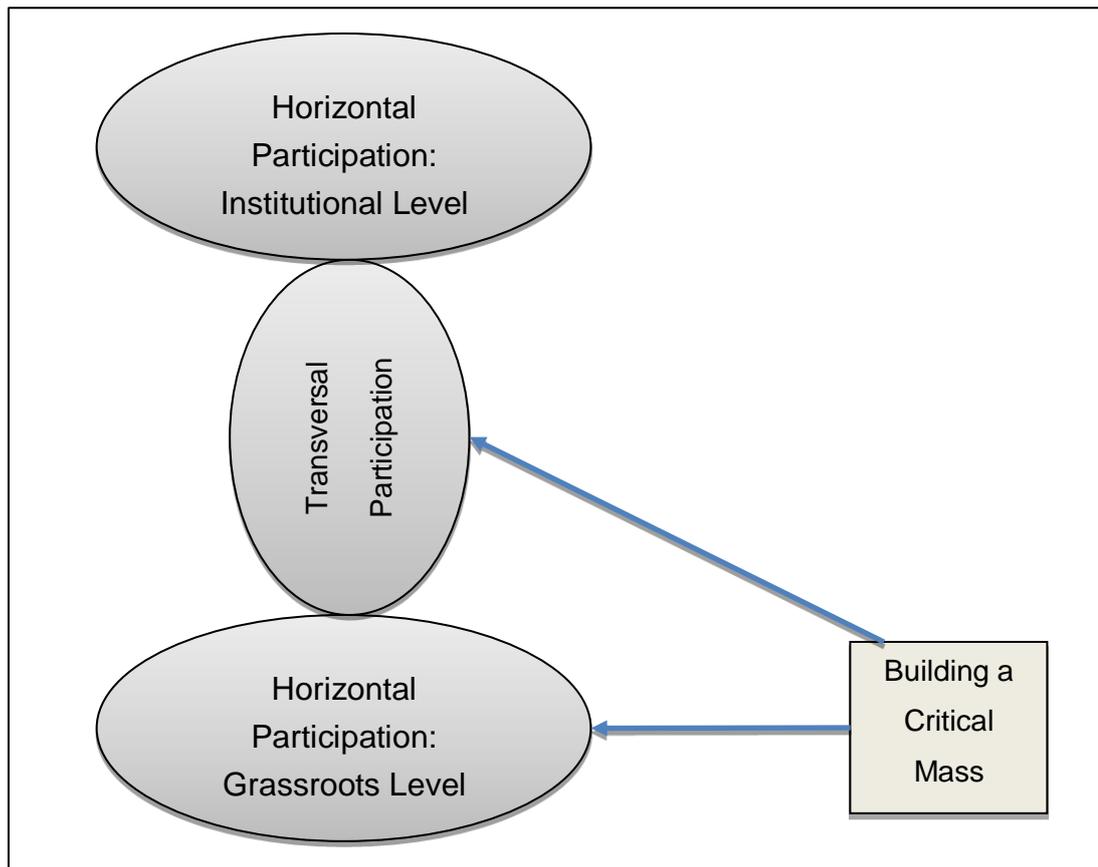
Figure 6.7: MYC's third strategy

6.2.4.1 MYC as networker: building a critical mass

In building a critical mass, the MYC aimed also to connect and form a network able to pressure for the functioning of the Panel.

Firstly, the MYC started in April 2015 a new Citywide Network for Sustainable Mobility (CNSM) composed of several civic associations working on mobility, whose Facebook group in January 2017 counted more than 2,700 members. Its immediate goal was to organise two Sustainable Mobility Days (SMD) proposed directly by the Mayor as outreach activities of the Panel. The MYC saw those also as a moment to sensitize the city to the idea of ecological mobility. In charge of delivering the SMD, the MYC built up a critical mass able to give strength and visibility to the events.

The CNSM received a good response by civic associations that meet, discussed, and shared the project of the Panel, enlarging the civic debate on participation and mobility. It was composed by actors already active in the city that have developed since the earthquake a culture of participation. Emma states: "the people I met are people who have made the reflection. They recovered the cultural change, and I'm glad of this". These actors were what the MYC considers active citizens. They are committed towards civic

rights, keeping informed on and taking an active stand in the politics of the city. They, in different forms, organise, coordinate, and propose alternatives. Despite several definitions of active citizenship being available in the literature, the MYC's understanding of the concept could be linked to the idea of 'republican active citizenship' (Chanan 2003; Kotkas 2010) and to the definition proposed by Moro (1998, 1999a, 1999b). For him active citizenship is "the capacity of citizens to self-organize in a multiplicity of forms, to mobilize resources and to exercise powers for the protection of rights in the arena of public policies, to achieve the end of caring and developing common goods" (Moro 1999b: np). Also in the view of the MYC, active citizens participate in public life and at the same time organise new spaces of participation, mobilise intellectual and political resources, and advocate for the protection of public goods. In this way they exercise a form of dual-power, directed to protect certain ethical aspects of public life (§7.2, 7.3.3). As such their attitudes can be considered as complementary to the ones of resourcefulness-aligned actors, similarly projected on actions on the public sphere beyond institutional spaces and concerned with the distribution of resources as common goods (§3.6). Active citizens are citizens that have made a reflection on the role of participation and on the future of the city.

In the context of L'Aquila, as consequence of this reflection, however, as Emma continues, these people developed also realism on the impossibility of the local institutions to, despite its efforts, effectively take on board the demand of participation. Emma referred to the active citizens:

> "They are people that do not go in the streets [to protest] anymore. That is, if I called them now saying 'let's send an email to the Mayor saying this', I do not know what answer they would give me, because together to having recalled the cultural value of participation, they also recovered much evaluation realism, a very realistic approach towards the administration that is not capable, it is not up to the participation".

For the MYC, the active citizens in L'Aquila were citizens that had a culture of participation, but that were restrained by the under-development of the same culture within local institutions (Minardi and Salvatore 2013). The active citizens that the MYC met were disillusioned of the ability of participation to effectively work in the city. As confirmation of this disillusion, despite their intensive work on the organization of the SMD, these did not take place because the meetings of the Panel keep being postponed or cancelled.

Secondly, the MYC tried to connect more widely with other participatory institutions that are emerging in the city and use them as spaces in which to

build critical mass in support of the Panel. The MYC became a member of the UC as 'Organising committee for the Panel' and the MYC members assumed a role of relevance within the UC.

As third effort to build critical mass, the MYC attempted to organize territorial meetings in which to ask active citizens and representatives what they expected from the Panel. The idea was to invite at the meetings other institutional actors from the participatory institutions, members of the Town Council, the UC, and the TCP, to understand their role in regards to the Panel. The MYC envisaged these new actors becoming new arms of the Panel, expanding its grassroots levels, its intellectual, and political resources. At the same time, the MYC interacted with these other participatory institutions with the idea that mobility should emerge as a novel issue in the existing and forthcoming participatory spaces. In those the MYC could have the direction of participatory activities on mobility and of the construction of proposals about mobility, having accumulated knowledge on the subject that the other institutes did not have.

Nevertheless, all three of these initiatives resulted in a vacuum. The SMD did not take place, the UC never started to function, and the MYC never managed to coordinate with the TCP. From the analysis of the original documents and informal conversations, it emerged that the under-developed culture of participation within the institutions also affected these attempts to create participatory planning structure, even when initiated by the Council itself. The MYC believed this to be the case and in particular developed critiques towards the TCP of inefficiency and personalism. Its position reflects also what was observed by della Porta (2004) on the inefficacy of these structures. This in turn affected the abilities and motivations of active citizenship to act as critical mass. Moreover, the MYC realised that the active citizens themselves suffered with an under-developed culture of participation. In order to consider this aspect, I refer back to an event that precedes the formation of the Panel.

6.2.4.2   MYC as networker: the need for a 'culture of participation' at the grassroots level

In September 2015, the MYC proposed a workshop, similar to the one with schools (§6.2.2.2), to active citizens, local associations, and administrators based on a visioning exercise on the future of mobility in 2050, whose results could be influential on the Council agenda. The aim of this event was to build connections among different actors interested in the theme of mobility as

grounds for the proposal of the Panel. The event was attended by about 50 people.

At the end of the workshop, in a plenary assembly, the actors portrayed a shared vision on the future of L'Aquila mobility and indicated the resources to build it. This vision was centred, as in the final report, on the concepts of "polycentric city, well connected, with outsourced services to reduce need for travel and alternative means of transport to the private car. It was discussed the possibility of using the electric bicycle, reinvent the railway function, to facilitate the movement on foot". To the shared concern, among administrators and citizens, of a lack of resources connected with the economic and public transport crises as well as the decreasing population in the city, participants responded by pointing out low-resources solutions such as biking, rehabilitating existing infrastructures, land-use measures, and the rationalization of services and planning of time. All these measures needed a more efficient governance to be in place. Accordingly with similar proposals that emerged in other participatory activities in the city (§6.1.4), citizens highlighted the need for participatory governance structures to overcome the post-earthquake crisis. For them, as it reads in the final report of the workshop, "improving mobility, encouraging the use of environmentally friendly transport and public transport is first and foremost a political choice" that requires political structures that allow participation. From this project emerged a core proposal of coordination among the actors involved in mobility decision-making, from which stemmed the idea of the Panel. The MYC during this workshop built popular support for the Panel, aiming to act, as it did as ambassador, not on the base of its own analysis, but in accordance with a wider grassroots demand.

Nevertheless, this event showed to the MYC the difficulty of replicating the same format of participation used in the schools with adults and the limited extent to which a culture of participation existed within the city, even among active citizens. The event had been organised using small group discussions, that the MYC considered a highly participatory setting. This position is confirmed by the literature (Exley and Dennick 2004; Biggs and Tang 2011; HEA 2014). However, the participants since the start were reluctant to this setting and during the second part of the activities refused to sit back in the groups. They decided to hold a plenary assembly instead. This shows the limited extent to which horizontal spaces of dialogue, in which every single participant is allowed to have a say, are preferred in a society in which the culture of participation has not been historically developed (Hirschman 1986; Gambetta 1998; Calandra 2012; Minardi and Salvatore

2013) (§7.6). The small group discussion symbolised ability to horizontal dialogue and co-production that was avoided, preferring instead a more top-down process.

Giulia, that facilitated the workshop, highlighted the difficulty of adults that are "already very structured" in terms of personalities and behaviours to adapt to this new format of dialogue. For Giulia, differently from the school workshops, the adult participants "were so much on a repartee, so I imagine that from a certain age onwards, unless [...] the 40-year old is used already since his 20s to work with the workshop, it is really hard" to make small group discussion work. Comparing the work in this workshop with the results obtained with the schools, the MYC noted that students and young people have greater flexibility and openness to new methodologies than the adult public. At the same time they are more able to take on-board innovations and transformation. Camilla remembered that working "with the students [...] I saw even a few times a small spark that made me guess that they were also a bit changing their position". Differently adults "are stuck in something too rigid. [...] I think they still lack something to want to change things, to want to really experience something. They do not want to have risks, it frightens them very much". Also for this reason the MYC preferred dedicating itself to work with young people seen as the most receptive actors to a resourcefulness-based worldview (§8.5).

From the MYC's experiences, it emerged that in a cultural context traditionally not open to participatory practices, the adult public has a low receptivity to new decision-making forms and participation. This fact echoes also in the comments by the MYC during the focus group organised to discuss the results of the workshops with the school. Emma and Camilla reported, as important data symbolising the under-developed culture of participation, the low interest and support by the teachers present in the school during the workshops. Emma said: "None of the teachers participated, no one has watched, listened, tried to understand. Nobody. [...] that is, when [you] ask whether it is worth doing it with adults, well, in short, except that unfortunately it is lost time, it's worth it because they do not have [this culture] ". Similarly Camilla reported critical comments by teachers that considered the workshops organised by the MYC as a "loss of time" for the students, generating a negative influence also on students' attitudes towards

the event[67]. Reflecting on these comments MYC members were aware on the need to improve their engagement strategy. However, they are aware that, despite them, activities were highly successful with the students.

The refusal by what the MYC would consider the active citizenship on the territory to attend small group discussions made it realise the need for spreading a culture of participation also at the grassroots level. This point emerged clearly from the interviews as a condition to build active citizenship, a critical mass, a functioning horizontal participation, and thus a functioning participation in planning. As Emma said, the MYC was aware that:

> "The first change should take place in public and not in the institutions. On the one hand it would be easier make it happen in the institutions because you have to change 20 people and here you have to change a million people, so it is clear that the numbers speak for themselves. But there is no power that is questioned by itself, it does not exist in the world".

Further than connecting active citizens in the city as attempted, the MYC it felt the need to spread a culture of participation also at the grassroots level. This could improve the ability of citizens to participate and reduce the disillusion of the active citizens towards their ability to shape the future. To do so, the MYC acted as a networker, assuming a role theorised by Moro (2002). For the MYC building a critical mass could not only be the creation of a network of actors, but, was constituted by a dual strategy: connect and interact with active citizens and, at the same time, use education and knowledge co-production to build more active citizenship. More than that, the MYC as an educator, aimed to build a critical mass to support, on the short term, the existence of the Panel and, on the long-term, the permanence of a two-level model of participation in the Council.

6.2.4.3 MYC as educator: building active citizenship

Since the start of its activity the MYC utilized education and co-production of knowledge as processes entwined to the creation of participatory arenas

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[67] Despite being beyond the scope of this thesis, it is worth noting the different attitude towards the workshops in different schools. From my direct observation and as discussed with the MYC members, the work of the MYC was highly welcomed in schools whose curricula are more orientated towards practical knowledge and in which students are normally taught also in workshop settings, whilst receives negative comments, as the one reported by Camilla, in the lyceum. In this last case, moreover, the MYC was allowed to spend less time with the students and was not able to fully develop its small group work strategy.

(§6.2). However, only after having gone through strategy 1 and 2, the MYC explicitly refers to education as a core path to take. Its use of education can be considered both as substantial, aimed to increase knowledge about the mobility crisis and its possible solutions, and as procedural, aimed to build active citizenship grounded on a culture of participation and of ecological consciousness.

For example, the MYC acted as educator already in its first strategy, when it transformed surveys into a co-production of knowledge tool (§6.2): after analysing the data, the MYC returned them to participants to discuss the issues emerged and collectively elaborate possible solutions. The MYC used surveys innovatively, readapting a typically 'passive listening strategy' into an active listening strategy (§6.2.2.3). The MYC did not aim at imposing its views on transport policy, but at facilitating public opinion-making through communication. The surveys, that for their nature were a participation tool limited to an individual subjective interpretation of reality, became a tool to start an inter-subjective conversation aimed at building a common ground of understanding and collective solutions. For the MYC the survey could be used not only to gather data for planning, but also to make users aware of the collective component of mobility issues (§7.3). This attitude can be interpreted as part of the "caring and developing common goods" (Moro 1999b: np) aspect of active citizenship and resembled an understanding of participation as a coproduction process (Albrecht 2015), showing the prefigurative and transformative attitude of the MYC, expected of by a resourcefulness-aligned actor.

The MYC members themselves undertook a process of consciousness formation and self-learning during the workshops, with designing, distributing, elaborating, and returning the survey, thus becoming increasingly aware of the complexity of the issues they were challenging and of other possible solutions. As Silvia told me, during the workshops "we did certain activities that made us relate with the students, so also they made us think about certain things that possibly I haven't thought before". The workshops therefore, could be interpreted as a process of co-production and co-learning in which the same 'educators' in the role of the MYC members[68], were educated, in a mutual learning strategy that recalls a Freirean approach (Freire 2005) (§4.1.3, 4.1.4). The workshops, specifically, as Giulia said, "have enormous power because stir consciences and teach people to form

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[68] The concept of educator is used in this context with the expanded meaning that could assume as recognised by O'Sullivan and Taylor (2004).

an opinion". They had a transformative power both for the organisers and the participants towards active citizenship.

The high cultural value of these workshops has been recognised also by the Participation Councillor. In his interview he reported how several people approached him, in the schools, reporting positive feedback about the MYC project that positively impacted on peoples' willingness to participate. He reported:

> "[That project] led to ensure that people say,' ah, but then we can ask! We can evaluate together!' [...] and they ask, and even ask because they have seen that there is one thing. So this [project] has moved a bit the conscience, it did well".

In response to the climate of participation created by the MYC project, other stakeholders in the schools have started making explicit requests for improvements on the public transport services to the local authority.

The workshops have also had a positive impact in introducing a discussion around ecological mobility in the schools. Resonating with the principles of a resourcefulness-based worldview, the MYC put a special emphasis in increasing ecological consciousness, making the students access and discuss conspicuous information on the environmental and social impacts of car mobility. An in depth analysis of the results of the workshops, that has been carried out by the MYC with my support, showed that in the schools where there has been time dedicated to sharing information on environmental impacts of car mobility and discussion of different visions, proposals made by student had a high attention to environmental variables. This was in comparison with a school in which, as control group, there was no small group discussion on the delivery of ecologically-focused information. In this school the proposals did not touch environmental concerns or on alternative transport solutions and also demonstrated a lower attention to collective issues. In a focus group, the MYC commented on this fact. Emma showed the reason for the need for the use of tools such as small group discussions to enhance participation and ecological consciousness:

> "Much of the problem lies in the method[…] We are still in a phase in which being a participant citizen is a path that must be driven, that needs to be maneuvered […]. Although people are all protesters, there has not been a cultural leap there. For this reason L'Aquila needs this kind of exercises and it needs more and more in the schools, just start since much younger".

In a context of under-developed culture of participation (§6.2.3.2, 6.2.4.2), the MYC expressed the need for guidance and education towards participation especially with young people. The MYC believed that interacting with young people was crucial to impact on the whole of society, especially in view of long-term planning based on a new civic culture. In the document that contains the proposals for the workshops that the MYC submitted to the approval of the Head Teacher, it reads:

> "The importance of the student voice is considered crucial in outlining proposals for the future of the city [...] especially regarding the issue of transport: not only the students are the future citizens of a changing city, but also the segment of the population that today suffers more connection problems, the urban fragmentation and lack of public transport".

Students were at the same time suffering the consequences of the inefficient transport system and were the most receptive to transformation and change, becoming important allies of a potential resourcefulness-aligned actor. MYC members were aware of this and in all the interviews expressed the importance of replicating and institutionalising learning activities like the workshops, in order to open a path of "formation of a civic consciousness in the students", as Camilla reported. Using extensively spaces of participation, for Giulia:

> "It means to give back to people the power to choose something and [...] to contribute within a process. Workshops allow this. Somehow if a population or a group of people are not used to do this, because we are not used to this because of our culture, with that mode and then also in a playful way, we take them there, you make [participation] become a habit. However, this should not be one thing proposed once [and then nothing]. It must become a modus operandi".

In the view of the MYC, workshops can be a means to facilitate people openness to participation, building ownership towards the decision-making processes. They need to become the usual way of operating, in education and in general decision-making processes, if a culture of participation needs to be built. As Camilla said, interactive and small-group based spaces of participation allow raising consciousness and confidence on the civic role of the public: thanks to the workshops the MYC members and the students were able to build:

"Consciousness of their own small and essential social function. I think a work like this [of the workshops] even if it would only make this coming up in a student, already it would help to have a lot of confidence, and even in the things he does. [...]I think that being able one day to extend such work in schools would really make a revolution. Much more than proposing a project to the Council, because then the mayor ends his mandate and there is another person, and you must start over. Whereas if you starts with the schools in 10 years you will have all people ready to speak about these things".

This quote highlights what has been shown throughout this chapter: in the context of L'Aquila, despite its innovative ability to mobilise resources, the MYC's effort to build participatory decision-making structures in collaboration with the Council was unsuccessful. After more than a year of attempts, the MYC recognised that its resources would better be spent in educating a new generation of active citizenship able to support in the future a different planning strategy and vision.

The MYC is not the only actor that took this choice. As I observed during my extended fieldwork, several other actors originally active in that demand of participation high after the earthquake (§6.1.4), diverted their energy into educational projects. In disagreement with what is theorised by della Porta (2004), in a context of inability to impact on the institutions, urban social movements reduced their active protesting and become educators, possibly turning their complete disillusion with regard to the institutions into a future guaranteed by other generations. This can be considered as a mission that can be taken more widely by resourcefulness-aligned actors in crisis contexts (§8.5).

6.2.4.4   Advantages, challenges and limitations of strategy 3

The MYC had developed aspects of this strategy 3 since the start of its activity. The strategy aimed to create a critical mass of active citizens in support of structures of participatory planning, such as the Panel. Building a critical mass was based on networking and an educational process, with which the MYC answered to the underdeveloped culture of participation that had thwarted its work. In this, the MYC was more than aware of the "importance of 'participation' as a methodology, which does not compete with any 'specific political objective', but more deeply and incisively with a social and cultural process' (Calandra 2015: 161) where local people are the driving forces" (Castellani 2014: 116). As a resourcefulness and prefigurative actor,

the MYC used participation as a "strategy of resiliency" (ibid) and as a strategy to build more participation.

Despite the effects of this last strategy being less visible as they rely on a cultural change, the activities performed by the MYC as educator, especially within the schools, were successful and left a mark on the teachers and the students, both in terms of awareness to sustainability and attitude towards participation. Moreover, the networks created by the MYC continue to exist and produce information and data useful for the establishment of an ecological consciousness.

However, the extent to which this strategy works is limited by the lack of support and political will by the institutions. As mentioned, the creation of a network of active citizens both within the available participatory institutions and outside, were limited by the unresponsiveness of the Council. Similarly, possibilities of replicating the workshops at the schools were limited by the difficulty of introducing extra-curricular activities in the school program and the resistance by Head Teachers. These attitudes not only obstacled the functioning of the MYC initiatives, but also reduce the ability of these initiatives to influence or shape policies.

6.2.5 Building spatial justice advocating for common goods

In the previous section I showed the MYC's commitment towards participation in transport planning and the creation of active citizenship. From a resourcefulness perspective these processes potentially address both the problems of distribution and lack of intellectual and civic resources (§3.2). As done with the Forum (§5.2.4), to fully analyse how a transport planning process based on a resourcefulness-based worldview works in the practice of the MYC is important to also investigate the question of access to material resources, specifically as connected to the issue of spatial justice (§3.1.3) and accessibility (§3.5.4).

The MYC started its work by defending the mobility needs of youth as the most vulnerable group. In this way it firstly tackled an accessibility issue, but then recognised a wider problem of governance structures that did not allow these needs to be heard. The MYC identified then the need to make mobility a recognised crisis in a city concentrated on other themes. This is evident when the MYC approached the Smart City Department Manager and she asked: "are you sure that there is a mobility problem? I take the car and go wherever I want". Having recognised the centrality of mobility in the urban issues, the MYC wanted to create a space for a dialogue on mobility. Only

when such a space existed could the MYC, as a resourcefulness-aligned actor, bring the discussion on themes such as spatial justice.

In the subsequent analysis of the MYC, the mobility crisis is fundamentally a crisis of intellectual and political resources and for this reason the MYC left the discussion on material resources in the backstage. It is not the lack of information (the experts have it, but they do not share it or are unable to manage it), nor a lack of intellectual or economic resources (the local University and other collaborations would ensure the ability to apply for European funds). What it lacked is a structure of dialogue and coordinated planning that is able to direct resources toward the solution of the crisis. This structure, that the MYC envisioned to be the Panel, is not able to function because of negligence, poor organization, and interests posed on other issues.

At the same time, the negligence towards mobility issues and especially public transport was for the MYC a symptom of reduced attention to common goods. For the MYC, public transport represents representing the possibility to solve shared problems collectively. Focussing on common goods is for the MYC a prerequisite for a meaningful and democratic participatory planning and it is a fundamental value for planning. As Silvia reported: "planning will never be a democratic process until [...] values are not fit into it". These values, in her view, cannot be not abstract discourses nor simple viewpoints from the population, as it "has as primary point of view themselves, their homes, their sidewalk and the street under their houses. So much so that in L'Aquila the bigger obstacle to ban cars from the city centre will be citizens, it will not be the administration". For the MYC, the responsibility was not only institutional but also of the citizens. The role of an active citizenship is to promote these values and go beyond the individualistic attitude of the population. In this way the MYC seemed to challenge the mainstream understanding of morality in planning, in which the individual choices and preferences are central (Watson 2003, 2006) (§1.3, 2.3.2, 7.5). In the MYC's view, together with active citizenship, the public domain could act as an ethical filter in collective decisions and as a space to compose and deliver joined strategies. For the MYC in the public domain it would be unethical to carry on decisions that are not aimed towards the common good. This spirit was also shared by the Participation Councillor who clarified the importance of creating a public domain in which to speak about mobility and sustainability:

> "The common goal can also be the result of a summary. It is clear that we can see things differently, no? That's many things that I said [you] are divisive, that is, that if I tell them to many people, the common clichés does not accept them, right? [...] But maybe we say: but look do you have to heart this thing? You say, I just want to get to school, I do not care if I use gasoline, if it pollutes, I want to get there, I am not interested. But you understand that publicly support this position [is difficult].the very lacklustre interests [...], when they appear publicly, they lose strength, it is. because one or strives to bring a point of view that in some way, represents a common interest, or otherwise shut up and do not take it! Or that ones that are very fine, to be wary of, are the ones that take a personal interest and underlie it with noble reasons, right? Bringing democracy in Iraq, just as an example."

In his view, common goals, such as environmental protection, are ethically superior and would be preferred in a public open debate that would filter decisions and allow mutual and social learning. For the MYC, participation and planning themselves are processes that should facilitate a path of social learning, as Silvia said:

> "Planning must always be a path, a path of sharing, this is necessary! And a path that must take into account of possible decisions within the territory, of useful territorial decisions, of economically feasible decisions within the territory, and of socially shared decisions. And only like that you will do planning".

This ethical filter for the MYC, once the right information and a process of education to participation and sustainability had took place, makes it possible to take decisions for a common good that ensure also an even distribution of material resources and spatial justice. This is in strict accordance with the idea of mobility justice and the importance of ethical judgments in mobility planning introduced in resourcefulness (§3.3.2, 3.5.2).

6.3   Summary and conclusions

In this chapter I explored how the MYC envisioned and put in practice transport planning processes based on a resourcefulness-based worldview. I have shown that the MYC envisioned a planning process based on a two-level model of participation and attempted to put it in practice acting as an ambassador, as a catalyst, and as an educator and networker. All of these strategies presented to the MYC the limitations of the implementation of the two-level model of participation: in order for the model to function, is necessary to have a strong culture of participation and ecological consciousness both at the institutional level and at the grassroots level.

At the institutional level, the culture of participation is impeded by what the MYC criticised as a misuse of intellectual and civic resources: bad coordination and communication among the planning actors, and bad accountability of the institutions. The problem is not a lack of material resources for mobility, but rather a lack of coordination.

At the grassroots level, the culture of participation for the MYC should be enhanced by the building of a critical mass of active citizenship, through education and connection among citizens. The misuse of civic resources by the official planning actors and local institutions (including the school system), however, limited the possibility of active citizenship to flourish.

The MYC planning model was grounded on the idea of active listening and dialogue in the search for collective solutions, recalling a communicative rationality grounded on ethics (§7.3.3). In this the MYC used concepts of a culture of participation and an ecological consciousness (§3.3.3) that can integrate with resourcefulness, as explored in the next chapter.

Chapter 7: Learning from resourcefulness-aligned actors. Building an agenda for resourcefulness-based transport planning

In this chapter I fulfil the research objective O5. In order to do so, I reflect on the theoretical foundations of a resourcefulness-based worldview as developed in Chapter 3. Considering the approach to crisis, the conception of nature, and the philosophy of change conceptualised in the worldview, I review these theoretical assumptions in light of the practices and visions of the resourcefulness-aligned actors introduced in Chapter 5 and 6. In doing so, I reveal the learning points required to fully frame a resourcefulness-based worldview for transport planning.

As explained in the methodology (§4.2), I am not aiming to simply compare two case studies which have a highly different geography and history. By analysing the practices of two different actors, I derive a variety of learning points for resourcefulness and implications for transport planning theory and practices. Specifically, the case studies propose important insights on the analysis of the current mobility crisis and how to construct alternative practices to challenge it.

I firstly consider the approach to a crisis by the Forum and the MYC and how this dialogues with the resourcefulness-based worldview. Despite the two actors providing a different, but complementary analysis to the question, they both propose similar solutions on how to build more resourcefulness-based transport systems, through knowledge-based participation.

Secondly, I consider the way the resourcefulness-aligned actors address the environmental crisis. Thirdly, I analyse their practices and visions towards knowledge and participation. I then consider these practices in the context of the debate on planning rationality, analysing how the resourcefulness-aligned actors move beyond the dichotomy between instrumental and communicative rationality, claiming for knowledge-based and ethically grounded cosmopolitan rationality.

Each of these sections is structured as follows: I firstly propose the original view included in the resourcefulness-worldview on the topic; secondly, I separately consider the view of each of the two resourcefulness-aligned actors; thirdly I consider their views conjunctly; fourthly, I use these views to feedback into the original resourcefulness-based worldview.

In the final section, I consider the challenges that these actors and others might find in trying to implement a resourcefulness-based transport planning practice to then conclude with a revised agenda for resourcefulness-based transport planning.

7.1 The Nature of crisis

In this thesis I focused on the challenges for transport planning in a context of social and environmental crises. I showed that these are, from a transport perspective, coupled with the mobility crisis (§1.2). It is important to trace the causes of the mobility crisis in order to be able to solve the challenges posed to transport planning. Within resourcefulness, an initial theoretical framework to consider the nature of the crises is highlighted (§3.4).

From a resourcefulness perspective, the current social and environmental crises are seen as generated by patterns of domination and induced-scarcity of material resources: scarcity is induced through uneven distribution of resources (§3.3.1). Scarcity of material resources in a resourcefulness-base worldview for transport would indicate scarcity of physical means of transport, infrastructures, time and space, and of financial resources for transport projects. At the same time, it refers to the scarcity of transport as a means to access all other material resources in the urban realm (§3.5.1).

For the Forum the mobility crisis in Rio de Janeiro is caused by an induced-scarcity of financial resources for public transportation connected to a lack of planning, of coherence in planning implementation and integrated planning structures (§5.2.2). Interpreting the Forum's views in the language of resourcefulness-based worldview, scarcity is induced by how the politics of the resources is governed and not by an actual lack of material resources for transportation. Specifically for the Forum, the mobility crisis in Rio de Janeiro is caused by the market-oriented rationality in place. Within this rationality is an inbuilt pattern of *interest-driven* planning within the planning authorities that produces highly uneven mobilities. The Forum analysis resembles what Vasconcellos (2001) depicts: the elites, the bus-oligopoly, and middle class in Brazil are able to shape the planning choices, controlling the finance and bureaucracy of the State system, reproducing the car-based model. Part of these choices is the implementation of an "irresponsible" governance model of public transportation (Vasconcellos 2001: 139) and the deregulation of public transport. In this context, from the data it emerges that the Forum is not criticising the actual plans or the use of the planning instruments (such as the PDTU) (§5.2) by the planning authorities, but the changes made at the

implementation level. With regard to most of the projects, the Forum is asking for the implementation of the original visions and plans that are instead disregarded (such as the original plan for the Metro system) (§5.2.2). At the same time, it opposes the lack of integration within the planning system among the different planning authorities, claiming for the institution of a Metropolitan Authority for Planning and Development of Urban Mobility.

The MYC considered the mobility crisis in L'Aquila as only partially a consequence of the earthquake, and more as an effect of post-disaster planning choices and resources allocation. The crisis is linked to the ineffectiveness of the planning actors to design and finance a functioning public transport network, in which the best use of available resources is made (§6.2.2.1, 6.2.3.2). This view by the MYC is supported by the institutions that, when put in dialogue by the MYC, discuss the mobility crisis at Panel meetings (§6.2.3). Here the main planning actors in the city attribute the crisis to a land-use policy that has generated urban sprawl, a low level of services close by the new-towns, and a lack of planning of the location of activities[69]. This territorial fragmentation and dispersion has generated an endemic deficiency of public transport. This deficiency is aggravated by what can be described as the "corporate governance model"[70] (Vasconcellos 2001: 140) of public transport services, which has become economically untenable. In the view of the MYC and the Panel, this is also coupled with the lack of an integrated planning of time schedules and timetables of the various activities[71] that generates specific issues at peak times. As such, for

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[69] Giving a full explanation of the reasons why institutions themselves lament the lack of land-use planning goes beyond the scope of this research. However, it is important to note the way in which resignation towards change has played a role in the development of L'Aquila through history. The institutional attitude might then be explained only partially as consequence of the receivership of the local authorities in the post-earthquake, but is also the result of the historical attitude to complaint typical of the administration and citizens (Colapietra 1986).

[70] Differently from what is theorised by Vasconcellos (2001), however, the malfunctioning of the corporate model in L'Aquila does not lead to a privatization of the public operator, but to the fusion of the operator into a broader state owned regional bus operator in 2015 (TUA nd).

[71] As reported by a member of the local Retirees Union at the first Panel meeting, the public transport problem is connected to peak-time stress of the system: "In this city everybody has to get to the office, to the university, to the hospital, all at the same time, everyone has to go out at the same time. So, what does this mean? First of all, for companies like our ARPA or AMA, not to use, but to put stress on the buses, because we use them in no more than a few times, and other times we cannot use them or are underutilized, and besides that, physically you cannot fit in them".

these actors, the mobility crisis is part of a land-use planning crisis. To this the MYC adds the consideration that the earthquake has exacerbated an already difficult and limited condition of public transport, with poor infrastructures and low culture of use of public transport (§6.1.3).

Similarly to the Forum, the MYC does not criticise the planning instruments utilised, such as the UMP or its content, but the low institutional capacity in integrating these instruments with other land-use planning instruments and of effectively implementing the interventions designed. Differently from the Forum, the MYC does not mention a problem of interest-driven planning, but of lack of will, attitudes, and capabilities by the planning authority to recognise the existence of a mobility crisis and then to take measures to address it (§6.2.2.2, 6.2.3). For the MYC this is evident in the way planning decisions rely on one-man visions, on manual programming, and on a 'series of random gestures' (§6.2.3.2). Similarly to the Forum, the MYC asks the institutional actors to adopt 'rationality in planning', expecting the experts to perform the planning using traditional instruments and go beyond subjective interpretations and chaotic actions. Moreover, similarly to the Forum, the MYC advocates for the implementation of structures, such as the Panel, to allow mobility planning actors to coordinate and establish a dialogue.

7.1.1. Bringing together perspectives by resourcefulness-aligned actors on the nature of the crisis

As emerged from the analysis of the data, both the Forum and the MYC consider the mobility crisis taking place, evident in the unavailability for disadvantaged groups of means of transportation (§5.1.3, 6.1.3), as connected to an induced scarcity of resources for public transportation.

On one side, for the Forum, the mobility crisis in Rio de Janeiro is connected to the presence and agency of a market-oriented rationality that shapes planning choices towards pro-car solutions, accordingly with the analysis of Vasconcellos (2001; 2014) and Legroux (2016), and to a lesser degree to a capacity of the institution to deliver appropriate plans. The Forum attributes to a very low extent the responsibility for a car-based model to the cultural attitude towards public transport and individual transport behaviours. The scarcity is induced by *political active choices and willingness* of elites to divert resources toward car-based mobility or other projects connected to the neoliberalization of the public space (§5.1.1).

On the other side, for the MYC the induced scarcity is the effect of the *low capacity* of the local authority to plan and support public transport. It is a

governance and political issue. This is coupled with a low culture of public transport in a city where most of the citizens are able to afford private mobility.

Despite these differences, in both cases the mobility crisis and specifically the malfunctioning of the public transport services is not considered by the resourcefulness-aligned actors to be an effect of a lack of financial resources for transport, as in the narrative of the local authorities and the transport providers. The crisis is induced by the politic of mobility in place. The prioritization of how resources should be used is a political choice that derives from a precise political will or attitude. This politic of mobility is also shaped by the institutional capacity to envision and being able to implement change.

This analysis does not differ to the conclusions presented in the literature regarding the crisis of transport planning in UK (Ward 1991; Vigar 2000) or in wider Europe (Banister 2008; Khreis et al. 2016) (§1.3, 2.3.3). As the literature has shown, in the complex, multi-actor based reality of transportation planning, the instrumental rationality paradigm is only theoretically affirmed (Willson 2001; Willson et al. 2003) (§2.3.3). It guides the setting up of the plans and the selection of planning tools, but is not established in the politics and decision-making that guides their implementation. This happens within a "split between the traditional transportation planning paradigm and politics" (Willson 2001: 8) (§2.2.3). As highlighted by the resourcefulness-aligned actors analysed, this is evident in the disconnection between the availability of planning instruments such as the PDTU and the UMP and the issues at the implementation phase. Both the Forum and the MYC see the 'irrationality' of the planning authority generated by this split between the choice of what should be considered the best means to reach an end and the implementation of this means under a politics of mobility shaped by a market-oriented rationality or low capacities (§7.1)

Specifically, for the resourcefulness-aligned actors, the mobility crisis is a consequence of a lack of long-term planning and of a biased rationality under the design and prioritization of the interventions. This rationality favours car-based model or other types of investments not targeted at improving public transport. For example, in Rio de Janeiro priority is given to the mega-events (§5.1.1) whilst in L'Aquila priority is given to the construction of new-towns

(§6.1.1)[72]. In the analysis of the resourcefulness-aligned actors these choices might be 'intentional' –in the case of Rio de Janeiro- or 'unintentional' –in the case of L'Aquila.

Despite different contextual reasons and governance structures in Rio de Janeiro and L'Aquila, the two resourcefulness-aligned actors analysed propose similar solutions to this form of induced scarcity. For both actors what is required is a reshaping of the politics of mobility, more than single policy interventions. They propose to implement institutional structures able to permanently maintain the dialogue among different planning departments (the Forum proposed the setup of a Metropolitan Authority for Planning and Development of Urban Mobility, the MYC proposed the Panel). In the view of both the MYC and the Forum, these new institutions should ensure that mobility planning is integrated with land-use planning and performed as a long-term project. Moreover, it should allow for a continuous monitoring of the planning process from design to implementation, ensuring coherence of the implementation with the principles stated in the design phase. In terms of a resourcefulness terminology, the Forum and the MYC ask for a holistic planning approach (§3.5.4).

Moreover, aware that also these holistic planning structures are under the challenge of the market-oriented rationality and low capacities, the resourcefulness-aligned actors put in place further measures. The Forum's strategy of implementing new governance structures is accompanied by strong work towards building political pressure on the planning authorities. This is achieved by using the Forum itself as a network of 'subversive planning actors' and insurgent non-institutional participatory spaces to deliver new planning knowledge and practices (§5.2.4). For the MYC the attempt to implement the Panel is coupled with work as a networker and educator towards building a critical mass of active citizens, and building the culture of participation both at the grassroots and institutional level (§6.2.3, 6.2.4). Both these strategies designed by the two different groups are grounded on the idea that participation and knowledge are crucial components of transformation in the face of the mobility crisis. This position by the resourcefulness-aligned actors in coherent with what is included in the resourcefulness-based worldview (§3.3.3, 3.5.3).

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[72] This choice is in L'Aquila taken at higher level of governance and only supported by the by the local authority (Verlinghieri and Venturini 2014).

7.1.2. Feed-back into resourcefulness-based worldview: the nature of the crisis

Under a resourcefulness perspective, the Forum and the MYC see the mobility crisis connected with issues at the political level of the transport system, remarking in the specific contexts of Rio de Janeiro and L'Aquila the existence of a political problem that literature has highlighted in other contexts (Ward 1991; Vigar 2000; Willson 2001; Willson et al. 2003; Banister 2008; Khreis et al. 2016) (§1.3, 2.3.3). Under this analysis, induced scarcity for transport is a political problem and not necessarily connected with the availability of monetary resources. The solution to the mobility crisis in the contexts analysed for the resourcefulness-aligned actors should then be built intervening at the intellectual and civic resources levels generating a cultural change at the political level. This should be accompanied by the implementation of a holistic planning approach to increase the capacity to implement coherently long-term planning towards resourcefulness. This change can be generated through knowledge and participation, as evident in the next sections.

Before doing so, however, it is important to further consider the ability and willingness of the resourcefulness-aligned actors to tackle the environmental crisis.

7.2 What about the environment?

According with the theoretical stand of the resourcefulness-based worldview, environmental and social crises are bounded together and the solution of environmental problems depend on the solution of social problems (§3.3.1). This theoretical stand avoids the risks, emerged in sustainability (§2.4.2), of focussing exclusively on environmental sustainability goals and ignoring "the poverty dimension of the problem" (Vasconcellos 2001: 241), or the gentrification and displacement processes often coupled with sustainability-focussed intervention. Resourcefulness responds to the need "any sustainability agenda has to include another pattern of resources distribution" (ibid).

As emerged from the analysis of the case studies, for both the Forum and the MYC the consideration of environmental issues and the claim for environmentally sustainable solutions comes second with respect to solving the mobility needs of transport disadvantaged groups. Within the mobility crisis priority is given by the resourcefulness-aligned actors to the immediate solution of its social aspects over the environmental ones. In the Brazilian

case this is also the position of the variety of transport-focussed urban social movements (§5.1.4) that in their campaigning give high priority to the brown agenda over the green agenda[73] (Vasconcellos 2001; Venturini 2016). In any case, despite not explicitly centring their discourses and agendas on the concepts of environmental sustainability or ecological solutions, both the Forum and the MYC are indirectly advocating for mobility solutions based on public transportation that, if adopted, would dramatically improve the environmental conditions in the urban spaces (Illich 1978; Marsden et al. 2014; Mullen and Marsden 2016).

For Vasconcellos (2014) the structural factors that could favour change towards better mobility solutions are the growing environmental awareness (both within the international environmental movements, the youth, and part of the middle class), the collapse in big cities of the automobile system, and the increasing cost of congestion in terms of energy and pollution. The Forum indirectly builds on these, making strong arguments for favouring rail public transport over road transportation, as the most ecological, safe, and comfortable solution. As such, the Forum couples the fight for spatially just solutions to the fight for ecological ones (§5.2.4.2). The MYC moves in a similar direction, launching a campaign for public transport and also, in the latest stages, for cyclability and walkability (§6.2.4.1). Furthermore, it concentrates on the importance of the discourses around urban aesthetics, liveability, and beauty as integrating part of a vision for transport futures. Furthermore, both of the resourcefulness-aligned actors reserve a mention to the importance of cycling as a means of transport that requires improvements and investments.

The positions of these actors are aligned with the theoretical foundation of resourcefulness-based worldview under which environmental impacts need addressing in conjunction to the social impacts of transportation (§3.5.1, 3.5.2). Most importantly they introduce further dimensions and contribute to the debate around equity and ecology, showing that solutions grounded in knowledge (§7.3.1) and concentrated on common goods, rather than only on individual choices and needs, such as public transportation, also contribute

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[73] The green agenda focuses on ecological problems at global scale, on ecological health, whilst the brown agenda concentrates on effects on human health of environmental problems (McGranahan and Satterthwaite 2000).

to solve ecological problems [74](§5.2.4, 6.6). Public transportation, as a collective solution, is the core focus of the work of the MYC and also of several groups in Rio de Janeiro, including the Forum. Public transportation is seen by the resourcefulness-aligned actors as a common good to be protected. This position recalls a wide literature on the idea of the 'commons', as resources accessible to the whole society, that has been widely explored in non-transport literature (Ostrom 1990; Magnaghi 2000) (§2.1.10). According to Shove (2010) and Mullen and Marsden (2016), a choice that takes into account the commons in the transport context could challenge the "strong normative tradition of placing value on individual choice" (1) that underpins most of transport policy discourses and a car-based society (§1.3, 2.3.2). Under these views, focusing on the commons could better enable redistribution of resources via different mobility patterns and different politics of mobility. The actors analysed in this thesis make it clear that this redistribution, if grounded on the idea of justice and equity, and societal decisions on which activities should be valued and prioritized, needs to go beyond car-based solutions. In accordance with the literature (Mullen and Marsden 2016), car-based solutions are seen as reproducing, even when the emission problems are reduced via new technologies, spatial and distributional inequalities.

To sum up, the actors analysed do not primarily concentrate on the ecological question, because the social crises are perceived as more urgent. However, their actions directly impact also on the solution of the ecological problems: acting towards reducing the social impacts via collective solutions such as public transport also generates support for ecological solutions. In this way, solving social problems under an ethical principle centred on prioritizing collective solutions over individual ones also tackles the ecological problems.

7.2.1. Feed-back into resourcefulness-based worldview: the environmental crisis

The attitude toward ecological solutions from the actors analysed, in which the ecological crisis is addressed conjunctly to the social crisis, is in line with what is theorised in the resourcefulness-based worldview. The proposals emerged by interpreting the idea by resourcefulness-oriented actors to be

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[74] For example these two aspects are completely coupled in the way MYC designs and deliver the school workshops, showing that a process of education towards ecological solution is possible with adequate design (§6.2.4.3).

guided by ethical principles whilst solving social problems recalls strongly social ecology ideas (§3.1.2). According with it, ecological crises depend on social domination (§3.1.2.1) and its solution should be grounded on ethical principles of development, mutualism, and differentiation (§3.1.2.2). Similarly, the resourcefulness-aligned actors to the individual mobility solution prefer a collective solution, bringing back the politics of mobility into a discourse of the commons. This concept can further inform resourcefulness in the context of transport planning and can ground choices that are fully ecological.

7.3 The philosophy of change: building resourcefulness

According with the resourcefulness-based worldview, change should be built taking into account a politics of scale, and be grounded in participation, social learning, and utopian thinking (§3.3.3). In terms of transport planning this should be translated into increasing decentralised participatory practices for planning, grounded in social learning (§3.5.3). The resourcefulness-aligned actors analysed move in this direction and develop practices that complement and enrich these guidelines and focus on the concepts of knowledge and participation.

7.3.1. Knowledge

Within resourcefulness, already from the first formulation proposed by MacKinnon and Derickson (2012), there is a sharp emphasis on the importance of knowledge and technical skills for disadvantaged communities to build their path towards resourcefulness futures. Specifically, value is given to popular knowledge (§3.1.1), as necessary complement to expert knowledge. In the framework developed for a resourcefulness-based worldview, intellectual resources, that include time, social networks, access to education, culture, and scientific and ecological knowledge are crucial aspects that are grounded on the necessity of continuous knowledge production and exchange (§3.3.3). However, the role of knowledge in resourcefulness is still not fully developed.

The resourcefulness-aligned actors analysed in this thesis expand the understanding of the role of knowledge to build a resourcefulness-based transport planning. As emerged from the analysis, both the Forum and the MYC have a central mission in producing and circulating knowledge in the public domain (§5.2.3.1, 6.2.4). Looking at their practices and visions in terms of knowledge, not only complements resourcefulness, but also gives

crucial information to shape a planning agenda for resourcefulness. In this thesis I adopted the definition of planning given by Friedmann (1987; 1993) in which "planning is that professional practice that specifically seeks to connect forms of knowledge with forms of action in the public domain" (1993: 482) (§2.1). I highlighted the role of knowledge in shaping planning paradigms (§1.3): understanding the overall role of knowledge, in terms of which knowledge is produced, by whom, and which role it plays, is fundamental to understand which forms of planning are in place and allowed[75].

The Forum, as a group of experts and citizens, explicitly concentrates on knowledge production and circulation in the public domain with a specific emphasis on technical knowledge (§5.2, 5.2.3.1). In the view of the Forum, this knowledge is needed to improve planning and address the social impacts of transportation projects. The members of the Forum actively produce new studies and research in order to understand impacts of past, current, and future transport projects, stressing the importance of historical memory. At the same time they stress the importance of grounding planning practices on popular knowledge and the knowledge of the disadvantaged, which is needed to complement the work of experts.

The Forum was created to produce information for the population, to be able to know the status of mobility in the metropolitan region of Rio de Janeiro, and be able to assess and propose alternatives. As emerged from the analysis, in this context knowledge is fundamental to guarantee fair debates and public hearings and the Forum played an active role in facilitating knowledge circulation and exchange (§5.2.3.1). The Forum worked on the assumption that impacted communities and disadvantaged groups need to fully acknowledge projects and impacts. This attitude echoes what is expressed in the literature concerning environmental justice and hazards (Irwin 1995; Rydin 2007):

> "An individual must be competent to make a decision, be in a position to give their consent voluntarily and without coercion, have had information relevant and material to their decision disclosed to them, and have a substantial understanding of the consequences of their decision" (Ottinger 2013: 255).

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[75] As Rydin (2007) suggests, "Knowledge differs from information and data in that the specification of a causal relationship is central to knowledge. This is why knowledge is of such central relevance to planning".

For the Forum this applies also to transport projects that have inevitable environmental justice and social impacts. Moreover, further than giving the instruments to communities to acknowledge the impacts of transport projects, the Forum worked with them in understanding, building knowledge, and proposing alternative ones.

In a similar manner, but acting as a group of mainly non-experts, the MYC mobilised to gather and co-produce knowledge regarding the needs and desires of transport disadvantaged groups. It required access to information on the functioning of the planning system and on the ecological impacts of transport planning choices (§6.2.2.1). At the same time, it strongly asked for sharing knowledge across departments within the local authority and between the local authority and the population (§6.2.3). For the MYC, both knowledge regarding the territory and about past and potential projects needed to be accountable. Furthermore, it stressed the need for a continuous dialogue between expert knowledge and citizens: the experts have the duty to inform them, ensuring its understanding and at the same time allowing the opinions in the public domain to shape further planning choices. The MYC proposed this concept aware of the fundamental role of knowledge in the construction of a culture of participation and of active citizenship (§6.2.3.2, 6.2.4.2). Furthermore, the MYC demonstrated the importance of knowledge exchange in the construction of ecological consciousness, with its workshops at the schools (§6.2.2.2, 6.2.4.3).

7.3.1.1. Bringing together perspectives of resourcefulness-aligned actors on knowledge

Having analysed the views and practices of the Forum and the MYC, it emerges that for both actors it is important to avoid a dichotomy between expert and popular knowledges. This is in accordance with what Innes and Booher (2004) consider a problem in planning built on a "dichotomization of knowledge into scientific and lay categories [that] disempowers both planners and community members, making planning goals difficult to achieve and keeping the community marginalized from the decisions that affect their lives" (201). For the resourcefulness-aligned actors there is the need to reduce the distance between expert and 'lay' knowledge. Knowledge needs to circulate and be produced in an exchange between the experts themselves, the experts and the public, and within the public itself. As stressed by the literature, the public has its multiplicity of representations and methods (Sandercock 1998a; Rydin 2007) that can benefit the official plans.

The knowledge production strategy designed by the resourcefulness-aligned actors can be considered as increasingly based on co-production (Jasanoff 2004) and inter-subjectivity (§4.1.3). In this way it recalls the idea of a radical planning practice in which, "linking expert with experiential knowledge in a process of mutual learning" (Friedmann 1993: 484) (§2.1.10) occurs. At the same time the recognition of the value of popular knowledge as foundations for decision-making processes promoted by the resourcefulness-aligned actors could increase the possibility of democratic dialogue. According with Calandra (2012), contemporary democracy is based on the delegation not only of the power to decide to the legal representative, but also of the power to produce legitimate knowledge, delegated to designated experts. In line with this literature, building channels and practices that allow popular knowledge to inform decision-making, as the Forum and the MYC do, could help in establishing forms of democratic decision-making based on dialogue (Giddens 1987), opening of the democratic contract beyond the positivist stand on which contemporary institutions are founded (Calandra 2012).

In order to facilitate this process of informed democratic practices, both the Forum and the MYC organised activities in which sharing the results of their research with experts and the public (§5.2.3.1, 6.2.3.1). They made sure that the public knew about its situation; at the same time they worked towards forming a consciousness of collective problems and solutions through the exchange of knowledge among individuals and different organizations at the grassroots level (as occurred in the Rocinha public hearing for the Forum (§5.2.3) and the strategies adopted by the MYC as catalyst and networker (§6.2.3, 6.2.4).

This attitude of the resourcefulness-aligned actors of putting in continuous discussion of what is considered as being a good transport project recalls the idea reflexivity (§4.1.4.2). The literature has strongly suggested reflexivity as an ability able to improve planning practice (§2.1.5). Reflexive knowledge, grounded on the importance of memory and history and on learning by doing (Schön 1983), is able to enrich the effectiveness of learning (Albrechts 2002). It is a form of knowledge always evolving and dynamically able to assess and reassess its values (Flyvbjerg and Richardson 2002), as I experienced in my fieldwork. As Mullen and Marsden (2016) stress, a reflexive approach in planning creates space for participation, partial knowledge and unpredictability. At the same time allows for solutions tailored to the specific contexts that have the potentiality to better adapt to the specific needs. As Mullen and Marsden (2016) continue, a reflexive approach has the potential to be a winning choice towards transport planning

for equity: reflexivity could "provide a means to navigate through this complex policy period to ensure that the future imaginings of society and the policies designed to support that narrow, rather than widen, injustice" (7). This practice of knowledge as a circular process of exchange between experts and the public, and the public itself advocated by the Forum and the MYC and positively evaluated by the aforementioned literature, links also to the epistemology of resourcefulness as defined in this thesis (§4.1.1). According with this epistemological position, knowledge should be dynamic and evolving in time and not be bound to a single impact or project.

What emerges from the analysis of the visions and practices of the Forum and the MYC is that the knowledge required to inform planning is produced through participation at different levels and among different actors. At the same time, knowledge is necessary in order to feed participation and produce knowledge-based arenas, in a cycle of constant learning (§4.1.4). As expressed in the literature (§2.2.3) and highlighted by the analysed actors, "a key element of participation, especially in the context of managing increasing uncertainty and risk, [...], is learning" (Polk and Knutsson 2008: 646). This learning could be 'mutual', based on "informal exchanges of knowledge and experiences based on reciprocity and reflexivity" (ibid), or 'social', "increasing both individual and group understandings of a specific phenomenon regarding facts, values and interests" (ibid). The Forum and the MYC used and aimed to enhance the use of both types of learning, in line with what is considered within the resourcefulness-world view (§3.3.3, 3.5.3).

7.3.1.2. Feed-back into resourcefulness-based worldview: knowledge

Co-production and learning based approaches to decision-making, such as collaborative deliberation and adaptive co-management, have been considered in the literature as viable strategies for resilience planning (Reed 2006; Wilkinson 2012) (§3.4). Together with the importance of recognising and dealing with uncertainty and unpredictability in planning, coproduction specifically has been considered in the literature as a "cornerstone for a more radical strategic planning" (Albrechts 2015: 5). Resourcefulness embraces these points, grounding its planning agenda into the recognition of complexity and diversity and the importance of social learning (§3.3.3, 3.5). The analysis of the practices and visions of the actors in the empirical part of this thesis reinforce this argument, showing first of all which are the real challenges to co-production in the current planning settings both in L'Aquila

and Rio de Janeiro; second, the resourcefulness-actors highlight which practices, tools, and arenas can be used to enhance an attitude both within the planning actors and the public towards co-production and co-management. These practices, tools, and arenas are built around the idea of participation.

7.3.2. Participation

Participation is a grounding theme of resourcefulness and participatory arenas are the preferred planning formats for increasing resourcefulness (§3.3.3, 3.4, 3.5.3). For both the Forum and the MYC, transport planning should happen in participatory settings. To guarantee this, their work was based on increasing the arenas and quality of participation in the planning process. These arenas, as shown (§7.3.1), need to be knowledge-based deliberative spaces, e.g. participants need to have the possibility to access relevant information and coproduce knowledge. As such these arenas are also spaces for social learning.

From the analysis of the Forum it emerges that, in its view, the existing institutional participatory arenas in Rio de Janeiro metropolitan region are ineffective in allowing the population to intervene in the planning process, as highlighted by the 2013 mobilizations (§1.4.1, 5.1.4). For this reason the Forum worked on a dual strategy. First, with its own practice, it aimed to transform the existing arenas towards increased equity, using insurgent participation (Hilbrandt 2016). Second, it asked for more democratic institutional arenas to be opened and acts in order to open more non-institutional arenas, in which the public could meet officials or discuss with the experts, as insurgent non-institutional participation arenas (§5.2.3.2).

Regarding the first strategy, from an analysis of the actions of the Forum aimed at transforming these spaces and the critiques to the existing arenas emerged from the case study, the importance to stress the principles of inclusivity, representativity, and fairness is confirmed (Renn and Webler 1995) (§2.2.4, 5.2.3.2): fairness should be guaranteed both in the access to the participatory arenas (taking into account different needs for different groups) and within the participatory arena, giving all participants a voice (Tippett et al. 2007). Specifically, the criteria of inclusivity should take into account the 'who' participates question (Calandra 2012), and of the danger of replicating participatory exercises as spaces in which groups already empowered (also called 'the high demander') can impose their points (§2.2.4). As in the example of the Rocinha public hearing, the notion of a

stakeholder normally used to set the inclusivity criteria, needs to be expanded to include the citizens that, despite not having an economic or power stake, are inevitably impacted by the decision due to spatial or cultural connections with it. Most importantly, participant selection and the setting of the arena, for the Forum, should account for the ability of powerful economic interest groups to enter and manoeuvre the participatory spaces reproducing the patterns of unequal distribution and access to resources (§1.2.1). For this reason, as the Forum directly achieved with its practice to ensure fairness, sufficient resources for participants should be provided in terms of logistical resources, information, and tools for analysis (§2.2.4). Participatory settings should be used as a norm, as spaces for discussion and production of more viable solution. It is under this idea that the Forum itself exists as a participatory arena and as a prefigurative space to create a culture and a transition towards the right to ecological and just mobilities (Verlinghieri and Venturini forthcoming).

From the analysis of the MYC visions and practices, emerges that for the MYC participation in planning should be set into a two-level model (§6.2.1), and be based on a culture of participation. This culture of participation should be built through participation itself and feed also into ensuring an ecological consciousness. Moreover, as emerged analysing the use by the MYC of surveys and workshops (§6.2.2.1, 6.2.4.3), participatory arenas can function as spaces for transformation and learning and are specifically effective when have an explicit impact. Furthermore, when grounded in knowledge co-production, these arenas can allow the emergence of decisions with an increased focus on ecological and collective solutions (§6.2.4.1). From the analysis of the MYC practices, it emerges that participatory arenas are spaces in which to build awareness towards environmental and social justice issues, accessibility issues, and collective necessities, based on a shared understanding of issues and co-production of shared solutions. Furthermore, as occurred with the MYC workshops (§6.2.4.3), functioning participatory arenas in which mutual learning takes place have direct effects on the wider community, moving consciousness, and enhancing social change. Coproduction is then a means of "sensing together" that transforms relationships and local culture (Albrechts 2015: 6), fundamental in building transformation in the face of crises.

7.3.2.1. Bringing together perspectives of resourcefulness-aligned actors on participation

The analysis of the practices and visions of the Forum and the MYC shows that participation, beyond being a decision-making strategy, is also a process able to build long-term cultural change, switching perspectives and attitudes of those who participate. This is in accordance with the idea of prefigurative practices included in resourcefulness-based worldview (§3.3.3). With this consciousness participation is a fully multidimensional process that can be hardly captured by the sole Arnstein's ladder (§2.2.1) and that requires new conceptualizations as, for example, the one proposed by MYC (§6.2.2.1). Participation can have learning-outcomes that form consciousness required for democratic decision-making processes (Gaventa 1995). As shown also by the literature (Kesby 2005) (§2.2), participatory spaces are also spaces for social learning. However, how can these participatory arenas be consistently and effectively grounded into knowledge co-production? How can we generate knowledge-based participatory arenas? From the analysis of the views of both the Forum and the MYC, three crucial points emerge.

First, the setting of the participatory arenas needs to allow inclusivity, representativity, and fairness, ability to impact on decision-making and avoiding to reproduce patterns of domination (§3.3.1). They need to be able to empower disadvantaged groups, and build right to the city and spatial justice. This is in accordance with Albrechts (2002) who has highlighted the need to overcome barriers to participation such as segregation, oppression, domination, marginalization, and exclusion to improve the outcome of the decision-making process.

Second, an important role is played by the experts. As shown by the work of the Forum (§5.2, 5.2.3.1) and the view of the MYC on the experts (§6.2.3.1), experts and expert knowledge are necessary foundations of knowledge based deliberative spaces. However, as the MYC stresses in its model of participation, experts need to learn participation. This position echoes the words of Innes and Booher (2004) who state: "while education of the public is essential it is not participation if it does not include the education of the agency" (426). The planning paradigm assumed by and the attitude of the expert is crucial in allowing participatory arenas to function, as shown by the literature (Rydin 2007; Ferreira et al. 2009). Specifically, the work of the Forum gives important insights on the role of the experts in the setting and delivering participation as insurgent practice in which the public is empowered (§5.2.3.2). As the MYC proposed in the setup of the Panel, experts and citizens should interact in a continuous exchange, expert's

choices should be constantly accompanied by citizens' scrutiny and contribution, in a planning practice in which expert knowledge is submitted to a communicative rationality (§6.2.3.1). At the same time, as with the Forum, experts should intervene in the participatory arenas to support the disadvantaged groups to have a voice, using and sharing knowledge and ensuring inclusivity and equity in the decision-making process (§5.2.3.2).

Third, participation should become a network of activities that builds a culture of participation within society. As also stressed by Albrechts (2002) the lack of cultural codes to participate is a barrier to participation that needs addressing. If understood as a learning process and as a process that needs to be learned, as the MYC strongly stressed and the Council of L'Aquila practices confirm (§6.2.2.1, 6.2.3.2), several participatory arenas should be opened and maintained, starting from the schooling system. They would allow not only a permanent knowledge exchange, but also a solid culture favourable to participation. In order to do so, flexibility, complexity, and diversification in the setting of participatory arenas should be preferred to single recipe that fits all contexts. Furthermore, the presence of active citizens can support the installing of effective participatory arenas.

However, the aforementioned network of activities differs from the multi-dimensional model of participation proposed by Innes and Booher (2004), in which profit making entities are included and have a stake in the participatory arenas. Innes' proposal risks reconfirming a pattern of neoliberal-driven planning in which there is a progressive de-politicization of public life (Albrecht 2002). As demonstrated in the next section, profit-making entities, such as transport providers or real estate agents as 'high demanders', should intervene in the participatory arenas as citizens and not as profit making entities in order to guarantee fairness.

7.3.2.2. Importance of complexity and diversification of strategies

Both the Forum and the MYC recognise the complex and dynamic nature of mobility. Both actors reported in their official documents a description of mobility as a "dynamic, changeable subject, mutant, that during the debate of ideas, will always be subject to new concepts and conclusions". Accordingly with the theoretical underpinning of resourcefulness, that values complexity and diversification, a dynamic and changeable topic would require a coordination and differentiation of a multiplicity of actors to address it (§3.3.3). Similarly, in the literature, Albrechts (2002, 2015) in his call for a

radical planning remarks the importance of flexibility and non-rigid tools to ensure its effectiveness (§2.1.10).

The strategy adopted by the MYC and the Forum resonates with these points. A similar strategy is taken also by the Department of Participation of Council in L'Aquila that implemented a variety of instruments for participatory planning. It did so in a continuous experimentation in response to the collective demand for participation in the city, using arenas such as the Participatory Budgeting, the UC, the TCP, and facilitating the existence of experiences like the MYC (§6.2.3.2). Providing a variety of initiatives contributed, thanks to their differentiation and capillarity (§5.2.1, 5.2.4), in maintaining a lively discourse on participation in the public domain and increased attendance to participatory arenas, as in the case of the institutional ones in L'Aquila. Maintaining a variety of strategies is, however, also a challenge in terms of resources that needs full consideration (§7.4).

Most importantly, mobilising a variety of participatory mechanisms, avoids creating a 'rigidity trap', as defined in the resilience literature, that prevent transformation and change to take place:

> "In resilience thinking, if institutions tend to remain highly connected, self-reinforcing, and inflexible despite changing circumstances, they create "rigidity traps," which limits the ability of actors within the system to re-organize interactions, even if such a reorganization would benefit the provision of ecosystem services to society overall" (Robards et al. 2011: 523).

On a similar line, the practices of both the MYC and the Forum rely on a variety of instruments and tools. The Forum itself is structured as a network (§5.2.1). In this way it is able to both tackle different issues into a complex and vast mobility region, and to connect and bring together different demands to create impactful claims. Similarly, the analysis of the various strategies adopted by the MYC show that a multi-strategy allows evolving new planning tools adapting them to the needs of the context. From the use of the surveys, the MYC moved to the use of workshops and small groups discussions, to the Panel as innovative participatory governance structure. The ability that these actors have to be present on a variety of fronts, diversifying their strategies, ensured their visibility in the public domain, resilient to failure, having ready alternatives in case one strategy is un-effective. Most importantly, they were able in this way to have contact with different actors in the civic society, broadening their vision and avoiding acting only in the name of a particular group. Finally, they were able to constitute a network of actors with whom they collaborate and mobilise a

myriad of expertise and knowledges. With these properties they were committed to build a culture of participation and an ecological consciousness, producing and diffusing knowledge within the public domain.

7.3.2.3. Feed-back into resourcefulness-based worldview: participation

Participation is a crucial component of resourcefulness (§3.3.3). How can it be used in transport planning practice? First of all, from the practices and visions of the Forum and the MYC it emerged the need to use intellectual, material, and civic resources to build a solid culture of participation at the grassroots and institutional level. Secondly, participation needs to be grounded in knowledge. Thirdly, three aspects need taking into account when setting participatory arenas: inclusivity, representativity, and fairness, ability to impact on decision-making and avoiding to reproduce patterns of domination. Moreover it is important to diversify participatory arenas. This latter point can be based on:

- Generating more complex forms and tools, that involve a more profound engagement by the participants
- Ensuring larger time-scales of participation
- Ensuring wider representative asset: more and more variegated actors are brought together
- Ensuring wider decisional power: the spaces assume an increasing credibility, recognition by formal institutions, and power to influence local decision-making

7.3.3. Rationalities

Both the Forum and the MYC advocated for a planning agenda centred on co-production of knowledge and participation, mobilizing themes and ideas that have been part for almost two decades of the communicative planning agenda (§2.1.8). However, what are the differences between their practices and what theorised within the communicative rationality? Can an analysis of their planning agenda advance the already established literature on the theme also in transport (§2.3.2)? In this section I consider the planning rationality that underpins the practices and visions of the analysed resourcefulness-aligned actors. To do so, in line with the structure of the other sections in this chapter, I firstly consider the rationality underpinning resourcefulness; secondly the positions of the Forum and the MYC separately and finally I bring them together to inform resourcefulness.

In a reflection on rationality from a resourcefulness-based worldview perspective, the concept of prefigurative practice is crucial. These are practices in which the selection of means and ends is bounded together (§2.1.10; 3.3.3). When the idea of prefiguration holds, it is not possible to distinguish between a formal and substantive rationality in a Weberian sense (§2.1.2). This same idea of being prefigurative contrasts with the fundamental idea of instrumental rationality, in which there is a disconnection between means and goals. Here goals are predetermined and the choice of means is not connected to the value system that determines goals (Sager 1992). Differently, in resourcefulness ends are not defined a priori but, as positive utopia, are grounded in praxis and shaped by the collectivity in a process of transformation (§3.3.3). Moreover, the definition of ends and the choice of means, in resourcefulness, is guided by ecological ethics (§3.3.2). Under this ethics are preferred choices that foster mutualism, differentiation, and development (Heller 1999), minimising hierarchy and domination. In this way, an ecological rationality is formed in which formal and substantive rationality are bounded together and grounded into an ecological ethics. The final aim of this ecological rationality is to ensure the development of society under ethical principles and without domination.

The resourcefulness-aligned actors analysed utilise prefigurative practices and specific forms of rationality that go beyond the dichotomy between restabilising instrumental rationality and the need to open spaces for communicative rationality.

On one side, opposing the malfunctioning of the planning process in place (§5.2.2), the Forum calls for instrumental rationality, in terms of advocating correct use of means and resources to achieve planning goals. It does so by means of stressing the need to use the classic rational planning tools to generate data, perform analyses, and conduct evaluations (§5.2.2, 5.2.3.1). This claim for instrumental rationality is coupled with a substantive rationality different from the market-oriented rationality that currently governs. For the Forum a substantive rationality should be founded on the need to guarantee the right to ecological and just mobilities. So, on the other side, for the Forum, planning should be participatory and should involve a constant dialogue between experts and citizens. In this line of reasoning the Forum makes use of communicative rationality as well. This use is practically materialised in public hearings, where efforts are made to guarantee an 'ideal speech' situation for generating information and assisting the public (§5.2.3).

Similarly, the MYC, envisions participatory planning based on a communicative rationality. Moreover, with its idea of a two-level participation (§6.2.1.1) and a critical mass of active citizens (§6.2.4.1), complements the use of communicative practices for decision-making with the construction of what in social ecology terms can be called a dual-power by citizens, obtained via the construction of popular institutions (§3.3.3). In this way it responds also to the Foucauldian critique to Habermasian planning of not taking into account power dynamics (§2.1.9). This dual-power is constructed through social learning and co-production (§6.2.4.2). The MYC attitude recalls what highlighted by Albrechts (2015):

> "With coproduction the aim is to stimulate counterhegemonic projects and to challenge power relations through a process of change. It needs a disarticulation of existing practices and the creation of new discourses and (informal) institutions" (11).

As the literature highlighted, co-production and social learning have the ability to challenge domination patterns, empowering the oppressed and creating space for alternative futures (Fals-Borda and Rahman 1991) (§2.1.10). Also for the MYC, the creation of dual-power is based on the acknowledgement of the tensions between consensus-focused deliberative practices, which might reinforce the status quo, "neutralizing power relations" (Albrechts 2015: 11), and the need to positively take into account of different discording voices, as agonism, within participatory arenas (§2.1.10). The way this is done, for the MYC, is considering, in line with resourcefulness-based worldview, the importance of ethical values and speaking about the commons (§6.2.4, 7.2) as prerequisite for a meaningful and democratic participatory planning. For the MYC, the role of an active citizenship, that effectively constitutes the core of the dual-power strategy, is to promote these values, going beyond individual-focussed attitudes and solutions. For the MYC, together with active citizenship, the public domain can act as an ethical filter in collective decisions and as a space to compose and deliver joint strategies. The MYC acknowledged that in the public domain it is recognised as unethical to carry on decisions that are not aimed at the common good. This version of communicative rationality is complemented by the MYC with a belief on the need and importance of expert knowledge, technical knowledge and classical planning tools to support decision-making and dialogue, which recalls a more instrumental approach (§6.2.3.1). As such, the MYC is embedded in a rationality bounded by an ethical filter and a project of constructing dual-power. Within this project it is possible, once the needed knowledge, produced with the support of experts, has been

acquired, and a process of education to participation and ecology had taken place, to take decisions for a common good.

From this analysis it emerges that both the Forum and the MYC act across and beyond instrumental and communicative rationalities, in contrast with Friedmann's (1987) point on an epistemological rupture between planning as societal guidance and planning as social transformation. For Beard (2003) this means that:

> "What have typically been considered valid knowledge in planning as societal guidance (e.g. scientific and technical knowledge) and planning as social transformation (e.g. indigenous, subjective, experience-based knowledge) are so different that they do not logically lie on the same continuum" (16).

Instead the Forum and the MYC, according with the hypothesis of Beard (2003), move "along a continuum between societal guidance and social transformation" (30) putting in practice further forms of rationality, as already suggested by the literature (§2.1.2, 2.1.9, 2.1.10). These forms go beyond the distinction among formal and value rationality embedded in the Weberian classification of rationalities (Cheung et al. 2003) (§2.1.10). These new forms could be able to break with the instrumental rationality at the base of neoliberal planning, something that the communicative rationality, according with Randolph (2007), is not able to fully perform.

In particular, Randolph (2007, 2008, 2014) specifically proposes subversive planning as alternative to neoliberal planning. This is a form of radical planning grounded into a 'cosmopolitan' rationality, as defined by Santos (2002, 2004) (§2.1.10). Cosmopolitan rationality is based on the idea of expanding the present and contracting the future, grounding the expectations for the future in the present realities and possibilities. These present realities emerge beyond the mainstream solutions and are locality specific. For Randolph, the role of subversive planning should be to, based on Santos' (2002, 2004) idea of emergency, put forward a "profound transformation of relations between state and society" (Randolph 2014: 48). This transformation is a subversive process that is not based on open confrontation, but on creating everyday praxis able to resist the 'colonising' forces of the system in place (ibid).

In their practices and epistemological position the Forum and the MYC echo the subversive planning project. With their attention to popular knowledges, historical memory and grassroots participation, and their active opening arenas for participation and co-production between citizens and experts, the

Forum and the MYC help expanding the present possibilities and shape coherent paths toward possible futures of ecological and just mobilities. Moreover, similarly to what Santos (2002) suggests, with participation they allow to overcome the boundaries between the space of the representation, in which planning acts, and the space of the represented, in which the citizens are impacted. In this the Forum and the MYC are subversive in the Randolph's sense establishing new praxis for transport planning without fully or explicitly embracing a protest-oriented attitude.

Under cosmopolitan rationality, the Forum's and the MYC's use participatory practices can be interpreted as a form to integrate "technical knowledge and values [repairing] the split between these realms that was created by the ascendancy of scientific thinking" (Willson et al. 2003: 356). They use to repair this split the ideas of ecology and justice, that are, for both actors, the guiding principles to set planning goals. As such it can be said that the resourcefulness aligned actors adopt a form of cosmopolitan rationality bounded by ethical principles of common good, ecological, and just mobilities, that guide which decisions should be taken or put forward in transport planning. The preferred loci for these decisions, accordingly with the idea of prefigurative practices, are participatory arenas designed by resourcefulness-aligned actors or institutional planning actors in accordance with the aforementioned ethical principles. These participatory processes can foster ecological solutions to emerge, in which a holistic approach is taken towards all the aspects of sustainability and transportation impacts and needs. The outcomes of the work of the MYC confirms the viability of these assumptions and their effectiveness in increasing environmental awareness and attention to common goods, as also hypothesised by the literature (e.g. Tippett et al. 2007).

Having introduced cosmopolitan rationality as the preferred rationality by resourcefulness-aligned actors, is worth noticing that also cosmopolitan rationality refers to the need for attention to the local scale and to the specifics of each context (Santos 2002, 2004). This recalls the resourcefulness special attention to scalar processes (§3.3.3). Looking at a local scale of action means generating solutions that are not universal or totalitarian, but grounded in the present (based on a full analysis of the local needs, local knowledges, and visions), diversified and adapted to circumstances. Once this local-specific knowledge has been produced, exchange among these specific different experiences can be based on a process of translation, "understood as a procedure that allows for mutual intelligibility among the experiences of the world, both available and possible

ones" (Santos 2012: 179). The two actors considered work in this direction, activating a process of translation among different contexts at local, national, and international scale, referring to similar experiences and learning from other contexts and projects[76] (§8.2).

To sum up, resourcefulness-aligned actors, under an ethically bounded cosmopolitan rationality, aim to build and support participatory arenas that are knowledge based and ethically grounded spaces of deliberation. They embrace a cosmopolitan rationality that resonates with the ecological rationality proposed in resourcefulness in which planning becomes ethically normative and a political act[77].

7.3.3.1. Feed-back into resourcefulness-based worldview: rationality

The actors examined act using an ethically bounded cosmopolitan rationality, which goes beyond instrumental rationality and that complements communicative rationality with the idea of a dual-power. These actors are guided by principles of building ecological and just mobilities and preserving the commons that become ethical principles to guide their visions and practices. Are these principles in line with the ethical matrix proposed in resourcefulness (§3.3.2)? Can they complement a resourcefulness-based worldview for transport planning? From the evaluation of the ecological vision of the resourcefulness-aligned actors proposed (§7.2) and their general attitude towards the future of mobilities, emerges that there is a complementary relation between the ethical values of resourcefulness and the one followed by the actors. Most importantly, it is the resourcefulness framework in itself, as a normative politics of resources (§4.2) that can guide and perfect the visions and pathways of the resourcefulness-aligned actors. Specifically the idea of expanding the present and contracting the future on

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[76] The approach toward policy transfer by resourcefulness-aligned actors is substantially different from the global growing attitude towards using global consultants to plan (Timms 2011), as they translate exterior experiences into the local context having had a specific knowledge of it and its needs and possibilities.

[77] Speaking about rationality in transport planning, it is important to acknowledge the seminal work of Flyvbjerg (1998) *Rationality and Power: Democracy in Practice*. Here the author recognises the role of power in defining what counts as rationality and knowledge. This applies also to the work of the resourcefulness-aligned actors that are actors that exercise a specific form of power in which their alternative approaches to knowledge and rationality are grounded. The attempts to establish new approaches to knowledge and rationality are part of the affirmation by these actors of what other authors called power from below (Sharp et al. 2000) or, in social ecology terms, a power to create (Bookchin 1995a).

which the cosmopolitan rationality is grounded, has several points of contact with the idea of building an 'interim politics' with which guaranteeing the present conditions for a just deliberation about the future (§3.2). It also strongly resonates with the 'remember and imagine' slogan for social change by the social ecologist Chodorchoff (2014).

On the basis of this, it is possible to describe a resourcefulness-based paradigm for transport planning. If a paradigm is composed by valid knowledge, good practice, appropriate questions and answers, and appropriate methods and techniques (§1.2), for this new paradigm valid knowledge is co-produced in a reflexive manner among experts and citizens aimed to produce ecological and just mobilities and preserve commons. Methods and techniques are prefigurative and based on participatory dynamics and processes, grounded on the ideas of inclusivity and fairness.

7.4 The challenges to implement a resourcefulness-based transport planning

Once the nature of the current mobility crisis had been identified, both the Forum and the MYC developed a strategy to tackle them based on the co-production of reflexive knowledge and the creation of knowledge-based and ethically grounded participatory planning processes. They aimed to create a network of actors, at the institutional and grassroots levels that could, in Rio de Janeiro, challenge the market-oriented substantial rationality in place and, in L'Aquila, build a culture of participation.

In the previous sections I showed the theoretical and practical value of their analysis and practices for transport planning. However, it is important to consider the challenges that these actors found and reflect on the possible impacts of these challenges on any further application of resourcefulness-based worldview for transport planning.

The first challenge for the resourcefulness-aligned actors was to be able to effectively impact on a large scale on the politics of mobility. As considered, both the Forum and especially the MYC found barriers in bringing their project forward in that initial stage (§5, 6). These are connected with discontinuity in the political will, conflicting institutional agendas, personalisms and also reduced strength of the resourcefulness-aligned actors themselves. As shown (§7.4), a diversified and multi-strategy offers benefits over a unilateral strategy. However, is clear that diversified strategies require even more commitment of resources that might not be fully available. In any case it remains promising especially in a complex context in

which institutional actors do not have a monolithic nature. At the institutional local level this might permit a resourcefulness transport agenda to influence transport planning practices at a different level, where, as also emerged from the case studies:

> "A local authority is a mosaic of individuals with several functions and responsibilities; an arena of multiple forms of knowledge, values and beliefs trying to interact; a source of problems to find and problems to solve; a network of institutional sub-structures and dependencies where several modes of reasoning are present and maintain not only institutional, but also informal interactions; and an environment where any of the major traditions of planning thought can have different relative influences" (Ferreira et al. 2009: 40)

The complexity and multifaceted nature of the local authorities might play in favour of integration and diversification, and also provide further resources when attempting to impact on the politics of mobility towards a more holistic approach to planning. Complex governance structures can have more capacity for welcoming knowledge produced in the interaction of different actors at the institutional and grassroots level.

Furthermore, positioning a strategy based on knowledge exchange, mutual and social learning at the local institutional level might be a viable solution to solve its internal barriers to transformation. Strategies aimed at creating a culture of participation and knowledge exchange beyond instrumental rationality might be important in the transport policy context in which "financial, organisational, cultural and political" (Vigar 2000: 24) barriers might be present. These are grounded on a "'cultural baggage' ingrained in traditional ways of thinking about and solving given problems" (Vigar 2000: 25) typically based on traditionally established technical solutions. This is especially valid in contexts of crises like the ones analysed in this thesis. As Vigar (2000) reports, when at the local level holds a "climate of desperation":

> "The adoption of the new paradigm becomes spatially variable in its translation to the local level [...] The successful adoption of a new more sustainable transport strategy in a given locale does, then, appear to relate to the extent to which 'policy learning' has occurred on the part of the local authority and indeed the public at large in those areas" (29).

In line with resourcefulness-world view and its aspects grounded in the idea of transformative resilience (§3.2, 3.3), crises become an opportunity for learning in which the presence of resourcefulness-aligned actors and a strategy designed accordingly with the principles stated in this chapter, might

ensure a change towards more ecological futures. As also proven by Sorensen and Sagaris (2010), "public participation in place governance is transformed when there are strong, long-term neighbourhood organizations with expertise, institutional memory, and self-governance capacity" (311). Strong grassroots actors can, both with their own initiatives or intervening in institutional spaces, increase "planning capacity" (ibid) and impact at the governance level, transforming crises into opportunities for change (Solnit 2010). In order to increase their strength these actors need support from the civic society. This support, as seen in both cases, can be built when what they aim to solved is perceived and felt as a fundamental issue by the population and the local authorities (§6.1.5).

However, more substantial challenges are posed by the forces that are at the ground of what I called market-oriented rationality that in the realm of the politics of mobility have been historically able to direct policies and interventions (Ward 1991; Vigar 2000; Schwanen 2016; Khreis et al. 2016). Challenging these forces is a long-term process that stands beyond the capability of resourcefulness-aligned actors or other resourcefulness elements on their own, and cannot be sole responsibility of policy makers[78](§8.3). However, the proposals of resourcefulness-aligned actors to build a culture of participation and sustainability and a critical mass of active citizenship might in the long-term generate enough cultural and social pressure to address them at a policy, cultural, and social level.

Secondly, a challenge for the actors is to build enough capacity to impact substantially at the grassroots level (§6.2.4). This should be based on being able to effectively shape a culture of participation and ecological consciousness as well as directly impact on behavioural choices and on the wider mobility aspects of the transport system. Issues can be related to the capacity of resourcefulness-aligned actors, to the availability of resources they have, and to the receptivity of the social context. For example, the MYC, operated in a context that, as recognised by several sociologists, "since ever [...] showed a slow response, an attitude sometimes marked by helplessness and resignation when faced with the opportunities for change and social innovation" (Minardi and Salvatore 2012: 209) (§6.1.1). This context reduces the MYC's capacity to impact both at the institutional and grassroots level, forcing the actor to refine its strategies. To this consideration is required on

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[78] Similarly resourcefulness-aligned actors might be exposed to the risk of co-optation, as described by Dagnino (2004, 2007).

the specific receptivity of different cultures to certain forms of deliberation. As reported by Gambetta (1998) and Hirschman (1986), Mediterranean and Latin American cultures have a propensity to prefer winning arguments to dialogical processes aimed at learning, and to predispose authoritarianism to democratic politics (§6.2.4.2).

Despite these challenges, it is however important for future planning actors to consider and account to experiences similar to those of the Forum and the MYC. They are important seeds for change (Ward 1996) both for the institutional and grassroots level, generating more resourcefulness responses and actions at different scales. Moreover, they are able to produce valuable knowledge and mobilize networks of actors that can further inform and complement any existing planning practice, becoming in themselves a valuable resource. For example the Forum was able to support changes in the planning of the Metro Line 4 and produce analysis of the project implemented that perfectly forecast the impacts in 2016. The Forum Facebook group reaches everyday more than 1,800 people and the petitions it promotes are often signed by more than 10,000. Furthermore, in 2017 one of the members of the Forum, Fernando McDowell has been elected as Deputy Mayor and Municipal Secretary of Transport. Similarly the MYC was able to build a network of actors concerned with ecological mobility that has pushed several initiatives at the institutional level and grassroots level. The Panel has been institutionalised by the Council and, after its initial failure, reopened at the end of 2016. It has promoted subsequently some of the proposals by MYC like the introduction of night buses and discussed the use of the train line as metro service (Redazione 2016).

7.5 Summary and conclusions

In this chapter I have shown the main learning points that emerge from a conjunct analysis of the Forum and the MYC for a resourcefulness-based transport planning. I demonstrated that, despite acting at very different geographical contexts, the resourcefulness-aligned actors attribute the mobility crisis to a crisis within the politics of mobility, that needs to be addressed not only by looking at the distribution of material resources, but also to the intellectual and civic ones.

Specifically, whilst the Forum attributes the crisis in Rio de Janeiro to a market-oriented rationality, the MYC considers the crisis mainly due to a low capacity of the local institutions to generate an effective mobility planning and tackle the car-attitude of the population.

Both the actors propose solutions that focus on co-production of reflexive knowledge and a participatory planning process grounded in knowledge and ethical principles. These practices are grounded on a planning rationality that moves beyond the dichotomy between instrumental and communicative rationality, claiming for knowledge-based and ethically grounded cosmopolitan rationality.

Finally, I considered the challenges that these actors and others might find in trying to implement a resourcefulness-based transport planning practice and possible ways forward: the difficulty in effectively impacting at the institutional and grassroots level that however should not stop planning processes to see the work of these actors as beneficial towards a transition of more ecological and equitable transport systems. Ensuring that mobility issues are recognised as a major problem by the population and the institutions, establishing favourable governance structures and having the support of experts in promoting healthy participatory arenas can be important ways forward.

Chapter 8: Conclusions: developing an agenda towards planning for resourcefulness

This thesis has aimed to explore new frontiers for transport planning theory and practice in the face of current mobility crisis. It has done so from the theoretical standpoint of resourcefulness, addressing the question: *How can the theoretical and practical elements of resourcefulness improve the ability of transport planning to address the challenges of the current mobility crisis?*

Specifically, it has looked at how the broad social and environmental crises, of which the mobility crisis is part, are understood, using a resourcefulness-based worldview and then the philosophy of change included in the worldview, referring to the sub-questions:

> *Q1: How are current crises, and the relationship between humans and nature, understood through a resourcefulness-based worldview?*

> *Q2: Through a resourcefulness-based worldview, how can change be implemented to deal with social and environmental crises?*

In order to answer these questions this thesis has followed a series of interrelated and dynamic steps (§1.5). Having highlighted the dimension of the current crises and the role of transportation in those (§1) and reviewed the literature that shows the potentialities and limits of sustainability and resilience in addressing them (§2), it has developed a resourcefulness-based worldview grounded in social ecology, spatial justice and the right to the city (§3). It has then empirically explored the new frontiers for participatory transport planning theory and practice with empirical work in Rio de Janeiro and L'Aquila (§5, 6). Specifically, it has considered in these two cities the contribution of two resourcefulness-aligned actors, the Forum and the MYC, whose practices are aligned with a resourcefulness-based worldview (§3.6). The Forum is a network of experts and citizens concentrated on knowledge production and participation, in order to contest the mobility crisis in Rio de Janeiro. The MYC is a group of young people working in the city of L'Aquila to improve participation in transport planning. These actors use prefigurative politics and practices which enact in the present the values and realities they envision for the future, in a means-ends convergence (§3.3.3). For this reason, the analysis of their present activities made it possible to identify their visions for the future and the directions they are following to implement transformation in the face of crisis. With a Participatory Action Research (PAR) approach, aimed simultaneously at building resourcefulness-based practices and analysing the effects of those (§4.1.5), the thesis has proposed

an enhanced version of resourcefulness. This has been grounded in the empirical evidences from the case studies from which fundamental lessons have been derived to theoretically and practically inform transport planning (§7).

In this final chapter of the thesis I present a summary of the main findings and the conclusions. I first give a final answer to Q1 and Q2, reprising the main findings that have brought together the theoretical ideas with the empirical evidence from Rio de Janeiro and L'Aquila. Before doing so, I also give a summary of how resourcefulness has aimed to respond to the limits of sustainability and resilience. Secondly, I then propose a reflection on the validity and advantages of the methodology adopted. Thirdly, I consider the possible policy implications of this research to then develop an agenda for resourcefulness-based transport planning. Finally, I highlight future research perspectives and opportunities.

8.1.   Redeeming sustainability and resilience: redefining resourcefulness in light of the experiences in Rio de Janeiro and L'Aquila

In recent decades, firstly sustainability and then resilience have informed and shaped transport planning theory and practice, becoming fundamental concepts. On one side, the discourses on sustainability have contributed essentially to focusing the transport agenda and reducing environmental impacts (§2.4.4). It has, however, shown limitations as a framework that the literature has considered not fully theoretically-grounded and often vague (§2.4.2). This vagueness has resulted over time in a flattening of its social and justice dimensions. Attention has been focused less on the social impacts and increasingly more on technological solutions for environmental issues (§1.3, 2.4.2). On the other side, resilience has contributed significantly to showing the connection between environmental and social processes and impacts (§2.5.6). It has also highlighted the scalar dimension of those processes. Especially the tradition of evolutionary resilience has opened new perspectives for planning practice, giving new meanings to the ideas of change and transformation (§2.5.6). However, it has shown limitations in accounting for the role of human agency and a reduced attention to questions of justice and fairness (§2.5.4). Finally, similarly to sustainability, resilience has in many instances been defined in a vague manner, requiring more solid theoretical foundations (§2.5.6). At the same time, several aspects of resilience, especially in its version of 'evolutionary resilience' (§2.5.3) have been considered worth 'redeeming' to constitute a more solid

framework (§3.1). Finally, both sustainability and resilience, as concepts lacking a specific ecological theoretical foundation or worldview (§1.3), have been appropriated by the neoliberal worldview (§1.3). This worldview assumes that unlimited economic growth is reconcilable with ecological principles. There is growing consensus that this assumption is one of the key reasons why these two concepts have failed to fully address the challenges imposed by crises (§1.3, 2.4.2, 2.5.4).

Resourcefulness proposes a theoretical alternative to respond to the limits of sustainability and resilience, incorporating at the same time their positive aspects and posing the condition for them to be truly established (§1.3, 3.1). In this thesis, building on the work done by MacKinnon and Derickson (2012), resourcefulness has first of all been defined as a property of a system (§3.2.1). This has been done by building on the aspects of resilience that the literature has specifically suggested can be 'redeemed' (§3.1):

> *Resourcefulness is the internal ability of a system/subject to adapt to and resist to the current interrelated social and environmental crises (adaptation to crises) and, at the same time, induce transformations that can stop and avoid these crises reproducing (resolution of crises).*

Secondly, it has been developed into a worldview with a specific theoretical foundation connected to ecological-social goals (§3.2.3 - 3.5.4). In this way the resourcefulness-based worldview has proposed a response to the problem of vagueness and lack of specific theoretical insights highlighted both in sustainability and resilience. It has constituted a processual and procedural worldview that, with a novel approach, aims to build the conditions for tackling the issues of sustainability and resilience putting at the centre communities and citizens. The worldview has been developed through formulating an approach to crises (§3.3.1), a conception of nature (§3.3.2), and a philosophy of change (§3.3.3). These formulations have been informed by social ecology theory and the concepts of spatial justice, and right to the city (§3.1, 3.3). With the support of these ideas, resourcefulness has been proposed, once grounded in the empirical data considered (§5, 6), as a worldview to guide possible transformation in transport planning in the face of crises (§7). Specifically, these ideas have contributed to directing attention toward social and justice issues, and to the role of human agency (§7.1). This has been facilitated by a specific focus on issues of distribution of material, civic, and intellectual resources (§3.2.2). Material resources were considered to be housing, health, food, and environmental conditions. Intellectual resources included time, social networks, access to education, culture, scientific, and ecological knowledge. Civic resources

mobilized the idea of citizenship as ability to meaningfully participate in the public domain. This attention to resources has been complemented with a multi-scalar perspective on reality that aims to look contemporarily at the community scale and at the international scale, at the environmental systems and social systems (§3.2.3). As such, this perspective has considered it important to account for the complexity of the systems and the dynamics in which society and nature are interrelated. With an understanding of humans and nature as interrelated, resourcefulness has excluded the option, included in weak sustainability, to trade natural capital for economic capital (§2.4.1 - 2.4.2). In this way, if adopted, the resourcefulness-base worldview fundamentally binds together assessment and intervention on social and environmental impacts (§3.3.2). Finally, within the worldview participatory processes and prefigurative practices have been considered crucial (§3.5.4).

On the bases of these theoretical assumptions, a resourcefulness-based worldview for transport planning has been centred on the concepts of accessibility, transport equity, participation, and ecological consciousness (§3.5.4). These initial theoretical foundations, giving a first answer to Q1 and Q2, have been complemented by an analysis of the practices of resourcefulness-aligned actors, as explored in the following sections.

8.1.1 Q1: *How are current crises, and the relationship between humans and nature, understood through a resourcefulness-based worldview?*

According to the resourcefulness-based worldview, the current social and environmental crises are generated by human domination. Domination generates uneven distribution and access to resources, especially aggravated within the capitalist system. This uneven distribution results into an induced-scarcity of material, intellectual and civic resources. These scarcities generate patterns of spatial injustice and denial of the right to the city (§3.3.1).

The transport system is a fundamental structure for allowing access to resources. As such, the current environmental and social crises are intertwined with the mobility crisis (§1.2). This is constituted by uneven mobilities and uneven distribution of transport-related impacts (§1.2.1). Under a resourcefulness-based worldview, this uneven distribution of resources and impacts is caused by an induced scarcity of intellectual, civic and material resources at the transport system level; it is spatially and

socially distributed and can be analysed through the principles of spatial justice, right to mobility and transport justice (§3.5.1).

The analysis of the visions and practices of the Forum and the MYC highlights an understanding of the mobility crisis by these two actors compatible with what theorised in the resourcefulness-based worldview (§7.1). Despite the dissimilar contexts, the mobility crises experienced are attributed to similar root causes (§7.1). These root causes are in the politics of mobility, more than at a mobilities or infrastructural level, and connected to scarcity of intellectual and civic resources. Dealing with such a crisis requires, for the resourcefulness-aligned actors, addressing the availability of those resources in the transport system. Addressing the scarcity of intellectual and civic resources also assumes a fundamental importance in challenging the uneven distribution of material resources.

Specifically, addressing the mobility crisis from the perspective of resourcefulness-aligned actors means, in the case of the Forum, challenging the market-oriented rationality that governs transport planning (§7.3.3). This is the type of rationality that guides policy choices at the institutional level within a project of neoliberal urbanism (§5.2, 7.3.3). For the MYC, the mobility crisis can be addressed through challenging the low capacity of local institutions to generate an effective participatory mobility planning and of the citizens to be actively involved in it (§6.2.3, 6.2.4).

To sum up, the cause of the mobility crisis is to be found in the functioning of the politics of mobility and its allocation of intellectual and civic resources. The mobility crisis is correlated to the capacity of the institutional actors to effectively shape the politics of mobility towards a common good. This requires acting beyond a market-oriented rationality and ensuring the right of the population to participate in this process. Under this interpretation by the resourcefulness-aligned actors, induced scarcity for transport is a political problem and not necessarily connected with the availability of monetary resources or technical solutions.

8.1.2 Q2: *Through a resourcefulness-based worldview, how can change be implemented to deal with social and environmental crises?*

A resourcefulness-based worldview looks at patterns of uneven material, intellectual, and civic resource distribution and induced scarcity, challenging the social and institutional conditions that allow some groups rather than others to shape futures. As such, it is a worldview that inspires actions and practices. It is based on the analysis of current crises and aims to pause and

cease their reproduction. According to the worldview, change should be built taking into account a politics of scale, considering important processes of decentralization and also coordination at different levels of politics, and be grounded in participation and social learning (§2.1.5). Prefigurative practices and utopian thinking are also crucial (§3.3.3). In this way the resourcefulness-based worldview, dialoguing with both the tradition of planning as social learning (§2.1.5) and planning as social mobilization (§2.1.6), links to a radical planning tradition (§2.1.10). A resourcefulness-based radical planning has a specific attention to resources and distribution, participatory methodologies, and prefigurative politics.

In terms of transport planning, change would involve every level of the transport system that is composed by mobilities, infrastructures and politics (§1.2). As such, changes would be likely to be composed by behavioural changes, alternative technologies and new political arrangements. Specifically, at the political level, it would require interaction at all governance levels, guaranteeing at the same time the autonomy and functioning of each grade of the scale. Moreover, it would focus on increasing decentralised participatory practices for planning grounded in social learning. With increased integration and participation, it would pose as the basis for also developing meaningful local agendas for transport planning (§3.5.3).

The resourcefulness-aligned actors analysed move in this direction. They develop practices that complement and enrich these guidelines, focussing on the concepts of knowledge and participation (§7.3.1, 7.3.3). They show the importance of concentrating on intellectual and civic resources, focusing on co-production of reflexive knowledge and a participatory planning process grounded in knowledge and ethical principles. At the same time, they propose new practices grounded in a planning rationality that moves beyond the dichotomy between instrumental and communicative rationality (§2.1.2), making a claim for knowledge-based and ethically grounded cosmopolitan rationality (§7.3.3). This rationality is based on the idea of supporting technical knowledge with reflexive inter-subjective knowledge and complements communicative rationality with the idea of a dual-power for citizens. This is a form of power built by citizens with the creation of popular institutions (§3.3.3). What guides decisions is the construction of ecological and just mobilities, preserving the common goods of which mobility is a part. This rationality complements the idea of 'interim politics' included in resourcefulness, a politics that today has to guarantee the conditions for a just deliberation about the future (§3.2). Conversely, a resourcefulness-

based worldview could guide and perfect the visions and pathways of these actors (§7.2).

In all these aspects, resourcefulness-aligned actors complement the resourcefulness-based worldview with a sharper focus on the role of intellectual and civic resources. They highlight the fundamental role in building transformation of knowledge-based insurgent participation and insurgent non-institutional participation, and of building a critical mass of active citizens and a culture of participation (§7.2). They specifically connect to the radical planning tradition (§2.1.10, 3.4). Specifically, participation is a fundamental prefigurative practice to build transformation. For this reason more participatory arenas need building taking into account of: inclusivity, representativeness and fairness, impact on decision-making, the role of experts and expert knowledge, and diversification of strategies (§7.3.2). Moreover, they stress the importance of diversifying and using a multiplicity of strategies, increasing complexity and diversity (§7.3.2). These are also core principles of resilience and social ecology (Curran 2007) which suggest the importance of increasing differentiation in evolution based on the ideas of "participation, self-organization, differentiation and spontaneity" (167).

In doing so they also highlight the challenges for resourcefulness-based transport planning practices, especially the difficulty in effectively impacting at the institutional and grassroots level due to the lack of culture of participation and sustainability. This further depends on the receptivity of different cultures. Crucially important are political and civic support in a process of cultural change (§7.4).

All these elements can complement the theoretical foundations of resourcefulness, complementing the initial resourcefulness-based worldview (§3.3). On the side of the dimensions of resourcefulness proposed (§3.3.4, 3.5.4) new dimensions emerge. This is visible in Table 8.1, built on the base of Table 3.3, where the new dimensions of resourcefulness emerging from the empirical work are highlighted.

The table is composed of two tables vertically juxtaposed. For each of the dimensions of the worldview (approach to crises, conception of nature, philosophy of change) the first two column proposes, on the left, a summary of the theoretical position of the resourcefulness-based worldview and then, on the right, on the basis of those positions, guiding principles to guide resourcefulness-based practices. In the last two columns the same is proposed for the specific context of transport planning. On the left are summarised the theoretical positions of a resourcefulness-based worldview for transport planning and on the right some operative concepts.

Table 8.1: Core ideas in the resourcefulness-based worldview for transport planning (revised)

	Theoretical foundations of the resourcefulness-based worldview	Guiding principles for a resourcefulness-based agenda	Theoretical foundations of the resourcefulness-based worldview for transport planning	Guiding principles for a resourcefulness-based transport planning agenda
Approach to Crises	Domination by man over man Induced-scarcity of resources	Reduce domination and injustice in access and distribution of material, intellectual and civic resources Focus on spatial justice and right to the city	Transport is interlocked with social and environmental crises Focus on spatial and environmental justice Focus on mobility justice and right to mobility Induced scarcity of public transportation The mobility crisis is a political crisis	Increase accessibility Increase spatial and environmental justice Use democratically defined substantive values Use affordable ecological transportation options Social, environmental and health impact assessments Challenge market-oriented rationality Increase institutional capacity
Conception of Nature	Nature is part of humans, not resource to exploit Wholeness to be preserved Ecological ethics based on complexity, participatory relationships, fecundity, creativity, and freedom	Preserve nature Take into account of complexity and diversity Ground decisions in ethics Consider ecological problems as social problems		Environmental sustainability Planning with complexity, no reductionism. Diversify strategies Embrace complexity and multidisciplinarity in planning

	Social and ecological systems are linked together			Eco-system solutions Ground planning on ethical values ==Focus on public transport solutions as common good== ==Addressing firstly social issues can also benefit environmental ones==
Philosophy of Change	Change is an holistic process that starts from individual and local scale Politics of scale: importance of decentralization and coordination Importance of utopian thinking and prefigurative practices Participation Importance of education learning Alternative technologies	Empower lower levels of scale Take into account scalar phenomena and relations Increase self-organization and social learning Increase participation Build ecological consciousness Use utopian thinking		Change in transport system: behaviours, alternative technologies, new politics of transport Decentralized planning and local planning and meaningful interactions across scales. ==Introduce institutional structures for coordinated planning== Increase participatory planning and social learning within it. ==Importance of coproduction of knowledge and reflexivity==. ==Importance of inclusivity, representativeness, and fairness== ==Build a culture of participation==

				Use of knowledge-based participatory planning Active Citizenship Critical Mass

As is visible in the table, the resourcefulness-aligned actors stress sharply that the mobility crisis in place is less an infrastructure crisis than a planning crisis, in its political terms. It is a crisis that, in order to be unpicked at its very roots, requires cultural and political changes more than precise investments and policies.

Moreover, the empirical analysis has not found any sharp contrast between what was theorised as resourcefulness-based worldview and what the visions (and/or practices) of the resourcefulness-aligned actors are. There are, however some areas in which the actors seem not to intervene. Specifically, in terms of environmental impacts and environmental justice, the resourcefulness-aligned actors do not concentrate strongly on their evaluation and do not use those as a main area of concern (§7.2). However, what emerges from the analysis of their practices is that, with their specific focus on ecological and just mobilities, they indirectly act to promote more ecological solutions. They are moved by social justice considerations towards advocating for better public transportation. The implementation of better public transport systems, however results also in reducing environmental impacts (§7.2).

For the other areas on which the resourcefulness-aligned actors appear not to focus, given a compatibility of the points suggested and their present agenda, the resourcefulness-based worldview could inform them in developing further. Specifically it could contribute to influencing their understanding of the connection between social and environmental crises, building further awareness of the importance of also considering the environmental impacts of transportation.

In light of these empirical data, it has been possible to further elaborate the resourcefulness-based worldview for transport planning (§3.5). In this worldview valid knowledge is co-produced in a reflexive manner among experts and citizens aiming to produce ecological and just mobilities and preserve a commons. Methods and techniques are prefigurative and based on participatory dynamics and processes, grounded on the ideas of inclusivity, representativeness and fairness, impact on decision-making, and diversification of strategies. Planning choices are grounded in an ethically-bounded cosmopolitan rationality, which goes beyond instrumental rationality and the distinction between subject and object. It is based on the need for reflexive inter-subjective knowledges that complement communicative rationality with the idea of a dual-power. Finally, radical planning is the planning tradition more appropriate for a resourcefulness-based worldview.

8.2. A research approach for resourcefulness-based transport planning: reflections on methodology

When designing my research, I found Participatory Action Research (PAR) the methodological approach best aligning with the resourcefulness-based worldview and my positionality (§4.1.5). Designing a research inspired by the PAR approach principles has allowed me to use the four-year PhD journey as not only a personal learning process, an opportunity to contribute to the development of academic knowledge, but also as a period in which I concretely interacted with and had an effect on the realities I wanted to contribute to. This has been particularly relevant when it has allowed me to come back, with my expertise and with the intellectual and institutional resources I had access to, to my hometown, L'Aquila (§6). This in a moment in which I strongly felt, as my generation did, the need to contribute to the physical and social rebuilding of the city.

Aside from than these personal motivations, I also produced a piece of research that further highlights the value of PAR as a research approach for transport planning, supporting the emerging literature on the topic (§4.1.2 - 4.1.4). Specifically, the action research paradigm and the specific PAR approach adopted have resulted in a meta-theoretical position fitting with not only the resourcefulness-based worldview and its social ecology principles (§4.1.5), but also with what should be an epistemological approach for radical planning and cosmopolitan rationality. Radical planning, as a form of activist, non-institutional planning and cosmopolitan rationality, as a form of rationality beyond instrumental or communicative ones, have an epistemological position grounded in the need for inter-subjective dialogue, co-production and reflexivity (§2.1.10). This position has a tension towards utopian thinking and a fundamental emancipatory aim. Specifically, this cosmopolitan rationality is based on the idea of expanding the present and contracting the future: concentrating on the present possibilities and rejecting top-down blueprints (§2.1.10, 7.3.3). Similarly, resourcefulness is intended by MacKinnon and Derickson (2012) as an 'interim politics', a politics that today has to guarantee the conditions for a just deliberation about the future (§3.2). These two positions have several points of contact and also resonate with the idea of prefigurative practice, as practices that enact today the values envisioned for the future (§2.1.10, 3.3.3).

This ontological and epistemological congruence between the research methodology, the research framework and the emerging reality supported has followed what Lather (1986) suggested should be a good practice of

emancipatory research aiming at producing new theories, as PAR is (§4.1.2 - 4.1.3):

> "Building empirically grounded theory requires a reciprocal relationship between data and theory. Data must be allowed to generate propositions in a dialectical manner that permits use of a priori theoretical frameworks, but which keeps a particular framework from becoming the container into which the data must be poured. The search is for theory which grows out of context-embedded data, not in a way that automatically rejects a priori theory, but in a way that keeps preconceptions from distorting the logic of evidence" (Lather 1986: 267).

The resourcefulness-based worldview has been used as an *a priori* theoretical framework that, however, has not become a predetermined and rigid framework used to catalogue the reality. The resourcefulness-based worldview has been modified and expanded once it has been placed in dialogue with the empirical data (§5, 6, 7). As such, under a PAR approach, this research has aimed at allowing the emergence of other theoretical standpoints useful for emancipatory practice and to, at the same time, inform other emancipatory practices elsewhere (§4.2).

Following this attitude, during this research I have personally contributed to constructing practices towards building resourcefulness. On one side, in Rio de Janeiro, I helped the Forum to organise its activities and, in first person, I facilitated its connection with a variety of other resourcefulness-aligned actors (GPPA 2014a) (§4.2). This has reinforced its political impact, creating a broader critical mass of actors working on the same topics (§5.2.4.2). On the other side, in L'Aquila, I supported the delivery of workshops on mobility organised by MYC, and accompanied, as expert and member of the MYC, the meetings of the Permanent Mobility Panel initiated by MYC (§6.2.3). This Panel, composed of all the major actors involved in the politics of mobility in the city, had important political implications. I also publicly reported, as member of the MYC, in a civic forum organised by the Gran Sasso Science Institute (§6.2.3.3) to give voice to local participatory activities. I have acted in support of and been supported by the other members of these two groups and we have produced change. The Forum has shown this ability to build change over the long time of its history (§5.2). The MYC, despite limits in its ability to fully contribute to shaping the politics of mobility in the city, has demonstrated a lasting value both in terms of having initiated novel practices at the institutional and grassroots level and in having put in place the basis for a cultural change in the politics of mobility (§6.2.3.2, 6.2.4.2, 8.9). During this process of change, I discussed with them my findings and agendas to

sustain the unfolding of resourcefulness. This has happened despite the fact that I never explicitly used the term 'resourcefulness' during my fieldwork, allowing for original ideas to emerge.

Most importantly, and also in an innovative practice for PAR, I had two case studies in which I acted as a bridge of communication (§4.2.1). Moving back and forth between Rio de Janeiro and L'Aquila I enacted a process of indirect exchange and translation between the two experiences (§7.3.3). The idea to establish the Permanent Mobility Panel in L'Aquila, for example, emerged after a reflection on the role of the Forum by the members of the MYC which began after I reported to them my experiences in Rio de Janeiro. The importance of acting as bridge of communication and learning from the practices of the Forum is also particularly relevant as an attempt to decolonize research practices in transport planning, as suggested by Sheller (2011a) (§1.2). This approach has been designed in order to use the fieldwork in Rio de Janeiro primarily as a learning experience in which to closely experiment with the radical planning tradition in Brazil (§2.1.10). I used what I learned while witnessing the actions of radical planning actors to further develop resourcefulness and also support the MYC (§6). This is a simple act of translation, in Santos' (2002, 2004) terminology (§7.3.3), in a context in which there is much more to be done towards decolonising transport studies. Awareness should be raised about the preferential North to South direction that policy transfer exercises and knowledge exchange follow in this discipline (Vainer 2000; González 2011; Rizzo 2015; Porter and Lucas 2016). Experiences such as the one from this PhD can support an inversion of trends, recognising the intrinsic value of knowledge production in the South for transport planning in the North.

Finally, I find it important to report to transport studies and planning the experience of participatory transport planning with school students (§6.2.2.2, 6.2.4.3). As I experienced, analysed and reported in this research, this method, beyond being a valuable data collection strategy, has revealed potential towards grounding behavioural and cultural changes (§6.2.2.2, 6.2.4.3). This is a potential that needs more research efforts in order to understand its lasting effects. Research should put more effort in considering the effects of education pathways towards ecological resourcefulness futures.

The PAR approach has also had, as expected, its own drawbacks (§4.1.4). Firstly, it has not generated generalizable conclusions, which are often preferred in transport studies. This is expected in PAR and also in line with the epistemology of resourcefulness (§4.1.1, 8.4). Secondly, as also warned

by the literature (Herr and Anderson 2014), the time frame of the PhD and, in case of Rio de Janeiro, the distance from the field, has been limiting the possibility of fully using the potentiality of the PAR approach. The research would have benefitted and could still benefit from more time in the field to further discuss the findings with the co-researchers and participants.

Other limitations are also connected to the general time-frame of this research, which did not allow me to explore the unfolding of resourcefulness-based practices at all level of their multi-scale (§4.2). With regard to the development of the politics of mobility in the two cities, I focussed on their short-medium time scale: I looked at changes in the transport system over a time-frame of a few years. With regard to the scale of action, I adopted a meso-scale focus, with the unit of analysis being the groups and the institutions. These are not limitations specific of the PAR approach but connected with the specific time-frame of a PhD project, which had two effects.

First, this has reduced my ability to focus and analyse more small-scale interpersonal and micro-dynamics within the groups and among the groups and other actors. Both the approach to field and the research in general would have benefitted from a theoretical understanding and analytical power towards inter-personal dynamics and group behaviours. Second, the focus on supporting actions and the PhD time-frame has not allowed for a full evaluation of the effect of the resourcefulness-aligned actors' practices in the long-term. I have been able to highlight the challenges of the different strategies adopted. However, longer research could have also assessed the wider cultural impacts of the work of the actors on the politics of mobility. This has also reduced my ability to fully address in which way the resourcefulness-aligned actors acted in terms of the politics of scale, that is a theme included in resourcefulness (§3.3.2); that remains a theoretical point needing further empirical exploration (§8.5).

More generally, adopting a PAR approach has revealed it as positively supporting research and acting towards a radical planning approach. As a conclusion of this experience, I suggest that future research in transport planning take inspiration from the PAR approach and possibly use it to complement the adopted methodological approaches.

8.3. Developing an agenda for resourcefulness-based transport planning theory and practices: beyond policy recommendations.

Having considered the answers to the research question of this thesis (§8.1), as conclusion, I believe it is fundamental to consider in more detail what transport planning actors can learn from resourcefulness. This is particularly important especially in light of the methodology adopted, which demands concrete impacts on current visions and practices (§4.1.2 - 4.2). However, before answering this question it is necessary to understand which type of lessons are appropriate.

As explored in this thesis, resourcefulness is not something that can be implemented via policies, nor imposed top-down as cultural change. It is an interim politics and a worldview that can guide the visions and practices of a variety of actors (§3.2). At the same time it is a property of a system that contains elements that actors can build in order to challenge the current crises (§3.2.1). These actors are, first, those I call resourcefulness-aligned actors, such as urban social movements (§3.6). They 'bring forward' elements of resourcefulness, facilitating the conditions for marginalised people to have a say on their futures. Moreover, they connect and build networks of actors that can increase the opportunities for the resourcefulness-based worldview to emerge, in a wider variety of contexts. They are important seeds for change (Ward 1996) both for the institutional and grassroots level. They are able to produce valuable knowledge and develop novel practices and institutions that can complement existing planning traditions. Second, there are citizens, individuals, organizations, and members of local authorities, practitioners, planners and researchers that can 'bring forward' elements of resourcefulness and, as I have done through this research, support, with actions, research, and policy measures, resourcefulness practices to emerge and last.

As this thesis has demonstrated, however, in order for a resourcefulness-based worldview to fully ground transport planning practices, these two groups of actors should interact in a continuous exchange and support each other. They should co-produce knowledge and develop innovative participatory planning arenas, challenging the induced uneven distribution of intellectual and civic resources. In this way they can address the mobility crisis, which is a political crisis, and work toward ensuring the possibilities for marginalised people to participate in envisioning desired futures (§7.3, 8.2.2).

As a consequence of these considerations, it is not appropriate to conclude this thesis by giving only generalised policy recommendations: first, they

might not be the core instrument for building resourcefulness and, second, they might not be appropriately taking into account for the content-specific unfolding of resourcefulness. With regard to the first point, this stands especially if, as Graeber (2004) suggests, policies can be considered as different from the political approach that this thesis has shown to be required in order to challenge crises:

> "'Policy' is the negation of politics; policy is by definition something concocted by some form of elite, which presumes it knows better than others how their affairs are to be conducted. By participating in policy debates the very best one can achieve is to limit the damage, since the very premise is inimical to the idea of people managing their own affairs" (8).

Differently from policy 'measures, resourcefulness requires the involvement of not only a variety of actors, but also of types of knowledge, and a transformation that goes beyond damage limitation. As also stressed by The Ecologist (1993) emphasising policy measures as the solution to the crises might suggest that "there is a single set of principles for change; and that today's policy-makers, whether in national governments or international institutions, are the best people to apply them" (196). Single sets of change designed solely by experts are not what has been shown to be winning choice for resourcefulness. The resourcefulness-based worldview is grounded instead in the idea that change needs to be built by differentiated multi-strategies and by a variety of actors. Policymakers are an important part of it and need to contribute. However their sole effort might be not powerful enough, especially when changing the politics of mobility in places requires challenging the whole market-oriented rationality (§7.1, 8.2.1). Different actions by different actors are possibly the way to go, in a context in which, as Raikes (1988) had already highlighted, the dimension of the change required goes beyond even the practical political agendas:

> "It becomes increasingly difficult to say what are practical suggestions, when one's research tends to show that what is politically feasible is usually too minor to make any difference, while changes significant enough to be worthwhile are often unthinkable in practical political terms" (v).

As this thesis and the resourcefulness-aligned actors have effectively shown, to address the mobility crisis there is a need to implement a culture of participation and ecological consciousness at the very heart of society. Moreover, a profound political change needs to take place in which economic and political forces guided by a market-oriented rationality are challenged.

This would be a long-term process that stands beyond the capability of single resourcefulness-aligned actors on their own, and cannot be solely the responsibility of policy makers.

As stressed by Graeber (2004), Chodorkoff (2014) and embedded in the cosmopolitan rationality of Santos (2002, 2004), the radical change required in this thesis needs to be grounded in recognising the importance of utopian thinking and of believing that 'another world is possible (and happening right now)'. Only through adopting this attitude will the proposals of resourcefulness-aligned actors help build a culture of participation and sustainability and a critical mass of active citizenship, which might in the long-term generate enough cultural and social pressure to profoundly address the crisis at a political, cultural, and social level.

With regard to the second point, giving generalised policy recommendations would be potentially flawed for resourcefulness. An attempt to propose universal recommendations would contrast with the resourcefulness-based worldview that recognises the need to consider the contextual specificity of each practice for change. This is an added reason for not giving a general list of policy recommendations. As Raikes (1988) continues,

> "Genuine practicality in making policy suggestions requires detailed knowledge of a particular country or area; its history, culture, vegetation, existing situation, and much more besides. Lists of general 'policy conclusions' make it all too easy for the rigid-minded to apply them as general recipes, without thought, criticism or adjustment for circumstances" (v).

Valid suggestion for policymakers can be given only when wide knowledge of the context of action is available. More generally, building the conditions for a resourcefulness-based worldview to emerge requires a critical approach to each contextual situation. This approach has to acknowledge the specificity of the crisis in place and the strengths and possibilities of the actors in the area.

Given the inappropriateness of delivering generalised policy recommendations, with this research I aimed to locate knowledge produced in the exercise of bridging differences. Learning from and in between two very different case studies has broadened the spectrum of knowledge. At the same time it has increased the ability of the different experiences and practices to learn from each other, building "interurban solidarities" (González 2016: 6). This process has been grounded into an attitude similar

to the principle of unity in diversity proposed by Bookchin (1996) (§3.1.2.2), or the concept of 'traduction' proposed by Santos (2002, 2004) (§7.3.3, 8.2).

Specifically, the objective of this thesis has not been to develop a universal and unifying new theory. Having acknowledged the need for new rationalities to emerge beyond 'indolent' western rationality (Santos 2002, 2004), this research has helped a process of 'translation' between different experiences (§7.3.3). In this way it has increased, for these experiences and other to come, the available alternatives. Moreover, it has allowed the experiences, once entered in a process of translation, to enrich each other. This work of translation has been and is necessary, in research and in general 'resourcefulness policy transfer' exercises, to "define, concretely, in each moment and historical context, which are the constellations of practices with higher contra-hegemonic potential" (Santos 2002: 266).

Whilst supporting a dialogue between the present prefigurative practices, this thesis has aimed to use the experiences of the Forum and the MYC to inform researchers and practitioners[79]. They can take inspiration from the resourcefulness-aligned actors when informing and shaping transport planning, taking a serious responsibility toward solving the current social and environmental crises. As the resourcefulness-aligned actors have done, researcher and practitioners can, referring to Randolph's (2007, 2008, 2014) categories, produce new time-spaces in between of the space of representation of the official planning regime (the public hearings, the official knowledge, the official plans and discourses) and the represented space of the people affected by the plans. They can do so using insurgent participation and insurgent non-institutional participation: e.g. participatory practices aimed at emancipation both within and outside institutional participatory arenas (§5.2.3.2). In the contrast between "the logical and abstract representations of space-time designed by the planners, on the one hand, and diffuse experience, little explicit and not always discursively accessible those who 'participate' in this process, on the other" (Randolph 2007: np), experts that know the language of representation can connect this to the everyday life experiences of the represented. In this way they can

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[79] During the all processes of translation, in accordance with my PAR approach, I have attempted to use my analysis of practices and processes to feedback to the resourcefulness-aligned actors and support their actions. Both for the Forum and the MYC, I supported its strategy design, giving feedbacks and proposing new pathways (§8.2). However, these are not reported as main findings, as the aim of this thesis has not been to produce recommendations directly for them, but use the knowledges from those actors to inform other actors involved in the politics of mobility, especially practitioners, academics and planners (§8.5).

support the creation of spaces of knowledge production and act as mediator in the public domain.

PAR is and has been, for my own research practice, a fundamental approach to doing this, becoming, in line with what is required by resourcefulness, a prefigurative methodological approach. I acted by prefiguring with my practices to what researchers in a resourcefulness-based worldview could work towards.

8.3.1 An agenda towards planning for resourcefulness

Although this thesis will not propose generalised policy recommendations, it is however important to stress the learning points which emerge from this research. These learning points can be taken as an agenda for resourcefulness-based transport planning actors.

In the literature there are several examples of agendas or manifestos for practitioners and planners to develop more ecological futures. They bring together action points with the aim, as for example reported by the manifesto from STEPS centre (2010) "not to assert a single view [but] to help catalyse and provoke more vibrant and explicitly political debate over global patterns and directions of innovation […]. Our aim is not only to foster debate, but to catalyse action" (2). Similarly my aim is to bring resourcefulness to the centre of the transport planning debate and, at the same time, invite others to make efforts towards solving the current mobility crisis.

The agenda I propose as result of my action research is aimed at catalysing actions and is grounded in the idea of developing an interim politics. For this reason it is not going to promote specific strategies for ecological urban mobility, as for example the European Urban Charter (Council of Europe 2009) does. This document, similarly to this thesis, recognises the fundamental role of mobility choices in shaping the environmental crisis and proposes strategies for ecological transportation options. It also stresses the importance of considering the street as social arena and the role of education.

The agenda proposed here, however, starting from the acknowledgment that the mobility crisis is a political crisis, proposes action points that are specifically devoted to cultural and social change and not ones with specific land-use measures or technological solutions. It considers education as a possibility only when based on an idea of coproduction and empowerment (Freire 2005) (§2.1.5, 4.1.3). Moreover the agenda proposed in this thesis aims to go beyond providing a blueprint for the future (e.g. as the manifesto

by the World Urban Campaign (2012)). Inspired by the idea of expanding the present and contracting the future included in the cosmopolitan rationality, and grounded into prefigurative practice, the agenda proposed in this thesis can only specify the present characteristics needed to allow an equitable decision on which are the possible ecological futures. This is done with the hope of providing, as Heynen et al. (2006) propose for their Manifesto for Urban Political Ecology with which this agenda shares several points, "a good starting point for debate, refinement, and transformation, and as a platform for further research" (11).

To sum up, this agenda wants to provide specific cultural and political action points to inform research and planning for resourcefulness. In this agenda I specifically address researchers, practitioners and planners aiming to work using a resourcefulness-based worldview. However, it is important to stress that those points are also learning points for the actors I call resourcefulness-aligned actors in a strict sense, as urban social movements (§3.6). The preferred planning tradition for resourcefulness is radical planning (§2.1.10, 3.4, 7.3, 8.2.2), where planning is understood to be an activity performed beyond institutional spaces, "in which knowledge is joined to action *in the course of social transformation*" (Friedmann 1987: 297). For this reason, the resourcefulness-aligned actors can and should also be considered planning actors. With their great quantity of expertise on building social change, they can learn from those points, having already taught us important lessons on addressing the crises.

Planning for Resourcefulness: an Agenda

The Current Crises: where are we now

1. The current mobility crisis, intertwined with the social and environmental crises, is a political crisis. To address it, the market-oriented rationality needs to be challenged.

2. To address the mobility crisis new institutional capacities, and social and cultural changes are needed.

3. Sustainability and resilience are core concepts that can inform transport planning to nurture a more holistic and environmentally aware attitude in the face of the current mobility crisis. However they need be grounded in a critical political theory which pays attention to the distribution of resources, justice and fairness.

A Philosophy of Change: what can we do

4. Both expert and popular knowledge are fundamental in challenging the market-oriented rationality and producing cultural and social changes. These need developing in a continuous exchange and coproduction and within a practice of reflexivity. Specifically, expert approaches should be constantly accompanied by citizens' scrutiny and contribution.

5. Participatory arenas and practices, both institutional and non-institutional, can facilitate knowledge production and exchange between expert and popular knowledge. Participatory arenas can function as spaces for empowerment, social learning and behavioural change.

6. Healthy participatory arenas need to be knowledge-based and ethically grounded. They need to be designed to take into account inclusivity, representativeness, fairness and impact on decision-making. Also new institutional spaces, such as Mobility Panels and Forums, in which planning actors can integrate and coordinate among themselves and with citizens are required.

Core Planning Practices and Strategies: how can we do it

7. Planning practices need grounding in a knowledge-based and ethically grounded cosmopolitan rationality, that goes beyond the distinction between instrumental and communicative rationality. Planning should aim to produce ecological and just mobilities and preserve commons. Methods and techniques are prefigurative and based on participatory dynamics and processes, grounded in the concepts of inclusivity, representativeness and fairness, impact on decision-making, and diversification of strategies.

8. Multi-scalar and diversified multi-strategies are crucial in allowing the implementation of healthy participatory practices and new planning solutions. A variety of strategies for starting new institutions and pathways to build a culture of participation and sustainability are needed.

Actors for Change: who are we

9. Experts, academic and non-institutional actors can support the creation and unfolding of knowledge-based ethically-grounded participation arenas and institutions. Specifically experts should intervene in the participatory arenas to support disadvantaged groups to have a voice, transforming them in insurgent spaces which ensure inclusivity and equity in the decision-making process.

10. Active citizens can support, especially in a critical mass, the construction of change. Education for ecological thinking and participation need to a grounding part of citizenship.

11. Youth are more receptive to change and effort should be put in informing and empowering them to take decisions towards ecological mobilities.

Research and researchers, guided by the action research paradigm, should contribute to providing resources and tools to do so.

8.4.   Suggestions for future research

As a final thought, this research has left questions that can be answered only with future research efforts. Some of those are more theoretical while others require a more praxis-oriented approach.

Firstly, from a theoretical point of view, further investigation is required in understanding the relationship between a commitment to building ecological and just mobilities and preserving the commons, and the ethical principles proposed in the resourcefulness-based worldview inspired by the ethics of social ecology (§3.1.2). Similarly, more attention should be given to the interrelation between the idea of developing an interim politics, the principle of unity in diversity and the potential of adopting a cosmopolitan rationality (§8.2, 8.3). These theoretical discussions could bring powerful theoretical tools to then ground resourcefulness practices.

Secondly, more theoretical insights from interpersonal dynamics and group behaviours would allow us to analyse the unfolding of resourcefulness-based practices at a more detailed micro-scale data (§8.2). Similarly, more research would be needed to cover the full scalar range of the unfolding of resourcefulness, both at a spatial and temporal scale (§8.2). More research should look at the long-term effects of the practices of resourcefulness-aligned groups and at the wider cultural impacts of the work of the actors on the politics of mobility. This research would then be able to complement with empirical evidence the theoretical part of resourcefulness on scalar change.

Thirdly, more praxis-oriented research should be focused on investigating the unfolding of resourcefulness and the potentiality of resourcefulness practices in other contexts, especially in those in which cultural receptivity is different from the ones already explored (§6.2.4, 7.4). More attention should be given to considering in detail the effectiveness, for building resourcefulness, of different participatory planning tools. This could also be done with the support of more mixed methodologies such as participatory modelling. Similarly, further research could be done working with other possible resourcefulness-aligned actors not classifiable as urban social movements.

Fourthly, in order to test the validity of these findings in other contexts, it would be important to develop moments, such as open workshops or

meetings, in which to participatorally discuss with practitioners, researchers and urban social movement, both already involved or not, the meaning and value of resourcefulness.

Bibliography

Abreu, M. A. 2013. *Evolução Urbana do Rio de Janeiro*. Rio de Janeiro: Instituto Municipal de Urbanismo Pereira Passos.

Adey, P. 2009. *Mobility*. London and New York: Routledge.

Adger, W. N. 2006. Vulnerability. *Global Environmental Change*. *16*(3), 268–281.

ADUT-RJ. 2014. *Passageiro*. [Online]. [Accessed 10 September 2016]. Available from: http://adut-rj.com.br/passageiro/

ADUT-RJ. Nd. Juntos Somos Fortes![Online]. [Accessed 10 September 2016]. Available from: http://adut-rj.org.br/index3.htm

Albrechts, L. 2002. The Planning Community Reflects on Enhancing Public Involvement : Views from Academics and Reflective Practitioners. *Planning Theory and Practice*. *3*(3), 331-347.

Albrechts, L. 2003. Planning and Power: Towards an Emancipatory Planning Approach. *Environment and Planning C: Government and Policy*. *21*(6), 905-924.

Albrechts, L. 2015. Ingredients for a More Radical Strategic Spatial Planning. *Environment and Planning B: Planning and Design*. (42), 510–525.

Aldred, R. 2012. Governing Transport From Welfare State to Hollow State: The Case of Cycling in the UK. *Transport Policy*, *23*, 95-102.

Alencar, C. 2013. *A Rua, a Nação e o Sonho : Uma Reflexão para as Novas Gerações.* Rio de Janeiro: Mardeideias.

Alexander, D. E. 2010. The L'Aquila Earthquake of 6 April 2009 and Italian Government Policy on Disaster Response. *Journal of Natural Resources Policy Research*. *2*(4), 325–342.

Alexander, D. E. 2012. *A Tale of Three Cities and Three Earthquake Disasters*. [Online]. [Accessed 10 September 2016]. Available from: http://works.bepress.com/david_alexander/2/

Alexander, E. R. 2000. Rationality Revisited : Planning Paradigms in a Post-Postmodernist Perspective. *Journal of Planning Education and Research*. *19*(3), 242–256.

Alfasi, N. and Portugali, J. 2007. Planning Rules for a Self-planned City. *Planning Theory*. *6*(2), 164–182.

Allmendinger, P. 2001. *Planning in Postmodern Times*. New York and London: Routledge.

Allmendinger, P. 2002. Towards a Post-Positivist Typology of Planning Theory. *Planning Theory*. *1*(1), 77–99.

Allmendinger, P. and Tewdwr-Jones, M. eds. 2002. *Planning Futures : New Directions for Planning Theory.* London and New York: Routledge.

Almagisti, M. 2009. *La Qualità della Democrazia in Italia. Capitale Sociale e Politica*. Rome: Carocci.

Amdam, R. 1997. Empowerment Planning in Local Communities : Some Experiences from Combining Communicative and Instrumental Rationality in Local Planning in Norway. *International Planning Studies*. *2*(3), 329-345.

Anable, J., Brand, C., Tran, M. and Eyre, N. 2012. Modeling Transport Energy Demand : A Socio-Technical Approach. *Energy Policy. 41*, 125–138.

Arantes, O. B. F., Vainer, C. and Maricato, E. eds. 2000. *A Cidade do Pensamento Único: Desmanchando Consensos*. Rio de Janeiro: Editora Vozes.

Araujo, I. de. 2012. Moradores de Ipanema Fazem Ato em Laranjeiras em Defesa de Praça. [Online]. *O Globo.*14 June 2012. [Accessed 10 January 2017]. Available from: http://lacaninfo.newsnet.com.br/arquivos/pdf/AR2012061478212981.pdf

Arnstein, S. R. 1969. A Ladder Of Citizen Participation. *Journal of the American Institute of Planners. 35*(4), 216–224.

Ashford, N. A. and Hall, R. P. 2011. *Technology, Globalization, and Sustainable Development : Transforming the Industrial State*. New Haven and London: Yale University Press.

Assis, A. 2014. *Gentrifica… O QUÊ ?! Gentrificação.*[Online].[Accessed 10 September 2010]. Available from: http://redesdamare.org.br/blog/noticias/gentrifica-o-que-gentrificacao/

ATTAC. 2011. *Non solo di Pane - Rapport Finale*. Roma: ATTAC Italia.

Attoh, K. A. 2011. What Kind of Right Is the Right to the City? *Progress in Human Geography. 35*(5), 669-685.

Attoh, K. A. 2012. The Transportation Disadvantaged and the Right to the City in Syracuse, New York. *The Geographical Bulletin. 53*(1), 1-20.

Avila, G. A. 2006. *Mobilidade Urbana, Iniquidade e Politicas Sociais*. Rio de Janeiro: IPEA.

Baeten, G. 2000. The Tragedy of the Highway : Empowerment , Disempowerment and the Politics of Sustainability Discourses and Practices. *European Planning Studies. 8*(1), 69–86.

Baeten, G. 2011. Neoliberal Planning : Does it Really Exist? In: T. Tasan-Kok and G. Baeten. eds. *Contradictions of Neoliberal Planning : Cities, Policies, and Politics*. Berlin: Springer, 205-213.

Bailey, I., Gouldson, A. and Newell, P. 2011. Ecological Modernisation and the Governance of Carbon : A Critical Analysis. *Antipode. 43*(3), 682-703.

Bailey, K. and Grossardt, T. 2010. Toward Structured Public Involvement: Justice, Geography and Collaborative Geospatial/Geovisual Decision Support Systems. *Annals of the Association of American Geographers.100*, 57–86.

Bailey, K., Grossardt, T. and Ripy, J. 2012. Toward Environmental Justice in Transportation Decision Making with Structured Public Involvement. *Transportation Research Record: Journal of the Transportation Research Board. 2320*(1), 102–110.

Bamberg, S., Fujii, S., Friman, M. and Gärling, T. 2011. Behaviour Theory and Soft Transport Policy Measures. *Transport policy. 18*(1), 228-235.

Banister, D. 2002. *Transport Planning.* London: Routledge

Banister, D. 2008. The Sustainable Mobility Paradigm. *Transport Policy. 15*(2), 73–80.

Banister, D. 2011. Cities, Mobility and Climate Change. *Journal of Transport Geography. 19*(6), 1538–1546.

Bastos, I. and Magalhaes, L. E. 2013. Após Críticas, Estado Muda Projeto do Metrô em Ipanema. *O Globo.* [Online]. [Accessed 10 September 2016]. Available from: http://oglobo.globo.com/rio/apos-criticas-estado-muda-projeto-do-metro-em-ipanema-7403221#ixzz4LGo7hutH

Batheram, M., Hardin, J. and Whitfield, S. 2005. Successful Participation Methods for Local Transport Planning. *Proceedings of the Institution of Civil Engineers: Municipal Engineer. 158*, 9-16.

Beard, V. A. 2003. Learning Radical Planning : The Power of Collective Action. *Planning Theory. 2*(1), 13–35.

Beard, V. A. and Basolo, V. 2009. Commentary: Moving Beyond Crisis, Crossroads, and the Abyss in the Disciplinary Formation of Planning. *Journal of Planning Education and Research. 29*(2), 233–242.

Beierle, T. C. 2002. The Quality of Stakeholder-Based Decisions. *Risk Analysis. 22*(4), 739–749.

Benfield, F. K. and Replogle, M. 2002. Transportation. In: Dernbach, J. C. *Stumbling Towards Sustainability.* Washington: Environmental Law Institute, 647-665.

Bergmann, S. and Sager, T. eds. 2008. *The Ethics of Mobilities : Rethinking Place, Exclusion, Freedom and Environment.* Oxford: Ashgate.

Bergold, J. and Thomas, S. 2012. Participatory Research Methods : A Methodological Approach in Motion. *Historical Social Research / Historische Sozialforschung. 4*(142), 191-222.

Berkes, F., Folke, C. and Colding,J. eds. 2003. *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change.* Cambridge: Cambridge University Press.

Berman, M. 1983. *All that Is Solid Melts into Air : The Experience of Modernity.* London: Verso.

Bernard, B. Gervais-Lambony, P., Hancock, C. and Landy, F. eds. 2010. *Justice et Injustices Spatiales.* Nanterre: Presses Universitaires de Paris Ouest.

Beyer, A. 2011. L'Échéance des Jeux Olympiques de 2016 et les Stratégies de Restructuration du Transport Métropolitain de Rio de Janeiro. *Confins.*[Online]. [Accessed 10 June 2016]. Available from: http://confins.revues.org/7087

Bhalla, K., Shotten, M., Cohen, A., Brauer, M., Shahraz, S., Burnett, R., Leach-Kemon, K., Freedman, G., and Murray, C. 2014. *Transport for Health: the Global Burden of Disease from Motorized Road Transport.* Washington DC: Institute for Health Metrics and Evaluation and World Bank.

Bickerstaff, K., Tolley, R. and Walker, G. 2002. Transport Planning and Participation : the Rhetoric and Realities of Public Involvement. *Journal of Transport Geography. 10*(1), 61-73.

Bickerstaff, K. and Walker, G. 2005. Shared Visions, Unholy Alliances : Power, Governance and Deliberative Processes in Local Transport Planning. *Urban Studies. 42*(12), 2123–2144.

Biggs, J. and Tang, C. 2011. *Teaching for Quality Learning at University.* New York: McGraw-Hill International.

Biggs, S. 2012. *Remediating the Social*. Edinburgh: University of Edinburgh.

Billie, O. and Pitt, B. 2013. *Engaging Communities and Service Users : Context, Themes and Methods.* London: Palgrave Macmillan.

Bishop, P. and Davis, G. 2002. Mapping Public Participation in Policy Choices. *Australian Journal of Public Administration. 61*(1), 14–29.

Blanco, J. and Macagno, A. 2014. Políticas Neoliberales y Condicionantes Estructurales: Movilidad, Transporte y Dinámica Urbana en la Región Metropolitana de Buenos Aires. In: Hidalgo, R. and M. Janoschka, M. eds. *La Ciudad Neoliberal. Gentrificación y exclusión social en Santiago de Chile, Buenos Aires, Ciudad de México y Madrid.* Santiago: Universidad Católica de Chile.

Blanco, J., Apaolaza, R., Bosoer, L. and Gonzalez, A. 2015. Movilidades, Desplazamientos y Territorios : Algunos Aportes para el Debate de la Gentrificación. *Working Papers Series Contested Cities 15004. Realidades de procesos de desplazamiento en América Latina.* Madrid: Universidad Autónoma de Madrid.

Blanco, J., Bosoer, L. and Apaolaza, R. 2014. Gentrificación, Movilidad y Transporte : Aproximaciones Conceptuales y Ejes de Indagación. *Revista de Geografía Norte Grande. 58*, 41-53.

Blog Ponto de Onibus. 2014. CPI dos Ônibus do Rio de Janeiro Continua Suspensa pela Justiça. *Diario do Transporte.* [Online]. [Accessed 10 September 2016]. Available from: https://diariodotransporte.com.br/2014/03/12/cpi-dos-onibus-do-rio-de-janeiro-continua-suspensa-pela-justica/

Bobbio, L. 2006. Dilemmi della Democrazia Partecipativa. *Democrazia e Diritto. 4*, 11–26.

Bobbio, L. and Pomatto, G. 2007. Il Coinvolgimento dei Cittadini nelle Scelte Pubbliche. *Meridiana. 58*, 45-67.

Bookchin, M. 1986. *The Limits of the City*. Montreal: Black Rose Book.

Bookchin, M. 1988. *Toward an Ecological Society*. Montreal: Black Rose Books.

Bookchin, M. 1995a. *Re-enchanting Humanity : A Defense of the Human Spirit Against Anti-Humanism, Misanthropy, Mysticism and Primitivism*. London: Cassell.

Bookchin, M. 1995b. *From Urbanization to Cities : Toward a New Politics of Citizenship*. New York: Cassell.

Bookchin, M. 1996. *The Philosophy of Social Ecology*. Montreal: Black Rose Books.

Bookchin, M. 2004. *Post-Scarcity Anarchism*. Oakland: AK Press.

Bookchin, M. 2005. *The Ecology of Freedom*. Oakland: AK Press.

Bookchin, M. and Foreman, D. 1991. *Defending the Earth : A Dialogue Between Murray Bookchin and Dave Foreman.* Boston: South End Press.

Booth, D., Hanmer, L. and Lovell, E. 2000. *Poverty and Transport. A Report Prepared for the World Bank in Collaboration with DFID.* London: Overseas Development Institute.

Braga, S. 2014. *Saturnino Braga : o Clube de Engenharia e os Presidenciáveis*. [Online]. [Accessed 20 July 2015]. Available from:

http://www.portalclubedeengenharia.org.br/info/saturnino-braga-o-clube-de-engenharia-e-os-presidenciaveis

Brenner, N., Marcuse, P. and Mayer, M. eds. 2012. *Cities for People, not for Profit : Critical Urban Theory and the Right to the City*. New York and London: Routledge

Bret, B. Gervais-Lambony, P., Hancock, C. and Landy, F. eds. 2010. *Justices et Injustices Spatiales*. Nanterre : Presses Universitaires de Paris Ouest.

Brown, A. and Robertson, M. 2014. *Economic Evaluation of Systems of Infrastructure Provision : Concepts, Approaches, Methods*. Leeds: iBuild.

Brown, H. 1995. Rationality. In: Honderich, T. ed. *The Oxford companion to Philosophy*. Oxford: Oxford University Press, 744-745.

Brownill, S. and Carpenter, J. 2007. Participation and Planning : Dichotomies, Rationalities and Strategies for Power. *Town Planning Review*. *78*(4), 401-428.

Brundtland, G.H. 1987. Our Common Future—Call for Action. *Environmental Conservation*, *14*(4), 291–294.

Bruns, B. 2003. Water Tenure Reform : Developing an Extended Ladder of Participation. *'Politics of the Commons: Articulating Development and Strengthening Local Practices' RCSD Conference, July 11-14, Chiang Mai.*

Buchy, M. and Race, D. 2001. The Twists and Turns of Community Participation in Natural Resource Management in Australia : What is Missing? *Journal of Environmental Planning and Management*. *44*(3), 293–308.

Button, K. J. and Hensher, D. A. eds. 2005. *Handbook of Transport Strategy, Policy and Institutions (Handbooks in Transport, Volume 6)*. Amsterdam: Elsevier.

Calafati, A. 2012. *L'Aquila 2030. Una Strategia di Sviluppo Economico*. L'Aquila: Ministero per la Coesione Territoriale.

Calandra, L. M. 2012. Rischio, Politica, Geografia : Il Caso del Terremoto dell'Aquila. In: Di Somma, A. and V. Ferrari, V. eds. *L'Analisi del Rischio Ambientale : La Lettura del Geografo.* Roma: Valmar, 125–140.

Calandra, L. M. 2015. Territorialità e Processi di Partecipazione : Verso una Cultura della Prevenzione. In: Carnelli F. and Ventura S. eds. Terremoti e Rischio Sismico: Valutare, Comunicare, Decidere. Roma: Carocci, 149-173.

Calandra, L. M., Forino, G. and Porru, A. eds. 2014. *Multiple Geographical Perspectives on Hazards and Disasters*. Rome: Valmar.

Carley, M., Smith, H. and Jenkins, P. 2013. *Urban Development and Civil Society : The Role of Communities in Sustainable Cities*. London: Routledge.

Carlson, J. and Doyle, J. 2000. Highly Optimized Tolerance : Robustness and Design in Complex Systems. *Physical Review Letters*. *84*(11), 2529–32.

Carmon, N. and Fainstein, S. S. eds. 2013. *Policy, Planning, and People : Promoting Justice in Urban Development.* Philadelphia: University of Pennsylvania Press.

Carnelli, F., Paris, O. and Tommasi, F.eds. 2012. *Sismografie. Ritornare a L'Aquila Mille Giorni dopo il Sisma*. Arcidosso: Effigi.

Carnelli F., Ventura S. eds. 2015. *Terremoti e Rischio Sismico: Valutare, Comunicare, Decidere.* Roma: Carocci.

Carpenter, S., Walker, B., Anderies, J.M. and Abel, N. 2001. From Metaphor to Measurement : Resilience of What to What?. *Ecosystems. 4*(8), 765-781.

Carvalho, C. H. R. and Pereira, R. H. M. 2012. *Gastos das Famílias Brasileiras com Transporte Urbano Público e Privado no Brasil : Uma Análise da POF 2003 e 2009*. Brasilia: IPEA.

Castellan, C. M. 2010. Quantitative and Qualitative Research : A View for Clarity. *International Journal of Education. 2(2)*, 1-14.

Castellani, S. 2014. Participation as a Possible Strategy of Post-Disaster Resilience: Young People and Mobility in L'Aquila (Italy) In: L. M. Calandra, L.M., Forino, G. and Porru, A. eds. *Multiple Geographical Perspectives on Hazards and Disasters*. Rome: VALMAR, 105-117.

Castells, M. 1983. *The City and the Grassroots : A Cross-cultural Theory of Urban Social Movements*. Berkeley: University of California Press.

Castells, M. 2012. *Networks of Outrage and Hope : Social Movements in the Internet Age.* Cambridge: Polity Press.

Cava, B. 2013a. *A Multidão Foi ao Deserto : As Manifestações no Brasil em 2013 (Jun-Out).* São Paulo: Annabluma Editora.

Cava, B.R. 2013b. O sistema de Transporte é Mais Violento do Que a Polícia. *Quadrado dos Loucos*. [Online]. [Accessed 10 September 2016]. Available from: http://www.quadradodosloucos.com.br/?s=A+aus%C3%AAncia+de+c ar%C3%A1ter+democr%C3%A1tico+nas+macro+ou+micro+decis%C 3%B5es+no+plano+dos+transportes+%C3%A9+absoluta.andsubmit= Busca

CBT. Nd. What We Do. [Online]. [Accessed 10 January 2017]. Available from: http://www.bettertransport.org.uk/what-we-do

CBT. 2012. *Transport and Poverty : A Literature Review*. London: CBT.

Cervero, R. 2005. *Accessible Cities and Regions : A Framework for Sustainable Transport and Urbanism in the 21st Century*. UC Berkeley Center for Future Urban Transport: A Volvo Center of Excellence.

Chanan, G. 2003. *Searching for Solid Foundations: Community Involvement and Urban Policy*. London: Office of the Deputy Prime Minister.

Chapman, L. 2007. Transport and Climate Change: a Review. *Journal of Transport Geography. 15* (5), 354–367.

Chatterton, P. and Cutler, A. 2008. *The Rocky Road to a Real Transition : The Transition Towns Movement and What It Means for Social Change.* Leeds: Footprint.

Chelleri, L. 2012. From the «Resilient City» to Urban Resilience. A Review Essay on Understanding and Integrating the Resilience Perspective for Urban Systems. *Documents d'Anàlisi Geogràfica. 58*(2), 287-306.

Cherry, G. ed. 1980. *Shaping an Urban World*. New York: St Martin's Press.

Cheung, T. S., Chan, H. M., Chan, K. M., King, A. Y. C., Chiu, C. Y. and Yang, C. F. 2003. On Zhongyong Rationality : The Confucian Doctrine of the Mean as a Missing Link between Instrumental Rationality and Communicative Rationality *Asian Journal of Social Science*. *31*(1), 107-127.

Chichilnisky, G. 1996. An Axiomatic Approach to Sustainable Development. *Social Choice and Welfare*. (13), 231–257.

Chiu, L. F. 2003. Transformational Potential of Focus Group Practice in Participatory Action Research. *Action research*. *1*(2), 165-183.

Chodorkoff, D. 2014. *The Anthropology of Utopia : Essays on Social Ecology and Community Development*. Porsgrunn: New Compass Press.

Christopher, M. and Peck, H. 2004. Building the Resilient Supply Chain. *Int. J. Logist. Manag*. (15), 1–14.

Cialente, M. 2012. *Programma di Mandato 2012-2017*. L'Aquila: Comune dell'Aquila.

Ciccozzi, A. 2009. *La Necessita' e la Scelta : Allocazioni Scriteriate e Strategie di Shock Economy Dietro il Progetto C.A.S.E.*[Online]. [Accessed 10 September 2016]. Available from: www.collettivo99.org/site/?p=866, accessed 30 October 2012.

Clark, J. 2005. Social Ecology. In: Taylor, B. *Encyclopedia of Religion and Nature*. London: Continuum, 1569-1571.

Clark, J. P. 2013. *The Impossible Community : Realizing Communitarian Anarchism*. London: Bloomsbury Publishing.

Clifton, K. J. and Handy, S. L. 2003. Qualitative Methods in Travel Behaviour Research. In: Jones, P. and Stopher, R. eds. *Transport Survey Quality and Innovation*. Oxford: Pergamon, 283-302.

Clube de Engenharia. 2013. *Rocinha e PAC2 : Saneamento Deve Ser Prioridade.* [Online]. [Accessed 20 July 2015]. Available from: http://www.portalclubedeengenharia.org.br/info/rocinha-e-pac2-saneamento-deve-ser-prioridade

Clube de Engenharia. 2014. *Fórum em Luta Pela Mobilidade Urbana no Rio.* [Online]. [Accessed 20 July 2015]. Available from: http://www.portalclubedeengenharia.org.br/info/forum-em-luta-pela-mobilidade-urbana-no-rio

Coghlan, D. and Brannick, T. 2005. *Doing Action Research in Your Own Organization*. Thousand Oaks: Sage.

Colapietra, R. 1986. *Gli Aquilani d'Antico Regime Davanti alla Morte 1535-1780*. Roma: Edizioni di Storia e Letteratura.

Collective of Critical Transport Scholars. 2016. *Critical Transport Studies: A Bibliography*. [Online]. [Accessed 20 July 2016]. Available from: : http://opencuny.org/ccts/sample-page/participatory-transport-bibliography/

Collins, K. and Ison, R. 2009. Jumping off Arnstein's Ladder : Social Learning as a New Policy Paradigm for Climate Change Adaptation. *Environmental Policy and Governance*. *19*(6), 358–373.

Comissão de Defesa dos Direitos Humanos e Cidadania da Alerj. 2013. *Relatório*. Rio de Janeiro.

Comitatus Aquilanus. 2009. L'Aquila. Non si Uccide Così Anche una Città? *Eddyburg.* [Online]. [Accessed 10 September 2016]. Available from: http://archivio.eddyburg.it/article/articleview/13889/1/359

Comitê Popular da Copa e Olimpíadas do Rio de Janeiro. 2012. *Megaeventos e Violações dos Direitos Humanos no Rio de Janeiro.* Rio de Janeiro.

Comitê Popular da Copa e Olimpíadas do Rio de Janeiro. 2013. *Megaeventos e Violações dos Direitos Humanos no Rio de Janeiro.* Rio de Janeiro.

Comitê Popular da Copa e Olimpíadas do Rio de Janeiro. 2014. *Megaeventos e Violações dos Direitos Humanos no Rio de Janeiro.* Rio de Janeiro.

Comitê Popular da Copa e Olimpíadas do Rio de Janeiro. 2015. *Dossiê sobre as Violações do Direito ao Esporte e à Cidade.* Rio de Janeiro.

Comitê Popular da Copa e Olimpíadas do Rio de Janeiro. 2016. *Megaeventos e Violações dos Direitos Humanos no Rio de Janeiro.* Rio de Janeiro.

Comune dell'Aquila. 2016a. Consigli Territoriali di Partecipazione, Nominati dal Sindaco Cialente i Consiglieri Comunali che Faranno da Supporto. *Comune dell'Aquila.* [Online]. [Accessed 10 September 2016]. Available from: http://www.comune.laquila.gov.it/archivio3_notizie-e-comunicati_0_4366.html

Comune dell'Aquila. 2016b. *Urban Center.* [Online]. [Accessed 10 September 2016]. Available from: http://www.comune.laquila.gov.it/pagina1252_urban-center.html

Comune dell'Aquila. Nd. *Piano Urbano della Mobilità.*[Online].[Accessed 10 September 2016]. Available from: http://www.comune.laquila.gov.it/pagina1256_piano-urbano-della-mobilit-pum.html

Connor, D. M. 1988. A New Ladder of Citizen Participation. *National Civic Review. 77*(3), 249–257.

Connors, P. and McDonald, P. 2010. Transitioning communities: community, participation and the transition town movement. *Community development journal.* 46(4), 558-572.

Contreras, D., Blaschke, T., Kienberger, S. and Zeil, P. 2013. Spatial Connectivity as a Recovery Process Indicator : The L'Aquila Earthquake. *Technological Forecasting and Social Change. 80*(9), 1782-1803.

Cooke, B. and Kothari, U., eds. 2001. *Participation: The New Tyranny?* London: Zed Books.

Cooper, D. and Palmer, J. eds. 1992. *The Environmental Question.* New York: Routledge.

Costa, R. G. R., da Silva, C. G. T. and Cohen, S. C. 2013. A Origem do Caos : A Crise de Mobilidade no Rio de Janeiro e a Ameaça à Saúde Urbana. *Cadernos Metrópole. 15*(30), 411-431.

Cote, M. and Nightingale, A. J. 2012. Resilience Thinking Meets Social Theory : Situating Social Change in Socio-Ecological Systems (SES) Research. *Progress in Human Geography. 36*(4), 475–489.

Council of Europe. 2009. *Manifesto for a New Urbanity: European Urban Charter 2*. Strasbourg: Council of Europe.

Coutinho, D. 2014. Audiência Pública do PAC Rocinha: 30 Moradores Para Falar por 200 mil. *Jornal do Brasil*. [Online]. [Accessed 20 July 2015]. Available from: http://www.jb.com.br/comunidade-em-pauta/noticias/2014/07/14/audiencia-publica-do-pac-rocinha-30-moradores-para-falar-por-200-mil/

Cox, A., Prager, F. and Rose, A. 2011. Transportation Security and the Role of Resilience : A Foundation for Operational Metrics. *Transport Policy*. (18), 307–317.

Creighton, J. L. 2005. *The Public Participation Handbook : Making Better Decisions through Citizen Involvement*. San Francisco: Jossey-Bass.

Cresswell, T. 2006a. *On the Move : Mobility in the Modern Western World*. New York and London: Routledge.

Cresswell, T. 2006b. The Right to Mobility : The Production of Mobility in the Courtroom. *Antipode*. *38*(4), 735-754.

Cresswell, T. 2010. Towards a Politics of Mobility. *Environment and Planning D : Society and Space*. *28*(1), 17–31.

Creswell, J. W. 2007. *Qualitative Inquiry and Research Design : Choosing among Five Approaches.* Thousand Oaks: Sage.

Creswell, J. W. 2009. *Research design: Qualitative and Mixed Methods Approaches*. Thousand Oaks: Sage.

Cretney, R. 2014. Resilience for Whom? Emerging Critical Geographies of Socio-Ecological Resilience. *Geography Compass*. *8*(9), 627-640.

Cretney, R. and Bond, S. 2014. 'Bouncing Back' to Capitalism? Grass-roots Autonomous Activism in Shaping Discourses of Resilience and Transformation Following Disaster. *Resilience*. 2(1), 18-31.

Crowe, P. and Foley, K. 2013. The Turas Project: Integrating Social-Ecological Resilience and Urban Planning. *AESOP/ACSP 5th Joint Congress: Planning for Resilient Cities and Regions,15-19 July, Dublin.*

Cucca, R. 2009. *Partecipare alla Mobilità Sostenibile : Politiche, Strumenti e Attori*. Roma: Carocci.

Cucca, R. 2012. The Unexpected Consequences of Sustainability : Green Cities Between Innovation and Ecogentrification. *Sociologica*. *6*(2), 1–21.

Cunliffe, A. L. 2010. Crafting Qualitative Research: Morgan and Smircich 30 Years On. *Organizational Research Methods*. *14*(4), 647–673.

Cunliffe, A. L. 2013. *Reflexive Practice : Integrating Self, Schorlaship and Learning.* [Online]. [Accessed 10 September 2016] Available from: http://www.slideshare.net/IAMIreland/cunliffe-2013-iam-reflexive-practice

Curl, A. and Davison, L. 2014. Transport Geography : Perspectives upon Entering an Accomplished Research Sub-Discipline. *Journal of Transport Geography*. *38*, 100–105.

Curl, A. and Lucas, K. 2016. The Transport Geography Research Group at the 2015 RGS-IBG Conference. *Journal of Transport Geography*. (51), 227-228.

Curran, G. 2007. *21st Century Dissent : Anarchism, Anti-Globalization and Environmentalism.* London: Palgrave Macmillan.

Currie, G. 2011. *New Perspectives and Methods in Transport and Social Exclusion Research.* Bingley: Emerald Group Publishing.

Dachler, H.P. and Wilpert, B. 1978. Conceptual Dimensions and Boundaries of Participation in Organizations : A Critical Evaluation. *Administrative Science Quarterly. 23*(1), 1–39.

Dagnino, E. 2004. Sociedade Civil, Participação e Cidadania : de que Estamos Falando? In: Daniel, M. ed. *Políticas de Ciudadanía y Sociedad Civil en Tiempos de Globalización.* Caracas: Universidad Central de Venezuela, 95-110.

Dagnino, E. 2007. Citizenship: a Perverse Confluence. *Development in Practice. 17*(4-5), 549-556.

Damasio, F. A. 2012. *O Sistema de Transporte para a Cidade dos Megaeventos.* Dissertação da Graduação. Rio de Janeiro: Universidade Federal Fluminense.

DaMatta, R. 2000. Prefácio. In: Nunes, E. *A Revolta Das Barcas. Populismo, Violência E Conflito Político.* Rio de Janeiro: Garamond, 9-16.

Daniel, M. ed. 2004. *Políticas de Ciudadanía y Sociedad Civil en Tiempos de Globalización.* Caracas: Universidad Central de Venezuela.

Davidoff, P. 1965. Advocacy and Pluralism in Planning. *Journal of the American Institute of planners. 31*(4), 331-338.

Davidson, S. 1988. Spinning the Wheel. *Planning. 1262*(3), 14–15.

Davoudi, S. 2012. Resilience, a Bridging Concept or a Dead End? *Planning Theory and Practice. 13*(2), 299-307.

Davoudi, S. 2013. On Resilience. *DisP - The Planning Review. 49*, 4–5.

Davoudi, S. 2014. Climate Change, Securitisation of Nature, and Resilient Urbanism. *Environment and Planning C: Government and Policy. 32*(2), 360–375.

Davoudi, S., Brooks, E. and Mehmood, A. 2013. Evolutionary Resilience and Strategies for Climate Adaptation. *Planning Practice and Research.* (28), 307–322.

Davoudi, S., Shaw, K., Haider, L. J., Quinlan, A. E., Peterson, G. D., Wilkinson, C., Fünfgeld, H., McEvoy, D. and Porter, L. 2012. Resilience: A Bridging Concept or a Dead End? "Reframing" Resilience : Challenges for Planning Theory and Practice Interacting Traps: Resilience Assessment of a Pasture Management System in Northern Afghanistan Urban Resilience : What Does it Mean in Planning Practice? Resilience as a Useful Concept for Climate Change Adaptation? The Politics of Resilience for Planning : A Cautionary Note. *Planning Theory and Practice. 13*(2), 299-333.

Della Porta, D. and Diani, M. 2006. *Social Movements : An Introduction.* Padstow: Blackwell Publishing.

Della Porta, D. ed. 2004. *Comitati di Cittadini e Democrazia Urbana.* Rubbettino Editore.

Dent, D., Dubois, O. and Dalal-Clayton, B. 2013. *Rural Planning in Developing Countries : Supporting Natural Resource Management and Sustainable Livelihoods.* New York and London: Routledge.

Denzin, N. K., and Lincoln, Y. S. eds. 2005. *The Sage Research*. Thousand Oaks: Sage.

Derickson, K. D. 2016. Resilience is Not Enough. *City*. *20*(1), 161–166.

Derickson, K. D. and MacKinnon, D. 2015. Toward an Interim Politics of Resourcefulness for the Anthropocene. *Annals of the Association of American Geographers*. *105*(2), 304–312.

Derickson, K. D. and Routledge, P. 2014. Resourcing Scholar-Activism : Collaboration, Transformation, and the Production of Knowledge. *The Professional Geographer*. *67*(1), 1–7.

Dernbach, J. C. 2002. *Stumbling Towards Sustainability*. Washington: Environmental Law Institute.

DETR. 1998. *A New Deal for Transport : Better for Everyone, White Paper*. London: Department of the Environment, Transport and the Regions Stationary Office.

DeVerteuil, G. and Golubchikov, O. 2016. Can Resilience Be Redeemed? *City*. *20*(1), 143–151.

DfT. 2014. *Transport Resilience Review : A Review of the Resilience of the Transport Network to Extreme Weather Events*. London: DfT.

Di Somma, A. and Ferrari, V. eds. 2012. *L'Analisi del Rischio Ambientale : La Lettura del Geografo*. Roma: Valmar.

Dick, B. nd. *You Want to Do an Action Research Thesis? : How to Conduct and Report Action Research.* [Online]. [Accessed 20 September 2016]. Available from: http://www.aral.com.au/resources/arthesis.html

Dietz, R. and O'Neill D. 2013. *Enough is Enough : Building a Sustainable Economy in a World of Finite Resources.* New York and London: Routledge.

Dixon, C. 2014. *Another Politics*. Oakland: University of California Press.

Dörrbecker, M. 2016. Public Transport Map of Rio de Janeiro. *Wikimedia Commons*. [Online]. [Accessed 10 September 2016]. Available from: https://commons.wikimedia.org/wiki/File:Public_transport_map_of_Rio _de_Janeiro.png

Dunlap, R. E. 2008. The New Environmental Paradigm Scale : From Marginality to Worldwide Use. *The Journal of Environmental Education*. *40*(1), 3-18.

Eames, M. and Egmose, J. 2011. Community Foresight for Urban Sustainability : Insights from the Citizens Science for Sustainability (SuScit) Project. *Technological Forecasting and Social Change*. *78*(5), 769–784.

Egmose, J., 2016. *Action Research for Sustainability: Social Imagination Between Citizens and Scientists*. New York and London: Routledge.

Eiglad, E. ed. 2015. *Social Ecology and Social Change*. Porsgrunn: New Compass.

Elkington, J. 1998. Partnerships from Cannibals with Forks : The Triple Bottom Line of 21st-Century Business. *Environmental Quality Management*. *8*(1), 37–51.

Elster, J. ed. 1998. *Deliberative Democracy*. Cambridge: Cambridge University Press.

Elvy, J. 2014. Public Participation in Transport Planning Amongst the Socially Excluded: An Analysis of 3rd Generation Local Transport Plans. *Case Studies in Transport Policy*. 2(2), 41–49.

Ernste, H., Martens, K. and Schapendonk, J. 2012. The Design, Experience and Justice of Mobility. *Tijdschrift voor Eeconomische en Sociale Geografie*. 103(5), 509-515.

European Commission. 2013. *Youth in Action Programme*. [Online].[Accessed 10 September 2016]. Available from: http://eacea.ec.europa.eu/youth/programme/who_participate_en.php

Exley, K. and Dennick, R. 2004. *Small Group Teaching : Tutorials, seminars and beyond*. London and New York: RoutledgeFalmer.

Fabinyi, M., Evans, L. and S. J. Foale. 2014. Social-Ecological Systems, Social Diversity, and Power : Insights from Antropology and Political Ecology. *Ecology and Society*. 19(4), 28.

Fainstein, S. S. and Hirst, C. 1995. Urban Social Movements. In: Judge, D. Stoker, G. and Wolman, H. *Theories of Urban Politics*. Thousand Oaks: Sage, 181-204.

Fainstein, S.S. 2005. Planning Theory and the City. *Journal of Planning Education and Research*. 25(2), 121-130.

Fainstein, S. S. 2010. *The Just City*. New York: Cornell University Press.

Fals-Borda, O. and Rahman, M. A. eds. 1991. *Action and Knowledge : Breaking the Monopoly with Participatory Action Research*. New York: The Apex Press.

Faludi, A. 1973. *A Reader in Planning Theory*. Oxford: Pergamon.

Faludi, A. 1987. *A Decision-Centred View of Environmental Planning*. Oxford: Pergamon.

Farinosi, M. and Treré, E. 2011. Inside the "People of the Wheelbarrows": Participation Between Online and Offline Dimension in the Post-Quake Social Movement. *The Journal of Community Informatics*. [Online]. 6(3), np. [Accessed 20 July 2016]. Available from: http://ci-journal.net/index.php/ciej/article/view/761/639

Fernandes, E. and De Freitas Roseno, R. 2013. *Protesta Brasil*. São Paulo: Prata Editora.

Ferreira, A. and Batey, P. 2007. Re-thinking Accessibility Planning: A Multi-Layer Conceptual Framework and Its Policy Implications. *Town Planning Review*. 78(4), 429-458.

Ferreira, A., Sykes, O. and Batey, P. 2009. Planning Theory or Planning Theories? The Hydra Model and Its Implications for Planning Education. *Journal for Education in the Built Environment*. 4(2), 29-54.

Fincham, B., McGuiness, M. and Murray, L. 2010. *Mobile Methodologies*. London.

Flyvbjerg, B. 1998. Habermas and Foucault : Thinkers for Civil Society? *The British Journal of Sociology*. 49(2), 210-233.

Flyvbjerg, B. and Richardson, T. 2002. Planning and Foucault : In Search of the Dark Side of Planning Theory. In: Allmendinger, P. and Tewdwr-Jones, M. eds. *Planning Futures: New Directions for Planning Theory*. New York and London: Routledge, 44-62.

Fois, F. and Forino, G., 2014. The Self-built Ecovillage in L'Aquila, Italy: Community Resilience as a Grassroots Response to Environmental Shock. *Disasters. 38*(4), 719-739.

Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T. and Rockström, J. 2010. Resilience Thinking : Integrating Resilience, Adaptability and Transformability. *Ecology and Society. 15*(4), 20.

Folke, C., Hahn, T., Olsson, P. and Norberg, J. 2005. Adaptive Governance of Social-Ecological Systems. *Annual Review Environmental Resources.* (30), 441–473.

Fonseca, A. 2012. *Mobilidade Urbana RJ.* [Online]. [Accessed 10 September 2016]. Available from: http://www.youtube.com/watch?feature=player_embeddedandv=8y0lr NuApRI.

Fonseca, A. 2013. O Divórcio Entre as Políticas Públicas e a Engenharia Urbana. *Portal Club Engenharia.* [Online]. [Accessed 10 September 2016]. Available from: http://www.portalclubedeengenharia.org.br/info/o-divorcio-entre-as-politicas-publicas-e-a-engenharia-urbana

Fonseca, G. 2016. Mobilidade Urbana em Discussão. *Diario do Rio.* [Online]. [Accessed 10 September 2016]. Available from: http://diariodorio.com/mobilidade-urbana-em-discussao/

Forester, J. 1982. Planning in the Face of Power. *Journal of the American Planning Association. 48*(1), 67-80

Forester, J. 1989. *Planning in the Face of Power.* Berkeley: University of California Press

Forester, J. 1999. Reflections on the Future Understanding of Planning Practice. *International Planning Studies. 4*(2), 175–194.

Forino, G., 2015. Disaster Recovery : Narrating the Resilience Process in the Reconstruction of L'Aquila (Italy). *Geografisk Tidsskrift-Danish Journal of Geography. 115*(1), 1-13.

Fórum Permanente da Mobilidade Urbana do Rio de Janeiro. 2011. *Manifesto.* [Online]. [Accessed 20 July 2015]. Available from: http://www.mobilidadeurbanarj.org.br/

Fórum Permanente da Mobilidade Urbana do Rio de Janeiro. 2013. *Capacidade de Oferta.* [Online]. Accessed: 10 December 2016. Available from: https://www.facebook.com/292668657448693/photos/a.29280334743 5224.62489.292668657448693/589007381148151/?type=3&theater

Fórum Permanente da Mobilidade Urbana do Rio de Janeiro. nd. *Information on the Page.* [Online]. [Accessed 20 July 2015]. Available from: https://www.facebook.com/Forum-de-Mobilidade-Urbana-do-Rio-de-Janeiro-292668657448693/info/?entry_point=page_nav_about_itemandtab=p age_info

Fundação CIDE [no date]. *Metropolitan Region Map, Rio de Janeiro State, Brazil.* [Online]. [Accessed 10 September 2016]. Available from: http://www.zonu.com/brazil_maps/Metropolitan_Region_Map_Rio_Jan eiro_State_Brazil.htm

Freeman, J. 2012. Neoliberal Accumulation Strategies and the Visible Hand of Police Pacification in Rio de Janeiro. *Revista de Estudos Universitários.* *38*(1), 95-126.

Freire, P. 2005. *Pedagogy of the Oppressed.* New York: Continuum.

Freitas, C. 2013. Rocinha e Alemão Pretendem Processar Estado por Causa de Teleférico. *Jornal do Brasil.* [Online]. [Accessed 10 September 2016]. Available from: http://m.jb.com.br/rio/noticias/2013/09/29/rocinha-e-alemao-pretendem-processar-estado-por-causa-de-teleferico/?fb_action_ids=720066408007563andfb_action_types=og.r ecommendsandfb_source=other_multilineandaction_object_map=%2 55B240358222782729%255Dandaction_type_m

Friedmann, J. 1973. *Retracking America: A Theory of Transactive Planning.* Garden City: Doubleday.

Friedmann, J. 1987. *Planning in the Public Domain.* Princeton: Princeton University Press.

Friedmann, J. 1993. Toward a Non-Euclidian Mode of Planning. *Journal of the American Planning Association.* *59*(4), 482-485.

Friedmann, J. 1994. The Utility of Non-Euclidean Planning. *Journal of the American Planning Association.* *60*(3), 377-379.

Friedmann, J. 1995. Planning in the Public Domain: Discourse and Praxis. In: Steon, J. M. ed. *Classic Readings in Urban Planning : An Introduction.* New York: McGraw-Hill, 74-79.

Friedmann, J. 2013. *Insurgencies : Essays in Planning Theory.* London and New York: Routledge.

Friedmann, J. and Abonyi, G. 1976. Social Learning : A Model for Policy Research. *Environment and Planning A.* (8), 927–940.

Friedmann, J. and Douglass, M. 1998. *Cities for Citizens: Planning and the Rise of Civil Society in a Global Age.* New York: John Wiley and Sons.

Frisch, G.J. 2010. *Il Terremoto dell'Aquila - Pianificazione dell'Emergenza e Urbanistica.* [Online]. [Accessed 10 September 2016]. Available from: http://ambiente.regione.emilia-romagna.it/geologia/temi/sismica/forum/Aquila_Terremoto_e_pianifica zione.pdf/at_download/file/Aquila_Terremoto_e_pianificazione.pdf

Gaffney, C. 2010. Mega-Events and Socio-Spatial Dynamics in Rio de Janeiro, 1919-2016. *Journal of Latin American Geography.* *9*(1), 7-29.

Gallacher, L. A. and Gallagher, M. 2008. Methodological Immaturity in Childhood Research? Thinking through 'Participatory methods'. *Childhood.* *15*(4), 499–516.

Gallagher, M. 2008. Foucault, Power and Participation. *The International Journal of Children's Rights.* *16*(3), 395–406.

Gambetta, D. 1998. 'Claro!': an Essay on Discursive Machismo. In: Elster, J. ed. *Deliberative Democracy.* Cambridge: Cambridge University Press, 19-43.

Garrett, M. and Catlow, R. 2012. DIWO: Do It With Others–No Ecology Without Social Ecology. In: Biggs, S. *Remediating the Social.* Edinburgh: University of Edinburgh, 69–74.

Gaventa, J. 1995. Citizen Knowledge, Citizen Competence and Democracy Building. *The Good Society.* *5*(3), 28-35.

Geels, F. W. 2010. Ontologies, Socio-Technical Transitions (to Sustainability), and the Multi-Level Perspective. *Research Policy. 39*(4), 495–510.

Geurs, K.T., Boon, W. and Van Wee, B., 2009. Social Impacts of Transport : Literature Review and the State of the Practice of Transport Appraisal in the Netherlands and the United Kingdom. *Transport Reviews. 29*(1), 69-90.

Geus, M. de. 1999. *Ecological Utopias: Envisioning the Sustainable Society*. Utrecht: International Books.

Gibbs, A. 1997. Focus Groups. *Social Research Update. 19*(8), 1-8.

Giddens, A. 1976. *New Rules of Sociological Method : A Positive Critique of Interpretative Sociologies*. London: Hutchinson.

Giddens, A. 1987. *Social Theory and Modern Sociology*. Stanford: Stanford University Press

Giddens, A. 1990. *The Consequences of Modernity*. Stanford: Stanford University Press.

Gohn, M. D. 2013. *Sociologia dos Movimentos Sociais*. São Paulo: Cortez.

Gomide, A. A. 2003. *Transporte Urbano e Inclusão Social : Elementos para Políticas Públicas*. Brasilia: IPEA.

Gomide, A. A. 2006. Mobilidade Urbana, Iniqüidade e Políticas Sociais. In: IPEA. *Políticas Sociais: Acompanhamento e Análise*. Brasília: IPEA, 242-250.

González, S. 2011. Bilbao and Barcelona 'in Motion': How Urban Regeneration 'Models' Travel and Mutate in the Global Flows of Policy Tourism. *Urban Studies. 48*(7), 1397–1418.

González, S. 2016. Looking Comparatively at Displacement and Resistance to Gentrification in Latin American Cities. *Urban Geography. 37*(8), 1245-1252.

Gössling, S. and Cohen, S. 2014. Why Sustainable Transport Policies Will Fail : EU Climate Policy in the Light of Transport Taboos. *Journal of Transport Geography. 39*, 197- 207.

Grabow, S. and Heskin, A. 1973. Foundations for a Radical Concept of Planning. *Journal of the American Institute of Planners. 39*(2), 106-114.

Graeber, D. 2002. The New Anarchists. *New Left Review. 13*(1), 61-73.

Graeber, D. 2004. *Fragments for an Anarchist Anthropology*. Chicago: Prickly Paradigm Press.

Grieco, M. and Urry, J. eds. 2011. *Mobilities: New Perspectives on Transport and Society*. Oxford: Ashgate.

Grosvenor, T. 1998. Qualitative Research in the Transport Sector. In: *Transport Surveys Raising the Standard, May 24-30 1997, Grainau*. [Online]. Washington: Transportation Research Board. [Accessed 10 May 2015]. Available from: http://onlinepubs.trb.org/onlinepubs/circulars/ec008/workshop_k.pdf

Grupo Popular Pesquisa em Ação (GPPA). 2014a. *Manifesto English*. [Online]. [Accessed 10 May 2015]. Available from: http://pesquisaemacao.noblogs.org/manifesto-english/

Grupo Popular Pesquisa em Ação (GPPA). 2014b. *Audios do Debate Sobre o Transporte.* [Online]. [Accessed 10 September 2016]. Available from: https://pesquisaemacao.noblogs.org/post/2014/03/06/audio-do-debate-sobre-o-transporte/

Guba, E. G and Lincoln, Y. S. 2005. Paradigmatic Controversies, Contradictions, and Emerging Confluences. In: Denzin, N. K. and Lincoln Y. S. eds. *Sage Research.* Thousand Oaks: Sage,191-215.

Gudmundsson, H., Hall, R. P., Marsden, G. and Zietsman, J. 2015. *Sustainable Transportation : Indicators, Frameworks, and Performance Management.* Berlin: Springer.

Gunder, M. 2003. Passionate Planning for the Others' Desire : An Agonistic Response to the Dark Side of Planning. *Progress in Planning. 60*(3), 235–319.

Gunder, M. 2006. Sustainability : Planning's Saving Grace or Road to Perdition?. *Journal of Planning Education and Research. 26*(2), 208–221.

Gunderson, L. H. and Holling, C. S. eds. 2002. *Panarchy : Understanding Transformations in Human and Natural Systems.* Washington: Island Press.

Habermas, J. 1972. *Knowledge and Human Interests.* London: Heineman.

Habermas, J. 1987. *The Theory of Communicative Action. Vol. II.* Boston: Beacon Press.

Hague, E. 2010. 'The Right to Enter Every Other State' - The Supreme Court and African American Mobility in the United States. *Mobilities. 5*(3), 331-347.

Haiven, M. and Khasnabish, A. 2014. *The Radical Imagination: Social Movement Research in the Age of Austerity.* London: Zed Books.

Hall, C. M. 1992. *Hallmark Tourist Events : Impacts, Management and Planning.* London: Bellhaven.

Hall, C. M. 2006. Urban Entrepreneurship, Corporate Interests and Sports Mega-Events : The Thin Policies of Competitiveness within the Hard Outcomes of Neoliberalism. *The Sociological Review.* (54), 59-70.

Hall, P. 2014. *Cities of Tomorrow.* West Sussex: Wiley Blackwell.

Hall, R. P. 2002. *Introducing the Concept of Sustainable Transportation to the U.S. DOT through the Reauthorization of TEA-21.* Cambridge: Massachusetts Institute of Technology.

Hall, R. P. 2006. *Understanding and Applying the Concept of Sustainable Development to Transportation Planning and Decision-Making in the U.S.* Cambridge: Massachusetts Institute of Technology.

Hamel, P., Lustiger-Thaler, H. and Mayer, M. eds. 2000. *Urban Movements in a Globalising World.* London: Routledge.

Hannah, A. 1958. *The Human Condition.* Chicago: University of Chicago Press.

Hannam, K. Sheller, M. and Urry, J. 2006. Editorial: Mobilities, Immobilities and Moorings. *Mobilities. 1*(1), 1-22.

Harlow, J., Golub, A. and Allenby, B. 2013. A Review of Utopian Themes in Sustainable Development Discourse. *Sustainable Development. 21*(4), 270-280.

Harrison, N. 2003. Good Governance : Complexity, Institutions and Resilience. *Open Meeting of the Global Environmental Change Research Community, 16-18 October, Montreal: Canada.*

Harvey, D. 1989a. From Managerialism to Entrepreneurialism : The Transformation in Urban Governance in Late Capitalism. *Geografiska Annaler. Series B. Human Geography*. (71), 3-17.

Harvey, D. 1989b. *The Condition of Postmodernity*. Oxford: Blackwell.

Harvey, D. 1996. *Justice, Nature and the Geography of Difference*. Cambridge: Blackwell Publishers.

Harvey, D. 2001. *Spaces of Capital : Towards a Critical Geography*. New York: Routledge.

Harvey, D. 2007. *A Brief History of Neoliberalism*. Oxford: Oxford University Press.

Harvey, D. 2008. The Right to the City. *New Left Review*. (53), 23-40.

Harvey, D. and Potter, C. 2009. The Right to the Just City. In: Marcuse, P., Connolly, J., Novy, J., Olivo, I., Potter, C. and Steil, J. eds. *Searching for the Just City: Debates in Urban Theory and Practice*. New York: Routledge, 40-51.

Harvey, D., Davis, M., Žižek, S., Ali, T. and Safatle, V. P. 2012. *Occupy : Movimento de Protesto que Tomaram as Ruas.* São Paulo: Boitempo Editorial.

HEA. 2014. *A Manifesto for Small Group Teachin*g. [Online]. [Accessed 18 June 2014]. Available from: http://www.heacademy.ac.uk/resources/detail/new-to-teaching/small-group-teaching-mills/a-manifesto-for-small-group-teaching

Healey, P. 1992. Planning through Debate : The Communicative Turn in Planning Theory. *The Town Planning Review. 63*(2), 143-162.

Healey, P. 1997. *Collaborative Planning : Shaping Places in Fragmented Societies*. Basingstoke: Macmillan.

Healey, P. 2003. Collaborative Planning in Perspective. *Planning Theory. 2*(2), 101–123.

Healey, P. 2013. Foreword. In: Friedmann, J. *Insurgencies : Essays in Planning Theory*. London and New York: Routledge, xi-xiv.

Healey, P. and Gilroy, R. 1990. Towards a People-Sensitive Planning. *Planning Practice and Research. 5*(2), 21-9.

Healey, P., McDougall, G. and Thomas, M. J. eds. 1979. *Planning Theory : Prospects for the 1980s*. Oxford: Pergamon.

Heller, C. 1999. *The Ecology of Everyday Life: Rethinking the Desire for Nature*. Montreal: Black Rose Books.

Hemmens, G.C. 1989. Book Review: Planning in the Public Domain : From Knowledge to Action. *Journal of Planning Education and Research. 9*(1), 59.

Herr, K. and Anderson, G. L. 2014. *The Action Research Dissertation : A Guide for Students and Faculty*. Thousand Oaks: Sage.

Heynen, N. C., Kaika, M. and Swyngedouw, E. 2006. *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*. London and New York: Routledge.

Hickman, R. and Banister, D. 2014. *Transport, Climate Change and the City*. London and New York: Routledge.

Hidalgo, R. and M. Janoschka, M. eds. 2014. *La Ciudad Neoliberal. Gentrificación y exclusión social en Santiago de Chile, Buenos Aires, Ciudad de México y Madrid*. Santiago: Universidad Católica de Chile.

Higer Education Funding Council for England (HEFCE). 2014. *REF Impact*. [Online]. [Accessed 1 September 2016]. Available from: http://www.hefce.ac.uk/rsrch/REFimpact/

Hilbrandt, H. 2016. Insurgent Participation Consensus and Contestation in Planning the Redevelopment of Berlin Tempelhof Airport. *Urban Geography*. 1-20.

Hillier. J. 2002. Direct Action and Agonism in Democratic Planning Practice. In: Allmendinger, P. and Tewdwr-Jones, M. eds. *Planning Futures : New directions for Planning Theory.* London and New York: Routledge, 110-135.

Hine, J. 2009. *Transport and Social Exclusion*. Amsterdam: Elsevier.

Hirschman, A. O. 1986. On Democracy in Latin-America. *New York Review of Books. 33*(6), 41-42.

HM Government. 2013. *The National Adaptation Programme : Making the Country Resilient to a Changing Climate*. [Online]. [Accessed 1 September 2016]. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209866/pb13942-nap-20130701.pdf

Hoang, L. 2011*. An Interview with Dan Chodorkoff*. [Online]. [Accessed 10 September 2014]. Available from: http://htmlgiant.com/author-spotlight/an-interview-with-dan- chodorkoff/

Holden, E., Linnerud, K. and Banister, D. 2014. Sustainable Development : Our Common Future Revisited. *Global Environmental Change. 26*,130–139.

Holling, C. S. 1973. Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics. 4*, 1-23.

Holston, J. 1998. Spaces of Insurgent Citizenship. In: Sandercock, L. ed. *Making the Invisible Visible : A Multicultural Planning History*. Berkley: University of California Press, 37–56.

Holston, J. 2008. *Insurgent Citizenship : Disjunctions of Democracy and Modernity in Brazil*. Princeton: Princeton University Press.

Honderich, T. ed. 1995.*The Oxford companion to Philosophy*. Oxford: Oxford University Press.

Hopkins, R. J. 2010. *Localisation and Resilience at the Local Level : The Case of Transition Town Totnes (Devon, UK)*. PhD Thesis, University of Plymouth.

Hopwood, B., Mellor, M. and O'Brien, G. 2005. Sustainable Development : Mapping Different Approaches. *Sustainable Development. 13*(1), 38-52.

Hudson, B. 1979. Comparative and Current Planning Theories : Counterparts and Contradictions. *Journal of the American Planning Association. 45*(4), 387–98.

Huxley, M. 2000. The Limits to Communicative Planning. *Journal of Planning Education and Research. 19*(4), 369-377.

IBGE. 2008. *Pesquisa Nacional por Amostra de Domicílios – PNAD 2008.* Rio de Janeiro: IBGE.

Il Centro. 2015. *Gli Esperti : l'Urban Center Luogo della Partecipazione.* [Online]. [Accessed 10 September 2016]. Available from: http://www.inu.it/?dl_id=4894

Illich, I. 1978. *Toward a History of Needs.* New York: Pantheon.

Imperiale, A. J. and Vanclay, F. 2016. Experiencing Local Community Resilience in Action : Learning from Post-Disaster Communities. *Journal of Rural Studies.* (47), 204-219.

Innes, J. E. 1995. Planning Theory's Emerging Paradigm : Communicative Action and Interactive Practice. *Journal of Planning Education and Research. 14*(3), 183–189.

Innes, J. E. and Booher, D. E. 2004. Reframing Public Participation : Strategies for the 21st Century. *Planning Theory and Practice. 5*(4), 419–436.

International Collaboration for Participatory Health Research (ICPHR). 2013. *Position Paper 1: What is Participatory Health Research?* Berlin: International Collaboration for Participatory Health Research.

IPCC. 2014. *Climate Change 2014: Synthesis Report.* Geneva: IPCC.

IPPUR/UFRJ. 2012. *Projeto Metropolização e Megaeventos: os Impactos da Copa do Mundo 2014 e das Olimpíadas 2016. Relatório Parcial Nacional – Abril de 2012.* [Online]. [Accessed 10 October 2013]. Available from: http://www.observatoriodasmetropoles.net/download/Relat_Nacional2012.pdf

Irwin, A. 1995. *Citizen Science : A Study of People, Expertise and Sustainable Development.* Psychology Press.

Jackson, T. 2009. *Prosperity without Growth.* London: Earthscan.

Jasanoff, S. 2004. *States of Knowledge : The Co-Production of Science and the Social Order.* London: Routledge.

Jochum, V., Pratten, B. and Wilding, K. 2005. *Civil Renewal and Active Citizenship.* London: NCVO.

Johnson, S. 2014. Providência's Cable Car Launch : Urban Mobility or Tourism? *Rio on Watch.* [Online]. [Accessed 10 September 2016]. Available from: http://www.rioonwatch.org/?p=16464

Jones, P. 2011. Developing and Applying Interactive Visual Tools to Enhance Stakeholder Engagement in Accessibility Planning for Mobility Disadvantaged Groups. *Research in Transportation Business and Management. 2*, 29–41.

Jones, P. and Lucas, K. 2012. The Social Consequences of Transport Decision-Making: Clarifying Concepts, Synthesising Knowledge and Assessing Implications. *Journal of Transport Geography. 21*, 4-16.

Jones, P. and Sloman, L. 2003. Encouraging Behavioural Change Through Marketing and Management : What Can be Achieved? *10th International Conference on Travel Behaviour Research, August, Lucerne.*

Jones, P. and Stopher, R. eds. 2003. *Transport Survey Quality and Innovation.* Oxford: Pergamon.

Jones, R., Pykett, J. and Whitehead, M. 2011. Governing Temptation : Changing Behaviour in an Age of Libertarian Paternalism. *Progress in Human Geography. 35*(4), 483-501.

Judensnaider, E., Lima, L., Pomar, M. and Ortellado, P. 2013. *Vinte Centavos : A Luta Contra o Aumento.* São Paulo: Veneta.

Judge, D. Stoker, G. and Wolman, H. eds. 1995. *Theories of Urban Politics.* Thousand Oaks: Sage.

Juris, J.S. and Pleyers, G.H. 2009. Alter-activism : Emerging Cultures of Participation Among Young Global Justice Activists. *Journal of Youth Studies. 12*(1), 57-75.

Kaika, M. and Swyngedouw, E. 2005. Radical Urban Political − Ecological Imaginaries. *Eurozine / Dérive.* [Online]. [Accessed 10 September 2016] Available from: http://www.eurozine.com/articles/2014-05-14-swyngedouw-en.html

Kalberg, S. 1980. Max Weber's Types of Rationality : Cornerstones for the Analysis of Rationalization Processes in History. *American Journal of Sociology. 85*(5), 1145-1179.

Kaufman, M. 1997. Differential Participation : Men, Women and Popular Power. In: Kaufman M. and Alfonso H. D. eds. *Community Power and Grassroots Democracy : The Transformation of Social Life.* London: Zed Books, 151-179.

Kaufman, M. and Alfonso, H. D. eds. 1997.*Community Power and Grassroots Democracy : The Transformation of Social Life.* London: Zed Books.

Kemmis, S. and McTaggart, R. 2005. *Participatory Action Research : Communicative Action and the Public Sphere.* In: Denzin, N. K., and Lincoln, Y. S. eds. *The Sage Handbook of Qualitative Research.* Thousand Oaks: Sage, 559-603.

Kennedy, C., Miller, E., Shalaby, A., Maclean, H. and Coleman, J. 2005. The Four Pillars of Sustainable Urban Transportation. *Transport Reviews. 25*(4), 393–414.

Kesby, M. 2000. Participatory Diagramming : Deploying Qualitative Methods through an Action Research Epistemology. *Area. 32*(4), 423-435.

Kesby, M. 2005. Retheorizing Empowerment-through-Participation as a Performance in Space: Beyond Tyranny to Transformation. *Journal of Women in Culture and Society. 30*(4), 2037–2065.

Khreis, H., Warsow, K. M., Verlinghieri, E., Guzman, A., Pellecuer, L., Ferreira, A., Jones, I., Heinen, E., Rojas-Rueda, D., Mueller, N. and Schepers, P. 2016. The Health Impacts of Traffic-Related Exposures in Urban Areas: Understanding Real Effects, Underlying Driving Forces and Co-Producing Future Directions. *Journal of Transport and Health. 3*(3), 249–267.

Kiernan, C. 1999. Participation in Research by People with Learning Disability : Origins and Issues. *British Journal of Learning Disabilities. 27*(2), 43-47.

Kindon, S., Pain, R. and Kesby, M. eds. 2007. *Participatory Action Research Approaches and Methods: Connecting People, Participation and Place.* New York and London: Routledge.

King, A. D. 1980. Exporting Planning : The Colonial and Neo-Colonial Experience. In: Cherry, G. ed. *Shaping an Urban World*. New York: St Martin's Press, 12-22.

Kirby, P., Lanyon, C., Cronin, K. and Sinclair, R. 2003. *Building a Culture of Participation : Involving Children and Young People in Policy, Service Planning, Delivery and Evaluation: Handbook*. London: Department for Education and Skills.

Kleiman, M. 2001. Rede Viária e Estruturação Erbana - A Prioridade dos Investimentos na Rede Viária e Seu Papel na Configuração das Cidades : O Rio de Janeiro sobre Rodas. *Anais do IX Encontro Nacional da ANPUR . III*, 1596–1608.

Kleiman, M. 2010. Exemplo Para Reflexão : O Plano Viário do Plano Agache Para o Rio de Janeiro. *Chão Urbano.* [Online]. [Accessed 10 September 2016]. Available from: http://www.chaourbano.com.br/visualizarRevista.php?id=4.

Kleiman, M. 2014. Reordenação das Formas e Meios dos Movimentos de Deslocamentos na Metrópole do Rio de Janeiro com a implantação de Corredores Expressos de Ônibus (BRT) no caso do BRT TransCarioca e sua Efetividade. *Chao Urbano.* [Online]. [Accessed 10 September 2016]. Available from: http://www.chaourbano.com.br/visualizarArtigo.php?id=75

Klein, N. 2007. *The Shock Doctrine: the Rise of Disaster Capitalism*. London: Penguin Books.

Klein, N., 2014. *This Changes Everything: Capitalism vs. the Climate.* New York: Simon and Schuster.

KonSULT. nd. *Decision Makers' Guidebook*. [Online]. [Accessed 20 July 2016]. Available from: http://www.konsult.leeds.ac.uk/dmg/03/

Kotkas, T. 2010. Governing Health and Social Security in the Twenty-First Century : Active Citizenship Through the Right to Participate. *Law and Critique. 21*(2), 163-182.

Kroeber, A. L. and Kluckhohn, C. 1952. Culture : A Critical Review of Concepts and Definitions. *Peabody Museum of Archaeology and Ethnology, Harvard University. 47*(1), 718-720.

Krøvel, R. 2014. Social Production of Community Resilience. *Resilience. 2*(1), 64–70.

Książkiewicz, S. 2012. Quantitative or Qualitative Transport Planning? An Interdisciplinary Geographic Perspective. *Prace Geograficzne. 130*, 131-139.

Kuhn, T. S. 1996. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

La Cecla, F. 1997. Per un'Antropologia dell'Automobile. In: Ward, C. *Dopo l'Automobile.* Milan: Elèuthera, 7–13.

Lane, M. B. 2001. Affirming New Directions in Planning Theory: Comanagement of Protected Areas. *Society and Natural Resources. 14*(8), 657–671.

Lane, M. B. 2005. Public Participation in Planning : An Intellectual History. *Australian Geographer. 36*(3), 283–299.

Lather, P. 1986. Research as Praxis. *Harvard Educational Review. 56*(3), 257-278.

Laurent, É. 2015. *Exploring the Missing Link in Sustainable Development: the Social-Ecological Nexus.* [Online]. [Accessed 10 September 2011]. Available from: https://halshs.archives-ouvertes.fr/hal-01136326/document

Law, R. 1999. Beyond 'Women and Transport' : Towards New Geographies of Gender and Daily Mobility. *Progress in Human Geography. 23*(4), 567–588.

Lawrence, A. 2006. 'No Personal Motive?' Volunteers, Biodiversity, and the False Dichotomies of Participation. *Ethics, Place and Environment. 9*(3), 279–298.

Lay, M. G. 2005. The History of Transport Planning. In: Button, K. J. and Hensher, D. A. eds. *Handbook of Transport Strategy, Policy and Institutions (Handbooks in Transport, Volume 6).* Amsterdam: Elsevier, 156-174.

Lefebvre, H. 1968. *Le Droit à la Ville.* Paris: Éditions Anthropos.

Lefebvre, H. 1992. *The Production of Space.* Malden: Blackwell.

Lefebvre, H. 1996. *Writings on Cities.* Oxford: Blackwell.

Legroux, J. 2013. Mega-events in Rio de Janeiro. And the Winners Are? Perceptions of the Impacts of Transport Policies on Socio-spatial Justice to Reveal Mega-events Contradictions. *13th WCTR, 15-18 July 2013, Rio de Janeiro.* [Online]. [Accessed 10 December 2015]. Available from: http://www.wctrs.leeds.ac.uk/wp-content/uploads/abstracts/rio/general/2689.pdf

Legroux, J. 2014. From Discourse to Reality: Impacts of Rio's "Transportation Revolution" on Socio-spatial Justice. In: Ribeiro, L. C. Q. ed. *The Metropolis of Rio de Janeiro: A Space in Transition.* Rio de Janeiro: Letra Capital, 343-370

Legroux, J. 2016. *A Scolhida da Copa do Mundo 2014 e das Olimpíadas 2016 e os Impactos da « Revolução dos Transportes » sobre a Justiça Socioespacial : Mudar Tudo para que Nada Mude?* PhD Thesis, Universidade Federal do Rio de Janeiro.

Leino, H. and Laine, M. 2011. Do Matters of Concern Matter? Bringing Issues Back to Participation. *Planning Theory. 11*(1), 89–103.

Leshem, S. and Trafford, V. 2007. Overlooking the Conceptual Framework. *Innovations in Education and Teaching International. 44*(1), 93-105.

Levine, J. 2013. Urban Transportation and Social Equity : Transportation-Panning Paradigms That Impede Policy Reform. In: Carmon, N. and Fainstein, S. S. eds. *Policy, Planning, and People : Promoting Justice in Urban Development.* Philadelphia: University of Pennsylvania Press, 141-160.

Limonad, E. and Castro, E. eds. 2014. *Um Novo Planejamento para um Novo Brasil?* Rio de Janeiro: Letra Capital Editora.

Lincoln, Y.S. 1995. Emerging Criteria for Quality in Qualitative and Interpretive Research. *Qualitative Inquiry. 1*(3), 275-289.

Lindblom, C. 1959. The Science of Muddling through. *Public Administration Review. 19*, 79–88.

Lindelöw, D., Koglin, T. and Svensson, Å. 2016. Pedestrian Planning and the Challenges of Instrumental Rationality in Transport Planning :

Emerging Strategies in Three Swedish Municipalities. *Planning Theory and Practice*. *17*(3), 405-420.

Litman, T. 2013. The New Transportation Planning Paradigm. *Institute of Transportation Engineers. ITE Journal*. *83*(6), 20-28.

Littig, B. and Grießler, E. 2005. Social Sustainability : A Catchword Between Political Pragmatism and Social Theory. *International Journal of Sustainable Development*. *8*(1/2), 65–79.

Lorenzo, R. 1998. *La Città Sostenibile : Partecipazione, Luogo, Comunità*. Milan: Elèuthera.

Lovering, J. and Türkmen, H., 2011. Bulldozer Neo-liberalism in Istanbul : The State-Led Construction of Property Markets, and the Displacement of the Urban Poor. *International Planning Studies*. *16*(1), 73-96.

Low, N. and Gleeson, B. 2006. If Sustainability Is Everything, Maybe It's Nothing? *Refereed Proceedings of the 2nd Bi-Annual National Conference on the State of Australian Cities, 30 November – 2 December, Brisbane*.

Lowndes, V. et al. 2001. Trends In Public Participation: Part 1 - Local Government Perspectives. *Public Administration*. *79*(1), 205–222.

Lucas, K. 2004. *Running on Empty: Transport, Social Exclusion and Environmental Justice*. Bristol: Policy Press.

Lucas, K. 2006. Providing Transport for Social Inclusion Within a Framework for Environmental Justice in the UK. *Transportation Research Part A: Policy and Practice*. *40*, 801–809.

Lucas, K. 2012. Transport and Social Exclusion: Where Are We Now? *Transport Policy*. *20*, 105-113.

Lucas, K. 2013. Qualitative Methods in Transport Research: the 'Action Research' Approach. In: Zmund, J., Lee-Gosselin, M., Munizaga, M. and Carrasco, J. A. eds. *Transport Survey Methods: Best Practice for Decision Making*. Bingley: Emerald Publishing, 427 – 440.

Lucas, K. and Jones, P. 2012. Social Impacts and Equity Issues in Transport : An Introduction. *Journal of Transport Geography*. *21*, 1-3.

Lucas, K. and Pangbourne, K. 2014. Assessing the Equity of Carbon Mitigation Policies for Transport in Scotland. *Case Studies on Transport Policy*. *2*(2), 70–80.

Lucas, K. and Porter, G. 2016. *Mobilities and Livelihoods in Urban Development Contexts: Introduction. Journal of Transport Geography*. *55*,129-131.

Lucas, K., Mattioli, G., Verlinghieri, E. and Guzman, A. 2016. Transport Poverty and its Adverse Social Consequences. *Proceedings of the Institution of Civil Engineers: Transport*. *169*(6), 353-365.

Ludd, N. ed. 2005. *Apocalipse Motorizado : A Tirania do Automóvel em um Planeta Poluído*. São Paulo: Conrad Editora do Brasil.

Lynam, T., De Jong, W., Sheil, D., Kusumanto, T. and Evans, K. 2007. A Review of Tools for Incorporating Community Knowledge, Preferences, and Values into Decision Making in Natural Resources Management. *Ecology and Society*. *12*(1), 5.

McDowell, F. 2013. *Introdução a Operação e a Modelagem da Engenharia Financeira para o Estabelecimento do Valor da Tarifa e*

Monitoramento da Concessão. Rio de Janeiro: Conselho Municipal de Transportes.

MacKinnon, D. and Derickson, K. D. 2012. From Resilience to Resourcefulness: A Critique of Resilience Policy and Activism. *Progress in Human Geography.* 37(2), 253–270.

Macmillan, A., Connor, J., Witten, K., Kearns, R., Rees, D. and Woodward, A. 2014. The Societal Costs and Benefits of Commuter Bicycling : Simulating the Effects of Specific Policies Using System Dynamics Modeling. *Environmental Health Perspectives.* 122(4), 335-344.

Magalhaes, L. E. 2014. Auditoria é Contratada para Apurar Faturamento de Empresas de Onibus. *O Globo.* [Online]. [Accessed 10 September 2016]. Available from: http://oglobo.globo.com/rio/auditoria-contratada-para-apurar-faturamento-de-empresas-de-onibus-12657049#ixzz4LHdkKHu8

Magnaghi, A. 2000. *Il Progetto Locale.* Torino: Bollati Boringhieri.

Maier, K. 2001. Citizen Participation in Planning: Climbing a Ladder? *European Planning Studies.* 9(6), 707–719.

Mannheim, K. and Shils, E. 1940. *Man and Society in an Age of Reconstruction : Studies in Modern Social Structure.* New York and London: Routledge.

Mano, M. K. 2011. Mobilidade Urbana - O Automóvel Ainda é Prioridade. *IPEA.* [Online]. [Accessed 10 September 2016]. Available from: http://desafios.ipea.gov.br/index.php?option=com_contentandview=articleandid=2578:catid=28andItemid=23

Manyena, S. B. 2006. The Concept of Resilience Revisited. *Disasters.* 30(4), 433–50.

Marcuse, P. 1998. Sustainability is Not Enough. *Environment and Urbanization. 10*, 103-111.

Marcuse, P. 2012. Whose Right(s) to What City? In: Brenner, N., Marcuse, P. and Mayer, M. eds. *Cities for People, not for Profit: Critical Urban Theory and the Right to the City.* New York and London: Routledge, 24-41.

Marcuse, P., Connolly, J., Novy, J., Olivo, I., Potter, C. and Steil, J. eds. 2009. *Searching for the Just City : Debates in Urban Theory and Practice.* New York: Routledge

Maricato, E. 2015. *Para Entender a Crise Urbana.* São Paulo: Expressão Popular.

Marsden, G. and Docherty, I. 2013. Insights on Disruptions as Opportunities for Transport Policy Change. *Transportation Research Part A: Policy and Practice. 51*, 46–55.

Marsden, G., Mullen, C., Bache, I. Bartle, I. and Flinders, M. 2014. Carbon Reduction and Travel Behaviour : Discourses, Disputes and Contradictions in Governance. *Transport Policy. 35*, 71–78.

Marshall, P. 2008. *Demanding the Impossible: A History of Anarchism.* Oakland: PM Press.

Martens, K., 2001. *Communicative Planning Theory: Change Needed to Change Practice.* [Online]. [Accessed 10 December 2015]. Available from: *www.ru.nl/publish/pages/760165/plan13-01.pdf*

Martens, K., 2016. *Transport Justice: Designing Fair Transportation Systems.* New York and London: Routledge.

Mason, J. 2002. *Qualitative Researching.* Thousand Oaks: Sage.

Massey, D. B., Allen, J. and Sarre, P. eds., 1999. *Human Geography Today.* Cambridge: Polity Press.

Matela, I. P. 2014. *Transição Regulatória no Transporte por Onibus na Cidade do Rio de Janeiro.* Rio de Janeiro: Letra Capital.

May, A. D. 2015. Encouraging Good Practice in the Development of Sustainable Urban Mobility Plans. *Case Studies on Transport Policy.* *3*(1), 3-11.

May, A. D., Karlstrom, A., Marler, N., Matthews, B., Minken, H., Monzon, A., Page, M., Pfaffenbichler, P. and Shepherd, S. 2005. *Developing Sustainable Urban Land Use and Transport Strategies : A Decision-Makers' Guidebook.* Brussels: European Commission.

May, A. D., Khreis, H. and Mullen, C. 2016. Option Generation for Policy Measures and Packages: the Role of the KonSULT Knowledgebase. *World Conference on Transport Research – WCTR 2016, 10–15 July 2016, Shanghai.*

Mayer, M. 2006. Manuel Castells' the City and the Grassroots. *International Journal of Urban and Regional Research.* *30*(1), 202-206.

Mayer, M. 2011. The Ambiguity of Participating the Social City. *Journalment.* *1*, 23–32.

McAndrews, C., Flórez, J. and Deakin, E. 2006. Views of the Street : Using Community Surveys and Focus Groups to Inform Context-Sensitive Design. *Transportation Research Record: Journal of the Transportation Research Board.* *1981*, 92-99.

McGranahan, G. and Satterthwaite, D. 2000. Environmental Health or Ecological Sustainability? Reconciling the Brown and Breen Agendas in Urban Development. In: Pugh, C. ed. *Sustainable Cities in Developing Countries.* London: Earthscan, 73-90.

McIntyre, A. 2008. *Participatory Action Research.* Thousand Oaks: Sage.

Metzger, J. T. 1996. The Theory and Practice of Equity Planning : an Annotated Bibliography. *Journal of Planning Literature.* *11*(1), 112-126.

Millward-Hopkins, J. T., 2016. Natural Capital, Unnatural Markets?. *Wiley Interdisciplinary Reviews: Climate Change.* *7*(1), 13-22.

Minardi, E. and Salvatore, R. eds. 2012. *O.R.eS.Te.: Osservare, Comprendere e Progettare per Ricostruire a Partire dal Terremoto dell'Aquila.* Homeless Book.

Minken, H., Jonsson, R. D., Shepherd, S. P., Järvi, T., May, A. D., Page, M., Pearman, A., Pfaffenbichler, P., Timms, P. and Vold, A. 2003. *A Methodological Guidebook.* Oslo: Institute of Transport Economics.

Miraftab, F. 2009. Insurgent Planning : Situating Radical Planning in the Global South. Planning Theory. *8*(1), 32–50.

Modelling on the Move. 2014. *Seminar 5 – Participatory Modelling.* [Online]. [Accessed 10 December 2015]. Available from: http://modellingonthemove.org/events/seminar-5-participatory-modelling/

Morgan, D. R. 2015. The Dialectic of Utopian Images of the Future within the Idea of Progress. *Futures*. 66, 106–119.

Morgan, S. T. 2012. *Justifying a Methodological Approach : Action Research*. [Online]. [Accessed 10 December 2015]. Available from: http://www.stmorgan.co.uk/justifying-a-methodology-action-research.html

Moro, G. 1998. *Manuale di Cittadinanza Attiva*. Roma: Carocci.

Moro, G. 1999a. Active Citizenship and Governance: New Trends and Approaches in the Field of Public Services. *CIPA Conference,18 August, Tampere.* [Online]. [Accessed 10 December 2015]. Available from: www.cittadinanzattiva.it/lacartadidentita/english /doc/tampere.pdf

Moro, G. 1999b. Active Citizenship as Phenomenon and Concept. *IIS Congress, 15 July, Tel Aviv.* [Online]. [Accessed 10 December 2015]. Available from: www. cittadinanzattiva.it/lacartadidentita/english/doc/telaviv.pdf

Morris, B. 2015. *Anthropology, Ecology, and Anarchism : A Brian Morris Reader*. Oakland: PM Press.

Mullen, C. and Marsden, G. 2016. Mobility Justice in Low Carbon Energy Transitions. *Energy Research and Social Science*. *18*, 109–117.

Mumpower, J. L. 2001. Selecting and Evaluating Tools and Methods for Public Participation. *International Journal of Technology, Policy and Management*. *1*(1), 66-77.

Munro-Clarke, M. ed. 1992. *Citizen Participation in Government*. Sidney: Hale and Ironmonger.

Nicholson, A. and Du, Z. P. 1997. Degradable Transportation Systems : An Integrated Equilibrium Model. *Transportation Research Part B: Methodological*. *31*(3), 209– 223.

Nieuwenhuijsen, M. J., Khreis, H., Verlinghieri, E. and Rojas-Rueda, D. 2016. Transport and Health : A Marriage of Convenience or an Absolute Necessity. *Environment International*. *88*, 150-152.

Nind, M. 2014. *What Is Inclusive Research?* London: Bloomsbury.

Nitahara, A. 2013. Secretário de Transportes do Rio Diz que Cumpriu as Medidas do Pacto pela Transparência. *Agencia Brasil*. [Online]. [Accessed 10 September 2016]. Available from: http://memoria.ebc.com.br/agenciabrasil/noticia/2013-12-31/secretario-de-transportes-do-rio-diz-que-cumpriu-medidas-do-pacto-pela-transparencia

Nobre, M. 2013. *Choque de democracia: Razões da revolta.* São Paulo: Companhia das Letras.

Norris, F. H. et al. 2008. Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness. *American Journal of Community Psychology*. *41*(1–2), 127–150.

Nunes, E. 2000. *A Revolta Das Barcas. Populismo, Violência E Conflito Político.* Rio de Janeiro: Garamond.

O Dia. 2014. Metrô : Obra Milionária para Não Desalojar em Área Nobre. *O Dia*. [Online]. 14 March 2012. [Accessed 20 July 2016]. Available from: http://odia.ig.com.br/portal/rio/metr%C3%B4-obra-

milion%C3%A1ria-para-n%C3%A3o-desalojar-em-%C3%A1rea-
nobre-1.419648

O Metro que o Rio Precisa (MQRP). Nd. *Facebook Page*. [Online].
[Accessed 10 September 2016]. Available from:
https://www.facebook.com/metroqueorioprecisa/

O Metro que o Rio Precisa (MQRP). 2011. *Manifesto pelo melhor traçado da
Linha 4 do Metrô Rio*. [Online]. [Accessed 10 September 2016].
Available from: http://www.metrolinha4queorioprecisa.com.br/o-
movimento/

O'Sullivan, E. and Taylor, M.M. 2004. *Learning Toward an Ecological
Consciousness: Selected Transformative Practices.* London: Palgrave
Macmillan.

OECD. 2012. *Environmental Outlook to 2050: The Consequences of
Inaction*. Paris. OECD.

OGI –SAGE/COPPE/UFRJ Research Team. 2014. *Olympic Games Impact
(OGI) Study - RIO 2016. Initial report to measure the impacts and the
legacy of the Rio 2016 Games*. Rio de Janeiro: Rio 2016.

Olsen, M. E., Lodwick, D. G. and Dunlap, R. E. 1992. *Viewing the World
Ecologically*. Boulder: Westview Press.

Olsson, P., Galaz, V. and Boonstra, W. J. 2014. Sustainability
Transformations : A Resilience Perspective. *Ecology and Society*.
19(4), 1.

Ong, P. M. and Miller D. 2005, Spatial and Transportation Mismatch in Los
Angeles. *Journal of Planning Education and Research*. *25*(1), 43–56.

Oranje, M. 2002. Planning and the Postmodern Turn. In: Allmendinger, P.
and Tewdwr-Jones, M. eds. *Planning Futures : New directions for
Planning Theory*. New York and London: Routledge, 172-186.

Osorio, L. A. R., Lobato, M. O. and Del Castillo, X. Á. 2009. An Epistemology
for Sustainability Science : A Proposal for the Study of the
Health/Disease Phenomenon. *International Journal of Sustainable
Development and World Ecology*. *16*(1), 48-60.

Ostrom, E. 1990. *Governing the Commons : The Evolution of Institutions for
Collective Action*. Cambridge: Cambridge University Press.

Otsuki, K. 2014. *Transformative Sustainable Development : Participation,
Reflection and Change*. New York and London: Routledge.

Ottinger, G. 2013. Changing Knowledge, Local Knowledge, and Knowledge
Gaps: STS Insights into Procedural Justice Science. *Science,
Technology & Human*. *38*(2), 250–270.

Oxford Dictionaries. Nd. *Crisis*. [Online]. [Accessed 10 September 2016].
Available from:
http://www.oxforddictionaries.com/definition/english/crisis

Padilla, M. A. S., Cabero, N. M., Parejo, S. P. and González, M. M. 2007.
Approaches to Participation: some Neglected Issues. *Fifth Critical
Management Studies Conference, 11-13 July, Manchester.*

Padovani, C. 2010. Citizens' Communication and the 2009 G8 Summit in
L'Aquila, Italy. *International Journal of Communication*. *4*, 416-439.

Pain, R., Whitman, G. and Milledge, D., 2012. *Participatory Action Research
Toolkit : An Introduction to Using PAR as an Approach to Learning,
Research and Action*. Durham: Durham University.

Painter, M. 1992. Participation and Power. In: Munro-Clarke, M. ed. *Citizen Participation in Government.* Sydney: Hale and Ironmonger, 21-36.

Palerm, J.R. 2000. An Empirical-Theoretical Analysis Framework for Public Participation in Environmental Impact Assessment. *Journal of Environmental Planning and Management. 43*(5), 581–600.

Palladini, E. 2011. *Creating More Livable Cities : the Case of the Rio de Janeiro Metropolitan Area.* Washington: World Bank.

Park, C. 2001. *The Environment : Principles and Applications.* London: Routledge.

Parry, G., Moyser, G. and Day, N. 1992. *Political Participation and Democracy in Britain.* Cambridge: Cambridge University Press.

Peci, A. and Cavalcanti, B.S. 2004. Privatização e Políticas Regulatórias na Área de Transportes : Os Casos do Brasil e da Argentina. *Organizações and Sociedade. 11*(29), 13-28.

Pécoud, A. and De Guchteneire, P. 2006. International Migration, Border Controls and Human Rights : Assessing the Relevance of a Right to Mobility. *Journal of Borderlands Studies. 21*(1), 69-86.

Pelling, M. 2003. *The Vulnerability of Cities : Natural Disasters and Social Resilience.* London: Earthscan.

Pereira, R. M. H. and Schwanen, T. 2013. *Tempo de Deslocamento Casa-Trabalho no Brasil (1992-2009): Diferenças Entre Regiões Metropolitanas, Níveis de Renda e Sexo.* Brasilia: IPEA.

Perlman, J. 1979. *The Myth of Marginality: Urban Poverty and Politics in Rio de Janeiro.* Berkeley: University of California Press.

Perlman, J. 2010. *Favela: Four Decades of Living on the Edge in Rio de Janeiro.* Oxford: Oxford University Press.

Pero, V. and Mihessen, V. 2013. Mobilidade Urbana e Pobreza no Rio de Janeiro. *Revista Econômica. 15*(2), 23-50.

Phelan, L., Henderson-Sellers, A. and Taplin, R. 2013. The Political Economy of Addressing the Climate Crisis in the Earth System : Undermining Perverse Resilience. *New Political Economy. 18*(2), 198-226.

Philips, I. 2014. *The Potential Role of Walking and Cycling to Increase Resilience of Transport Systems to Future External Shocks : Creating an Indicator of Who Could Get to Work by Walking and Cycling if there Was No Fuel for Motorised Transport.* PhD thesis, University of Leeds.

Pickerill, J. and Chatterton, P. 2006. Notes Towards Autonomous Geographies: Creation, Resistance and Self-Management as Survival Tactics. *Progress in human geography. 30*(6), 730-746.

Pickvance, C. 2003. From Urban Social movements to Urban Movements : A Review and Introduction to a Symposium on Urban Movements. *International Journal of Urban and Regional Research. 27*(1), 102-109.

Pires, L. 2013. Transportes Públicos e Representações sobre Mobilidade Social : Possíveis Percepções a partir do Rio de Janeiro e de Buenos Aires. *Anuário Antropológico. 2*, 165–193.

Pløger, J. 2004. Strife : Urban Planning and Agonism. *Planning Theory. 3*(1), 71-92.

Polk, M. and Knutsson, P. 2008. Participation, Value Rationality and Mutual Learning in Transdisciplinary Knowledge Production for Sustainable Development. *Environmental Education Research*. *14*(6), 643-653.

Pontes, E. 2013 . Exclusão Socioespacial, Acessibilidade e Mobilidade : Notas para uma Análise da Região Metropolitana do Rio de Janeiro pela ótica do Sistema de Transportes, no Contexto dos Grandes Eventos Esportivos. *Chão Urbano*. [Online]. [Accessed 10 September 2016]. Available from: https http://www.chaourbano.com.br/visualizarArtigo.php?id=68

Porter, G. 2016. Mobile phones, mobility practices, and transport organization in sub-Saharan Africa. *Mobility in History*. 6(1), 81-88.

Porter, G., Tewodros, A., Bifandimu, F., Heslop, A. and Gorman, M. 2015. Qualitative Methods for Investigating Transport and Mobility Issues among Commonly Socially Excluded Populations : A Case Study of Co-investigation with Older People in Rural Tanzania. *Transportation Research Procedia*. *11*, 492-503.

Prefeitura do Rio. 2015. *Política Habitacional do Rio, Suas Diretrizes e Números Macros*. [Online]. [Accessed 10 September 2016]. Available from: https://medium.com/explicando-a-pol%C3%ADtica-de-habita%C3%A7%C3%A3o-da-prefeitura/pol%C3%ADtica-habitacional-do-rio-suas-diretrizes-e-n%C3%BAmeros-macros-ce687846392#.vmzj4uoob

Preston, J. and Rajé, F. 2007. Accessibility, Mobility and Transport-Related Social Exclusion. *Journal of Transport Geography*. *15*(3), 151-160.

Pretty, J. N. 1995. Participatory Learning For Sustainable Agriculture. *World Development*. *23*(8),1247–1263.

Pretty, J., Ball, A., Benton, T., Guivant, J., Lee, D. R., Orr, D., Pfeffer, M. and Ward, H. eds. 2007. *The Sage Handbook of Environment and Society*. Thousand Oaks: Sage.

Price, A. 2012. *Recovering Bookchin : Social Ecology and the Crisis of Our Time*. Porsgrunn: New Compass.

Pucher, J. and Lefèvre, C. 1996. *The Urban Transport Crisis in Europe and North America.* Berlin: Springer.

Pugh, C. ed. 2000. *Sustainable Cities in Developing Countries*. London: Earthscan,

Puliafito, A. 2010. *Protezione Civile SPA*. Reggio Emilia: Aliberti Editore.

Purcell, M. 2002. Excavating Lefebvre : The Right to the City and Its Urban Politics of the Inhabitant. *GeoJournal*. *58*(2-3), 99-108.

Purcell, M. 2006. Urban Democracy and the Local Trap. *Urban Studies*. *43*(11), 1921–1941

Purcell, M. 2009. Resisting Neoliberalization : Communicative Planning or Counter-Hegemonic Movements? *Planning Theory*. *8*, 140–165.

Quero Metrô. Nd. *Quero Metrô : Solucionando o Transporte Público do Rio de Janeiro.* [Online]. [Accessed 10 September 2016]. Available from: https://querometro.com/

Raikes. P. 1988. *Modernising Hunger*. London: Catholic Institute for International Relations.

Randolph, R. 2007. Do Planejamento Colaborativo ao Planejamento 'Subversivo': Reflexões sobre Limitações e Potencialidades de Planos

Diretores no Brasil. *Scripta Nova: Revista Electrónica de Geografía y Ciencias Sociales. XI*(245 (17)),1–14.

Randolph, R. 2008. A Nova Perspectiva do Planejamento Subversivo e Suas (Possíveis) Implicações para a Formação do Planejador Urbano e Regional o Caso Brasileiro. *Scripta Nova: Revista Electrónica de Geografía y Ciencias Sociales.* [Online].[Accessed 2 October 2015]. Available from: http://www.ub.edu/geocrit/-xcol/430.htm

Randolph, R. 2014. Subversão e Planejamento como "práxis"- Uma Reflexão sobre uma Aparente Impossibilidade. In: Limonad, E. and Castro, E. eds. *Um Novo Planejamento para um Novo Brasil?* Rio de Janeiro: Letra Capital Editora, 40-57.

Rawcliffe, P. 1995. Making Inroads : Transport Policy and the British Environmental Movement. *Environment. 37*(3), 16–36.

Rawls, J., 1971. *A Theory of Justice.* Oxford: Oxford University Press.

Reason, P. 1998. Political, Epistemological, Ecological and Spiritual Dimensions of Participation. *Studies in Cultures, Organizations and Societies. 4*(2), 147–167.

Reason, P. and Bradbury, H. eds. 2001. *Handbook of Action Research : Participative Inquiry and Practice.* Thousand Oaks: Sage.

Reason, P. and Torbert, B. 2001. The Action Turn : Toward a Transformational Social Science. *Concepts and Transformations. 6*(1), 1–37.

Rebelo, J. 1999. Reforming the Urban Transport Sector in the Rio de Janeiro Metropolitan Region: A Case Study in Concessions. *World Bank Policy Research Working Paper*, (2096).

Redazione. 2016. L'Aquila: Tavolo Mobilita', Priorita' Metro San-Demetrio Sassa. *Abruzzo Web.*[Online]. 2/11/2016. Available from: http://www.abruzzoweb.it/contenuti/l-aquila-tavolo-mobilita-priorita-metro-san-demetrio-sassa/613211-268/

Redclift, M. 2005. An Oxymoron Comes of Age. *Sustainable Development. 13*(4), 212–227.

Reed, M. S. 2006. Unpacking ' Participation ' in the Adaptive Management of Social – Ecological Systems : a Critical Review. *Ecology and Society. 11*(2), 39.

Reed, M. S. 2008. Stakeholder Participation for Environmental Management: A Literature Review. *Biological Conservation. 141*(10), 2417–2431.

Reggiani, A., Nijkamp, P. and Lanzi, D. 2015. Transport Resilience and Vulnerability: the Role of Connectivity. *Transportation Research Part A: Policy and Practice. 81*, 4-15.

Renn, O. and Webler, T. 1995. *Fairness and Competence in Citizen Participation: Evaluating Models of Environmental Discourse.* Berlin: Springer.

Ribeiro, L. C. Q. ed. 2014.*The Metropolis of Rio de Janeiro: A Space in Transition.* Rio de Janeiro: Letra Capital.

Richards, L. and J. Morse. 2013. *Readme First for a User's Guide to Qualitative Methods.* Thousand Oaks: Sage.

Rio 2016. 2009. *Transport Strategic Plan for the Rio 2016 Olympic and Paralympic Games.* Rio de Janeiro: Rio 2016.

Rio 2016. 2014. *Embracing Change : Rio 2016 Sustainability Report*. Rio de Janeiro: Rio 2016.

Ritchie, J. and Lewis, J. eds., 2003. *Qualitative Research Practice : A Guide for Social Science Students and Researchers*. Thousand Oaks: Sage.

Rizzo, M. 2015. The Political Economy of an Urban Megaproject : the Bus Rapid Transit Project in Tanzania. *African Affairs. 114*(455), 249–270.

Robards, M. D., Schoon, M. L., Meek, C. L. and Engle, N. L. 2011. The Importance of Social Drivers in the Resilient Provision of Ecosystem Services. *Global Environmental Change. 21*(2), 522-529.

Robinson, J. 2016. Thinking Cities through Elsewhere: Comparative Tactics for a More Global Urban Studies. *Progress in Human Geography. 40*(1), 3-29.

Rocinha sem Fronteiras. 2014. *Queremos que os investimentos do PAC 2 na Rocinha sejam feitos em Saneamento!*. [Online]. [Accessed 20 July 2015]. Available from: http://paneladepressao.nossascidades.org/campaigns/298

Rodrigues, J.M. 2014. Urban Mobility in the "Olympic City": a Transportation Revolution in Rio de Janeiro? In: Ribeiro, L. C. Q. ed. *The Metropolis of Rio de Janeiro: A Space in Transition*. Rio de Janeiro: Letra Capital, 279-288.

Rodrigues, J.M. and Bastos,P.P.M. 2015. A Política de Transporte no Rio e Seus Contrassensos : Uma Reflexão sobre a Racionalização da Frota de Ônibus. *Observatorio das Metropoles*. [Online]. [Accessed 10 September 2016]. Available from: http://observatoriodasmetropoles.net/index.php?option=com_k2andview=itemandid=1309:uma-reflex%C3%A3o-sobre-os-impactos-sociais-da-racionaliza%C3%A7%C3%A3o-das-linhas-de-%C3%B4nibus-do-rio-de-janeiroandItemid=180

Rodrigues, M. 2016. Após 5 Meses, Usuários Reprovam Racionalização de Onibus no Rio. *O Globo*. [Online]. [Accessed 20 September 2016]. Available from: http://g1.globo.com/rio-de-janeiro/noticia/2016/03/apos-5-meses-usuarios-reprovam-racionalizacao-de-onibus-no-rio.html

Rolnik, R. and Klintowitz, D. 2011. *Mobility in São Paulo*. São Paulo: Estudos Avançados/USP.

Rootes, C. 2013. From Local Conflict to National Issue: When and How Environmental Campaigns Succeed in Transcending the Local. *Environmental Politics. 22*(1), 95-114.

Ross, H., Buchy, M. and Proctor, W. 2002. Laying Down the Ladder: A Typology of Public Participation in Australian Natural Resource Management. *Australasian Journal of Environmental Management. 9*(4), 205–217.

Rowe, G. and Frewer, L.J. 2000. Public Participation Methods : A Framework for Evaluation. *Science, Technology and Human Values. 25*(1),3–29.

Rowe, G. and Frewer, L.J. 2005. A Typology of Public Engagement Mechanisms. *Science, Technology and Human Values. 30*(2), 251–290.

Rydin, Y. 2003. *Conflict Consensus and Rationality in Environmental Planning: An Institutional Discourse Approach*. Oxford: Oxford University Press.

Rydin, Y. 2007. Re-Examining the Role of Knowledge within Planning Theory. *Planning theory*. *6*(1), 52-68.

Sachs, W. 2001. *Rio+ 10 and the North-South Divide*. Heinrich Böll Foundation.

Sadan, E. 2004. Empowerment and Community Planning : Theory and Practice of People-Focused Social Solutions. [Online]. [Accessed 10 September 2016]. Available from: http://www.mpow.org/elisheva_sadan_empowerment_intro.pdf

Sagaris, L. 2014. Citizen Participation for Sustainable Transport : The Case of " Living City". *Journal of Transport Geography*. (41), 74–83.

Sager, T. 1992. Why Plan? A Multi-Rationality Foundation for Planning. *Scandinavian Housing and Planning Research*. *9*(3), 129-147.

Sager, T. 2006. Freedom as Mobility : Implications of the Distinction Between Actual and Potential Travelling. *Mobilities*. *1*(3), 465-488.

Sager, T. 2016. Activist Planning : a Response to the Woes of Neo-Liberalism? *European Planning Studies*. *24*(7), 1262-1280.

Sánchez-Silva, M., Daniels, M., Lleras, G. and Patiño, D. 2005. A Transport Network Reliability Model for the Efficient Assignment of Resources. *Transportation Research Part B: Methodological*. *39*(1), 47–63.

Sandercock, L. 1998a. *Towards Cosmopolis : Planning for multicultural cities*. New York: John Wiley and Sons.

Sandercock, L. ed. 1998b. *Making the Invisible Visible: A Multicultural Planning History*. Berkley: University of California Press.

Sandercock, L. 2003. *Cosmopolis II : Mongrel Cities of the 21st Century*. London and New York: Continuum.

Santos Junior, O. A. D, Queiroz Ribeiro, L. C. D. and Gaffney, C. 2015. *Brasil : Os Impactos da Copa do Mundo 2014 e das Olimpíadas 2016*. Rio de Janeiro: E-papers Serviços Editoriais.

Santos, B. D. S. 2002. Para uma Sociologia das Ausências e uma Sociologia das Emergências. *Revista Crítica de Ciências Sociais*. *63*, 237-280.

Santos, B. D. S. 2004. A Critique of Lazy Reason : Against the Waste of Experience. In: Wallerstein, I. ed. *The Modern World-System in the Longue Duree*. Boulder: Paradigm Publisher, 157-198.

Santos, M. 1992. Modernidade, Meio Técnico-Científico e Urbanização no Brasil. *Cadernos IPPUR/UFRJ*. VI(1), 9-22.

Saunders, C. 2012. Reformism and Radicalism in the Climate Camp in Britain: Benign Coexistence, Tensions and Prospects for Bridging. *Environmental Politics*. *21*(5), 829-846

Schiefelbusch, M. 2010. Rational Planning for Emotional Mobility? The Case of Public Transport Development. *Planning Theory*. *9*(3), 200-222.

Schmidt, S. 2014. Moradores de São Conrado Condenam Uso de Mata Protegida para Reassentamento na Rocinha. *O Globo*. [Online]. 10 July. [Accessed 10 July 2015]. Available from: http://oglobo.globo.com/rio/moradores-de-sao-conrado-condenam-

uso-de-mata-protegida-para-reassentamento-na-rocinha-13203783#ixzz4FiGLGTIK

Schön, D. A. 1983. *The Reflective Practitioner : How Professionals Think in Action*. Basic: New York.

Schön, D. A. and Rein, M. 1994. *Frame Reflection : Toward the Resolution of Intractable Policy Controversies*. Basic: New York.

Schumacher, E. F. 1993. Small Is Beautiful : A Study of Economics as if People Mattered. New York: Vintage.

Schuurman, F. and Van Naersen, T. eds.1989. Urban Social Movements in the Third World. New York: Routledge.

Schwanen, T. 2016. Rethinking Resilience as Capacity to Endure : Automobility and the City. *City. 20*(1), 152-160.

Schwanen, T., Banister, D. and Anable, J. 2011. Scientific Research about Climate Change Mitigation in Transport: A Critical Review. *Transportation Research Part A: Policy and Practice. 45*(10), 993-1006.

Schwanen, T., Banister, D. and Anable, J. 2012. Rethinking Habits and Their Role in Behaviour Change : The Case of Low-Carbon Mobility. *Journal of Transport Geography. 24*, 522-532.

Schwanen, T., Lucas, K., Akyelken, N., Solsona, D. C., Carrasco, J. A. and Neutens, T. 2015. Rethinking the Links Between Social Exclusion and Transport Disadvantage through the Lens of Social Capital. *Transportation Research Part A: Policy and Practice. 74*, 123-135.

Seager, J. 1993. *Earth Follies : Coming to Feminist Terms with the Global Environmental Crisis*. New York: Routledge.

Searle, G. and Thompson, S. 1999. Editorial : Towards Postmodern Urban Transport Planning. *Urban Policy and Research. 17*(2), 97-98.

Secretaria de Estado de Transportes. 2014. *PDTU*. [Online]. [Accessed 10 January 2017]. Available from: http://www.rio.rj.gov.br/dlstatic/10112/5333332/4139325/25PDTUGov Estado092014.pdf

Sharp, J. et al. eds. 2000 *Entanglements of Power : Geographies of Domination/Resistance.* London: Routledge.

Sheller, M. 2008. Mobility, Freedom and Public Space : The Ethics of Mobilities : Rethinking Place, Exclusion, Freedom, and Environment. In: Bergmann, S. and Sager, T. eds. *The Ethics of Mobilities : Rethinking Place, Exclusion, Freedom and Environment*. Oxford: Ashgate, 25-38.

Sheller, M. 2011a. Mobility. *Sociopedia.isa*. [Online]. [Accessed 10 September 2016]. Available from: http://www.sagepub.net/isa/resources/pdf/mobility.pdf

Sheller, M. 2011b. Sustainable Mobility and Mobility Justice: towards a Twin Transition. In: Grieco, M. and Urry, J. eds. *Mobilities: New Perspectives on Transport and Society*. Oxford: Ashgate, 289-304.

Sheller, M. 2016. *Mobility Futures for John Urry (1946-2016)*. [Online]. [Accessed 10 September 2016]. Available from: http://futureswewant.net/mimi-sheller-mobility/

Sheller, M. and Urry, J. 2006. The New Mobilities Paradigm. *Environment and planning A. 38*(2), 207-226.

Sheller, M. and Urry, J. 2016. Mobilizing the New Mobilities Paradigm. *Applied Mobilities*. *1*(1), 10-25.

Shiva, V. 1992. Recovering the Real Meaning of Sustainability. In: Cooper, D. and Palmer, J. eds. *The Environmental Question*. New York: Routledge, 187-193.

Shiva, V. 2005. *Earth Democracy : Justice, Sustainability and Peace*. New York: South End Press.

Shove, E. 2010. Beyond the ABC : Climate Change Policy and Theories of Social Change. *Environment and Planning A*. *42*(6), 1273-1285.

Sillitoe, P. 1998. The Development of Indigenous Knowledge : A New Applied Anthropology. *Current Anthropology*. *39*(2), 223-252.

Silva Cruz, J. D. 2010. *Transporte Ferroviário Urbano em Questão : Análise das Políticas Públicas em Pauta e as Consequências para os Trabalhadores da Região Metropolitana do Rio de Janeiro*. Rio de Janeiro: Departamento de Serviço Social/PUC-Rio.

Silva, S. and Torres, H. 2013. Traffic and Public Transport Planning for Olympic Games : Challenges for the City of Rio de Janeiro. *13th WCTR, 15-18 July 2013, Rio de Janeiro.*

Sistema FIRJAN. 2012. *Decision: Rio Investments 2012-2014*. Rio de Janeiro.

Sistema FIRJAN. 2014. *Decision: Rio Investments 2014-2016*. Rio de Janeiro.

Skeggs, B. 2004. *Class, Self, Culture*. London and New York: Routledge.

Smith, S. E., Willms, D. G. and Johnson, N. A. 1997. *Nurtured by Knowledge : Learning to Do Participatory Action-Research*. New York: Apex Press.

Social Exclusion Unit. 2003. *Making the Connections: Final Report on Transport and Social Exclusion*. London: Office of the Deputy Prime Minister.

Soja, E. 1999. Thirdspace: Expanding the Scope of the Geographical Imagination. In: D Massey, D. B., Allen, J. and Sarre, P. eds. *Human Geography Today*. Cambridge: Polity Press, 260–278.

Soja, E. 2010a. *Seeking Spatial Justice*. Minneapolis: University of Minnesota Press.

Soja, E. W. 2010b. The City and Spatial Justice. In: Bret*,* B. Gervais-Lambony*,* P.*,* Hancock*,* C. and Landy*,* F. eds. *Justices et Injustices Spatiales*. Nanterre : Presses Universitaires de Paris Ouest, 56-72.

Solnit, R. 2010. *A Paradise Built in Hell : The Extraordinary Communities that Arise in Disaster*. London: Penguin.

Søndergaard, S. B., 2013. *La Risposta del Fondo di Solidarietà dell'Unione Europea al Terremoto del 2009 in Abruzzo: Pertinenza e Costo delle Operazioni*. [Online]. [Accessed 10 September 2016]. Available from: http://www.eca.europa.eu/Lists/ECADocuments/SR12_24/SR12_24_I T.PDF

Sorensen, A. and Sagaris, L. 2010. From Participation to the Right to the City : Democratic Place Management at the Neighbourhood Scale in Comparative Perspective. Planning Practice and Research. *Planning, Practice & Research*. *25*(3), 297-316.

Souza, M. L. 1999. *O Desafio Metropolitano*. Rio de Janeiro: Bertrand Brasil.

Souza, M. L. 2001a. *Mudar a Cidade : Uma Introdução Crítica ao Planejamento e à Gestão Urbanos*. Rio de Janeiro: Bertrand Brasil.

Souza, M. L. 2001b. The Brazilian Way of Conquering the 'Right to the City'. *DISP. 147*, 25-31.

Souza, M. L. 2005. Urban Planning in an Age of Fear : The Case of Rio de Janeiro. *International Development Planning Review. 27*(1), 1-19.

Souza, M. L. 2006. Social Movements as 'Critical Urban Planning' Agents. *City. 10*(3), 327-342.

Souza, M. L. 2008. *Fobópole: o Medo Generalizado e a Militarização da Questão Urbana*. Rio de Janeiro: Bertrand Brasil.

Souza, M. L. 2010. Which Right to which City? In Defence of Political-Strategic Clarity. *Interface. 2*(1), 315-333.

Srivastva, S. and Cooperrider, D. L. 1986. The Emergence of Egalitarian Organization. *Human Relations. 39*(8), 683–724.

Stake, R. 1995. *The Art of Case Study Research*. Thousand Oaks: Sage. Steffen, W., Richardson, K., Rockström, J., Cornell, S.E., Fetzer, I., Bennett, E.M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A. and Folke, C. 2015. Planetary Boundaries : Guiding Human Development on a Changing Planet. *Science. 347*(6223), 1259855.

Steinbrink, M. 2014. Festifavelisation: Mega-Events, Slums and Strategic City-Staging : the Example of Rio de Janeiro. *DIE ERDE–Journal of the Geographical Society of Berlin. 144*(2), 129-145.

Steon, J. M. 1995. *Classic Readings in Urban Planning: An Introduction.* New York: McGraw-Hill.

STEPS centre. 2010. *A New Manifesto*. Brighton: STEPS centre.

Stokols, D., Lejano, R. P. and Hipp, J. 2013. Enhancing the Resilience of Human-Environment Systems : A Social Ecological Perspective. *Ecology and Society. 18*(1), 7.

Stratta, P., Capanna, C., Riccardi, I., Carmassi, C., Piccinni, A., Dell'Osso, L. and Rossi, A. 2012. Suicidal Intention and Negative Spiritual Coping One Year after the Earthquake of L'Aquila (Italy). *Journal of Affective Disorders. 136*(3), 1227-1231.

Sundvor, I., Castell Balaguer, N., Viana, M., Querol, X., Reche, C., Amato, F., Mellios, G. and Guerreiro, C. 2012. *Road Traffic's Contribution to Air Quality in European Cities.* Bilthoven: The European Topic Centre on Air Pollution and Climate Change Mitigation (ETC/ACM).

Susman, G. I. and Evered, R. D. 1978. An Assessment of the Scientific Merits of Action Research. Administrative Science Quarterly. *23*(4), 582–603.

Swyngedouw, E. and Kaika, M. 2014. Urban Political Ecology : Great Promises, deadlock and New Beginnings. *Documents d'Anàlisi Geogràfica. 60*(3), 459–481.

Talen, E. and Cliff, E. 2002. Beyond Relativism : Reclaiming the Search for Good City Form. *Journal of Planning Education and Research. 22*(1), 36-49.

Tamayao, M.G. 2014. *What is Governance?* [Online]. [Accessed 20 March 2015]. Available from: https://tamayaosbc.wordpress.com/2014/08/21/what-is-governance/

Tarifa Zero 2011. *Sao Paulo sem catracas : Cartilha da campanha tarifa Zero.* [Online]. [Accessed 19 March 2014]. Available from: http://www.tarifazerosp.net/2011/08/24/cartilha-da-campanha/

Tasan-Kok, T. and Baeten, G. eds. 2011. *Contradictions of Neoliberal Planning: Cities, Policies, and Politics.* Berlin: Springer.

Taylor, B. 2005. *Encyclopedia of Religion and Nature.* London: Continuum.

Taylor, N. 1980. Planning Theory and the Philosophy of Planning. *Urban Studies.* (17), 159–68.

Taylor, Z. and Schafran, A. 2016. Can Resilience be Redeemed? Introduction. *City, 20*(1), 142-142.

Te Brömmelstroet, M. and Bertolini, L. 2011. The Role of Transport-Related Models in Urban Planning Practice. Transport Reviews. 31(2), 139-143.

Tessarolo, E. M. 2011. A Nova Cartografia Mundial : As "Muralhas Nacionais" Frente ao "Capital sem Pátria" e aos "Cidadãos do Mundo". *Ponto-e-Vírgula : Revista de Ciências Sociais.* 9, 197-213.

Tewdwr-Jones, M. 2002. Personal Dynamics, Distinctive Frames and Communicative Planning. In: Allmendinger, P. and Tewdwr-Jones, M. eds. *Planning Futures : New Directions for Planning Theory.* New York and London: Routledge, 65-92.

Tewdwr-Jones, M. and Allmendinger, P. 1998. Deconstructing Communicative Rationality: a Critique of Habermasian Collaborative Planning. *Environment and planning A.* 30(11), 1975-1989.

The Ecologist. 1993. *Whose Common Future : Reclaiming the Commons.* London: Earthscan.

Timms, P. 2011. Urban Transport Policy Transfer : "Bottom-Up" and "Top-Down" Perspectives. *Transport policy.* 18(3), 513-521.

Timms, P., Tight, M. and Watling, D. 2014. Imagineering Mobility : Constructing Utopias for Future Urban Transport. *Environment and Planning A.* 46(1), 78–93.

Tippett, J., Handley, J.F. and Ravetz, J. 2007. Meeting the Challenges of Sustainable Development : A Conceptual Appraisal of a New Methodology for Participatory Ecological Planning. *Progress in Planning.* 67(1), 9–98.

Titheridge, H., Christie, N., Mackett, R., Oviedo Hernandez, D. and Ye, R. 2014. *Transport and Poverty : A Review of the Evidence.* London: UCL.

Tosta, W. 2014. Rio Faces a "Blackout" in Urban Transport Planning. *Rio On Watch.* [Online]. [Accessed 10 September 2016]. Available from: http://www.rioonwatch.org/?p=13460

Transition Network Team. 2016. *The Essential Guide to Doing Transition.* Totnes: Transition Network.

TUA. nd. *Chi Siamo.* [Online]. [Accessed 8th July 2016]. Available from: http://www.tuabruzzo.it/index.php?id=41

UN. 2013. *Inequality Matters : Report of the World Social Situation*. New York: United Nations publication.

UNDP. 2015. *Human Development Report 2015 : Work for Human Development*. New York: United Nations Development Programme.

UNDP. 2016. *Migrations, Refugees and Displacement*. [Online]. [Accessed 10 September 2016]. Available from: http://www.undp.org/content/undp/en/home/ourwork/sustainable-development/development-planning-and-inclusive-sustainable-growth/migration-refugees-and-displacement.html

Urry, J. 2004. The 'System' of Automobility. *Theory, Culture and Society*. *21*(4-5), 25-39.

Urry, J. 2007. *Mobilities*. London: Polity.

Vainer, C. 2000a. Pátria, Empresa e Mercadoria. Notas Sobre a Estratégia Discursiva do Planejamento Estratégico Urbano. In: Arantes, O. B. F., Vainer, C. and Maricato, E. eds. *A Cidade do Pensamento Único: Desmanchando Consensos*. Rio de Janeiro: Editora Vozes, 75- 103.

Vainer, C. 2000b. Os Liberais Também Fazem Planejamento Urbano?. In: Arantes, O. B. F. et al. eds. *A Cidade do Pensamento Único: Desmanchando Consensos*. Rio de Janeiro: Editora Vozes, 105-119.

Vainer, C. 2013. Cidade de Exceção: Reflexões a partir do Rio de Janeiro. *Anais: Encontros Nacionais da ANPUR*. [Online]. *14*. [Accessed 10 September 2016]. Available from: http://unuhospedagem.com.br/revista/rbeur/index.php/anais/article/view/2874/2811

Van Herzele, A. 2004. Local Knowledge in Action Valuing Nonprofessional Reasoning in the Planning Process. *Journal of Planning Education and Research. 24*(2), 197-212.

Vasconcellos, E. A. 2001. *Urban Transport Environment and Equity : The Case for Developing Countries*. London : Earthscan Publications.

Vasconcellos, E. A. 2014. *Políticas de Transporte no Brasil : A Construção da Mobilidade Excludente*. São Paulo: Manole Editora.

Vasconcellos, E. A., Carvalho, C. H. R. D. and Pereira, R. H. M. 2011. *Transporte e Mobilidade Urbana*. Brasilia: IPEA.

Vegni, S. 2014. E se ci Riprendessimo le Strade a Piedi? *NewsTown*. [Online]. [Accessed 10 September 2016]. Available from:http://news-town.it/cultura-e-societa/3329-e-se-ci-riprendessimo-le-strade-a-piedi.html

Velasco, X. C. 2013. Participatory Action Research (PAR) for Sustainable Community Development. *Postgrowth*. [Online]. [Accessed 10 September 2016]. Available from: http://postgrowth.org/participatory-action-research-par-for-sustainable-community-development/

Venturini, F. 2016. *A Critical Perspective on Social Ecology and Urban Crises: Learning about, with and from Urban Social Movements in Rio de Janeiro*. Ph.D. thesis, University of Leeds.

Venturini, F. and Verlinghieri, E. 2014. Scarcity, Post-Scarcity and Local Community : L'Aquila as a Case Study. *Planum. 2*(29), 51-69.

Verlinghieri, E. 2015. Radical Approaches to Transport Planning. In: Eiglad, E. (ed.) *Social Ecology and Social Change*. Porsgrunn: New Compass, 153-166.

Verlinghieri, E. and Venturini, F. Forthcoming. Exploring the Right to Mobility through the 2013 Mobilizations in Rio de Janeiro. *Journal of Transport Geography*.

Vigar, G. 2000. Local 'Carriers' to Environmentally Sustainable Transport Planning. *Local Environment. 5*(1), 19–32.

Vigar, G. 2013. *The Politics of Mobility : Transport Planning, the Environment and Public Policy*. London: Routledge

Wainwright, S. P. 1997. A New Paradigm for Nursing : The Potential of Realism. *Journal of Advanced Nursing. 26*(6), 1262-1271.

Walker, B. and Salt, D. 2006. *Resilience thinking : Sustaining Ecosystems and People in a Changing World*. Washington, Covelo, London: Island Press.

Walker, B., Holling, C. S., Carpenter, S. R. and Kinzig, A. 2004. Resilience, Adaptability and Transformability in Social–Ecological Systems. *Ecology and Society. 9*(2), 5.

Wallerstein, I. ed. 2004. *The Modern World-System in the Longue Duree*. Boulder: Paradigm Publisher.

Walsh-Dilley, M., W. Wolford, and J. McCarthy. 2016. Rights for Resilience: Food Sovereignty, Power, and Resilience in Development Practice. *Ecology and Society. 21*(1), 11.

Ward, C. 1991. *Freedom To Go : After the Motor Age*. London: Freedom Press.

Ward, C. 1996. *Anarchy in Action*. London: Freedom Press.

Ward, C. 1997. *Dopo l'Automobile*. Milan: Elèuthera.

Warner, M. 1997. 'Consensus' Participation : An Example for Protected Areas Planning. *Public Administration and Development. 17*(4), 413–432.

Watson, V. 2003. Conflicting Rationalities : Implications for Planning Theory and Ethics. *Planning theory & practice. 4*(4), 395-407.

Watson, V. 2006. Deep Difference : Diversity, Planning and Ethics. *Planning Theory. 5*(1), 31-50.

Weber, M. 1922. *Grundriss der Sozialkonomik IIIAbteilung: Wirtschaft und Gesellschaft.* Tubingen: Verl. J.C.B. Mohr.

Weichselgartner, J. and Kelman, I. 2015. Geographies of Resilience : Challenges and Opportunities of a Descriptive Concept. *Progress in Human Geography. 39*(3), 249-267.

Wellman, C. H. and Cole, P. 2011. *Debating the Ethics of Immigration: Is there a Right to Exclude?*. Oxford: Oxford University Press.

Wheeler, S. M. 2004. *Planning for Sustainability : Creating Liveable, Equitable, and Ecological Communities*. Oxon: Routledge.

Wheeler, S. M. 2012. *Climate Change and Social Ecology: A New Perspective on the Climate Challenge*. New York and London: Routledge.

White, D.F. 2008. *Bookchin : A Critical Appraisal*. London: Pluto Press.

Wilkinson, C. 2012. Social-Ecological Resilience : Insights and Issues for Planning Theory. *Planning Theory. 11*(2), 148–169.

Williams, J. 2013. Toward a Theory of Spatial Justice. *Annual Meeting of the Western Political Science Association, 28-30 March, Los Angeles.*

Willson, R. 2001. Assessing Communicative Rationality as a Transportation Planning Paradigm. *Transportation. 28*(1), 1–31.

Willson, R. W., Payne, M. and Smith, E. 2003. Does Discussion Enhance Rationality? : A Report from Transportation Planning Practice. *Journal of the American Planning Association. 69*(4), 354–367.

Wilson, G. A. 2012. Community Resilience, Globalization, and Transitional Pathways of Decision-Making. *Geoforum. 43*(6), 1218–1231

Wilson, G. A. 2013. Community Resilience, Policy Corridors and the Policy Challenge. *Land Use Policy. 31*, 298–310.

World Bank. 2010a. *World Development Report : Development and Climate Change.* Washington: The World Bank.

World Bank. 2010b. *Violence in the City : Understanding and Supporting Community Responses to Urban Violence.* Washington: The World Bank.

World Health Organization - W.H.O. 2015. *Global Status Report on Road Safety 2015.* [Online]. Available from: http://www.who.int/violence_injury_prevention/road_safety_status/

2015/GSRRS2015_Summary_EN_final2.pdf?ua¼1⟩ (accessed 05.03.16).

World Urban Campaign. 2012. *Manifesto for Cities: The Urban Future We Want.* [Online]. [Accessed 2 October 2015]. Available from: worldurbancampaign.org

Wright, C. and Curtis, B. 2002. Aesthetics and the Urban Road Environment. *Proceedings of the Institution of Civil Engineers: Municipal Engineer. 151*(2), 145-150.

WWF. 2014. *Living Planet Report 2014.* Gland: WWF.

Yates, L. 2015. Rethinking Prefiguration : Alternatives, Micropolitics and Goals in Social Movements. *Social Movement Studies. 14*(1), 1-21.

Yiftachel, O. 1989. Towards a New Typology of Urban Planning Theories. *Environment and Planning B: Planning and Design. 16*, 23–39.

Yiftachel, O. 1998. Planning and Social Control : Exploring the Dark Side. Journal of Planning Literature. *12*(4), 395-406.

Yiftachel, O. and Huxley, M. 2000. Debating Dominence and Relevance : Notes on the 'Communicative Turn' in Planning Theory. *International Journal of Urban and Regional Research. 24*(4), 907–913.

Yin, R. K. 2011. *Applications of Case Study Research.* Thousand Oaks: Sage.

Young, I. M. 2011. *Justice and the Politics of Difference.* Princeton: Princeton University Press.

Zibechi, R. 2012. *Territories in Resistance.* Oakland: AK Press.

Zibechi, R. 2014. *The New Brazil: Regional Imperialism and the New Democracy.* Oakland: AK Press.

Zmund, J., Lee-Gosselin, M., Munizaga, M. and Carrasco, J. A. eds. 2013. *Transport Survey Methods: Best Practice for Decision Making.* Bingley: Emerald Group Publishing.

List of Abbreviations

Azienda Mobilità Aquilana – Mobility Enterprise L'Aquila (AMA)

Bus Rapid System (BRS)

Bus Rapid Transit (BRT)

Campaign for Better Transport (CBT)

Citywide Network for Sustainable Mobility (CNSM)

Enterprise Mobility of L'Aquila (AMA)

Federação das Associações de Moradores do Estado do Rio de Janeiro - Federation of Residents' Associations of Rio de Janeiro State (FAMERJ)

Fórum Permanente da Mobilidade Urbana na Região Metropolitana do Rio de Janeiro - Permanent Urban Mobility Forum of the Metropolitan Region of Rio de Janeiro) (Forum)

Grupo Popular Pesquisa em Ação – People's Group Research in Action (GPPA)

Joint Study of Elaboration of a General Mobility plan for the City of Rio de Janeiro (Joint Study),

Move Your City (MYC)

Movimento Passe Livre – Movement for the Free Fare (MPL)

O Metrô que o Rio precisa – the Metro that Rio needs (MQRP)

Participatory Action Research (PAR)

Plano Diretor de Transporte Urbano – Master Plan for Urban Transport (PDTU)

Public-Private Partnerships (PPP)

Social Ecological Systems (SES)

Sustainable Mobility Days (SMD)

Sustainable Urban Mobility Plan (SUMP)

Tavolo Permanente della Mobilità – Permanent Mobility Panel (Panel)

Territorial Council of Participation (TCP)

Transition Towns (TT)

Transport and Logistic Division (TLD)

Urban Centre (UC)

Urban Mobility Plan (UMP)

Appendix 1: Information Interviewees

Name	Affiliation	Role
Alice	Grupo em defesa da Praça Nossa Senhora da Paz	Ipanema Resident
Angelo de Angelis	AMA	Chief Executive
Camilla	MYC	High school student
Cosimo	QueroMetro	University Student
Emma	L'Aquila Città Futura – MYC	Tutor, Adult member of MYC
Fabiana Izaga	Instituto de Arquitetos do Brasil	Architect
Fabio Pelini	Comune dell'Aquila	Councillor, Participation Department
Felipe	Forum	Transport Engineer
Fernando Mac Dowell	Forum	Transport Engineer
Giovanna	MYC	University student
Giulia	MYC	University student, psychologist
Igor	Forum	Transport Engineer
Lucas	QueroMetro	University Student
Lucia	Grupo em defesa da Praça Nossa Senhora da Paz	Ipanema Resident
Massimo Cialente	Comune dell'Aquila	Mayor
Nicola Trifuoggi	Comune dell'Aquila	Councillor, Smart City Department
Pedro	Grupo em defesa da Praça Nossa Senhora da Paz	Ipanema Resident
Silvia	MYC	University student
Simone Costa	Secretaria Municipal de Transportes, Rio de Janeiro	Planning Coordinator
Thiago	Forum	Transport Engineer