



**Planning the Contemporary Risk City: Exploring Emerging Practices and Theories
Abstract**

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The rise of the mounting levels of evolving risk and vulnerability stemming from climate change is challenging the nexus between already existing planning theories and the new emerging practices. Strikingly, there is a lack of theorization in the planning field that helps identify, characterize, and conceptualize the emerging risk-oriented practices. Consequently, this paper aims to build a framework for understanding the risk-oriented practices and to identify and apply this framework to the case of the one of the most ambitious recent planning of New York City. More specifically, the empirical work examines the decisive role of risk resulting from *climate change* in framing and forging the planning practices of NYC, and to identify the major practices in coping with climate change anticipated threats. This paper conceptualizes the contemporary city as a *risk city*, which is articulated through two interrelated logics: (1) *The logic of risk* directs and shapes public opinion regarding the principal risk(s) that a city faces. (2) *The fantasmatic logic* captures the motives behind the desire to change the current insecure conditions and having better peaceful and resilient future for the city and its residents. These logics induce social and spatial practices aiming at coping with anticipated threats and risk. This paper concludes that planning practices are not mere objects, but responsive, logical, functional, and imaginary. The risk-oriented practices are responsive to the urban targeted risk and have an imaginary function for reducing risk and filling security gaps aiming at achieving a more resilient and sustainable city. It concludes also that risk stemming from climate change and its



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uncertainties presents new challenges to the existing concepts, procedures, and approaches to the planning and design of cities.



1. Introduction

Contemporary cities are currently facing unprecedented levels of risk and vulnerability, stemming from, social polarization, urban conflict and violence, terrorism, natural disasters, and, most recently, risks stem from climate change, the focus of this paper. The scholarship suggests that climate change poses new risks and uncertainties, which often lie outside our range of experience and have the potential to affect the social, economic, and physical systems of any given city, impacting urban security and threatening the safety, the well-being, and the very existence of urban people (Barnett and Adger, 2005; IPCC, 2007, 2014; Filho et al., 2017; Leichenko, 2011).

Without a doubt, cities represent one of the most promising vehicles and scales for tackling the challenges of climate change today (IPCC, 2017). Thus, the phenomenal climate-change risk poses a great challenge on planning contemporary cities under the new circumstances of anticipated risk and associated uncertainties. Respectively, in recent years, many cities have been grappling with climate change using master, strategic, and action plans aimed at mitigating greenhouse gas emissions and adapting to the anticipated, albeit uncertain, impacts of climate change.

In this paper, I argue that risk-oriented practices are not mere spatial, physical, social, or economic actions, but concrete and central factors of the planning mission in coping with risk in cities. Furthermore, in this paper I argue that the emerging risk and its resulting uncertainties challenge not only the concepts, procedures, and scope of conventional approaches to city planning, but also their practices (Jabareen, 2015). Unquestionably, understanding the nature and characteristics of the emerging planning oriented-risk practices is crucial for planning and



planners. Strikingly, there is a lack of theorization in the planning profession that helps identify, characterize, and conceptualize the emerging risk-oriented practices. More specifically, in this paper, I am interested in the planning practices that are related to climate change risk.

Therefore, this paper aims to build a framework for understanding the risk-oriented practices and to identify and apply this framework to the case of the one of the most ambitious recent planning of New York City. More particularly, to examine the decisive role of risk resulting from *climate change* in framing and forging the planning practices of New York City, and to identify the major practices in coping with climate change anticipated threats.

Accordingly, the next section presents the conceptual framework, which will help us to understand how risk affects planning practices, and how to identify the planning risk-oriented practices. The next section will present the framework and its development. Then, the methods and the case study of planning New York City will be presented. The final section presents some significant theoretical and practical planning conclusions.

2. The Framework of the Risk City and its Practices

This section presents the logics that articulate the risk city and its risk-oriented planning practices. In my conceptualization of the *risk city* I build on Giddens and Beck concept of the *risk society* (Jabareen, 2015). Giddens (1999) and Beck (1992) conceptualize modernity and modern societies in terms of risk. Giddens (1999) views risk as inseparable from modernity and as the mobilizing dynamic of societies that are bent on change and determined to control their own destiny rather than leaving it to religion, tradition, or the whims of nature. Beck (1992) defines the *risk society* in terms of those threats that emerged in the 1960s, such as the development of nuclear and chemical weapons. Modern society, he maintains, "has become a risk society in the



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sense that it is increasingly occupied with debating, preventing and managing risks that it itself has produced" (Beck, 2005: 332). From his perspective, this was "an inescapable structural condition of advanced industrialization." The theory of the world risk society maintains that modern societies are shaped by new types of risk and that their foundations are shaken by the worldwide anticipation of global catastrophes.

Yet, in contrast to Beck and Giddens' lack of focus on the spatial aspects of the risk society, I argue for the necessity of "spatializing" contemporary risks and situating them at the city level. Therefore, my aim in this paper is to develop the theoretical framework of the *risk city* with the primary goal of filling a gap in the literature with a framework that not only theorizes urban risk and its uncertainty, but also contributes to our understanding the nature of risk-oriented planning practices.

In order to develop, what Giddens (1976) called 'frames of meaning' or 'the kind of statements that we make about phenomena', my conceptualization will be based on identifying the main logics that together conceptualize the risk city. The logic seeks to investigate the 'possibilities of phenomena' and the types of statements that we make about phenomena in various spatial and temporal contexts (Glynos, & Howarth. 2007: 134). Therefore, through specific logics, we seek to capture those aspects, the 'essence' of social, political, spatial and other practices, that conceptualize it and make it exist and function. Accordingly, in this section, I present two major interrelated logics, the *logic of risk* and the *fantasmatic logic*, which articulate the concept of the *risk city* and which provide us with a framework for understanding its practices (see Figure 1).



2.1 The logic of risk

Risk is “a virtual threat,” and “is not an objective condition, but a social construction of reality, which starts with the question of how people explain misfortune” (Hoogenboom & Ossewaarde, 2005: 606). Following Douglas’s and Wildavsky’s (1982) pioneering work on risk perception, social scientists have argued that risk behaviors and perceptions can neither be understood nor analyzed outside the social and cultural contexts in which they evolve (Sommerfield et al., 2002). Accordingly, some argue that understanding a person’s interpretation of risk requires attention to the broader social, cultural, and historical contexts within which interpretation occurs (Beamish, 2001; Erikson, 1994). In this way, risk perception varies according to historical traditions and cultural beliefs, as well as political and administrative structures (Healy, 2004; Jasanoff, 1999; Rohrmann, 2006).

Since risk means different things to different people helps us better understand different approaches to plan and cope with different risk in cities. For example, the underprivileged masses in developing cities, 'global warming' is not a major perceived risk from their point of view, even though, they might suffer more than others from the impact of climate change. They conceive basic risk in different spheres using different terminology. For them, the most prevalent vocabulary for expressing risk conception pertains to food, access to clean water, employment, and urban hygiene.

Accordingly, the logic of risk grasps conflicts over the meanings and interpretations of the risk that a city may face. For the most part, knowledge regarding risk is questioned and challenged not only by the public but also by the experts themselves, which means that the risk city exists in the shadow of unstable, challenged, and incomplete knowledge. Furthermore, this logic suggests that risk is interpreted and manipulated differently by people with different interests and

backgrounds, suggesting that knowledge regarding risk is based on an inherently ambivalence knowledge regarding the risks faced by cities. Convincingly, Beck (2006: 333) argues, "even the most restrained and moderate objectivist account of risk implications involves a hidden politics, ethics and morality."

2.2 The fantasmatic logic

In conceptualizing *the fantasmatic logic*, I build on the Lacanian concepts of lack, desire, and fantasy (i.e. Gunder, 2005; Gunder & Hillier, 2009). Lacan suggests that at the 'mirror stage', a child in its early months "primordially identifies with the visual gestalt of his own body. In comparison with the still very profound lack of coordination in his own motor functioning, that gestalt is an ideal unity, a salutary imago" (Lacan, 2006: 113). In this way, "the infant acquires its first sense of unity and identity, a spatial imaginary identity" (Stavrakakis 1999: 17). The difference between the whole, total, and ideal image and the fragmented experience of the infant constitutes lack, which must be understood as "the lack of being" (Lacan 1988: 223). Notably, 'lack' causes a desire to arise (Lacan, 1988). It is the desire of being is to 'fill' the 'lack' and become 'whole' and 'complete'.

According to *the logic of risk*, cities live under the assumption of existing threats and risks. Respectively, we contend that the city is a 'lacking subject'. It lacks the sense of full protection and complete security. Thus, based on the Lacanian conception, a 'fantasy' of seeking 'complete' and 'whole' security rise constantly. Significantly, fantasy has a decisive role in sustaining the subject as desiring and tells it how to desire (Glynos, 2001). According to Žižek, "desire is not something given in advance, but something that has to be constructed" and articulated through fantasy (Žižek, 1991: 6).

While the logic of risk grasps the existing and anticipated risk conditions of the city, the fantasmatic logic captures the motives behind the desire to change the current insecure conditions and to imagine the better peaceful and harmonious future of the city and its society. This logic deciphers the city future visions of decision-makers and practitioners as they seek to bridge the current and anticipated risk conditions. This imaginary mode transcends the undesirable or miserable conditions of the current risk city through a provision of urban scenarios of a secured city, such as the 'sustainable city', 'ecological city', 'zero-carbon city', 'resilient city', 'green city', and 'healthy city'. Therefore, this logic grasps the imagined scenarios that seek to fill the 'lack' of security that is related to risk. Thus, the imaginary logic offers the means to understand why specific spatial and social practices are constructed, maintained, and transformed. The function of the fantasy is in filling in the insecurity of the risk city by providing us scenarios for a better city and great sustainable life following urban plans and practices oriented to risk management.

3. The Risk City Oriented Practices

The logic of risk and the fantasmatic logic, which articulate the risk city, comprehend the motives, justifications, and nature of planning practices, which are applied to cope with threats that face the risk city, as Figure 1 demonstrates. The risk city is always attempting to overcome its perceived risks, which are 'lacks' or 'wholes' according to the Lacanian framework, through spatial, social and economic practices, as well as through practices of representations maintaining a certain imaginary.

When a type of risk emerges and becomes scientifically observed and accepted, it constructs spatial, social, and political practices. Giddens (1976) suggests the term "double hermeneutic" to



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refer to the observation that “when scientific concepts become generally accepted as the means of making sense of the society they not only reflect but also construct social practices” (Häkli: 2009: 14). In this sense, the accepting of climate change risk for example, lead to the constructing of new spatial and social practices. From the fantasmatic logic perspective, these practices come to overcome conceived threats, and to 'fill' and 'bridge' the 'lack', which risk produces in the city. John Friedmann (2002: 3) posits that utopian thinking is about imagining a future that is radically different from what we know as the prevailing order of things. Thus, the risk city seeks to plan for certainty aiming at achieving a more secured city and city of trust. Thus, the planning of risk city is related to the dreams, desires, and visions of how to contend, and ultimately eliminate the currently insecure city conditions. The 'fantasy' of achieving 'fullness', 'harmony', a 'sustainable' and 'resilient' city in the future transcends the insecurity gaps of cities at the present.

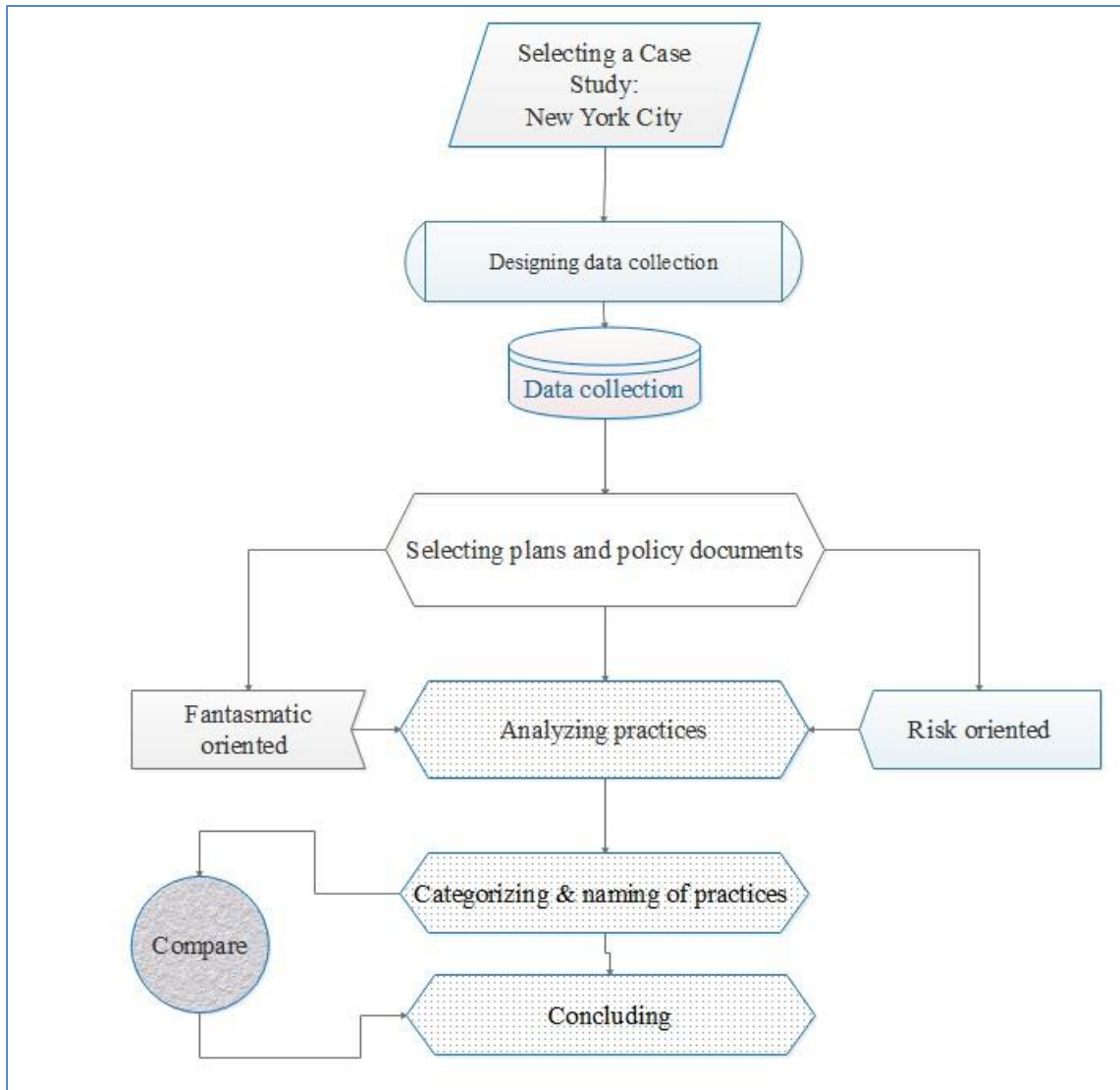
Figure 1. The logics of the risk city and its practices



4. Methods: The Case of New York City

In recent years, under the assumption that climate change poses a serious risk to cities around the world, many cities around the world have been grappling with climate change using master, strategic, and action plans aimed at mitigating greenhouse gas emissions and adapting to the anticipated, albeit uncertain, impacts of climate change. This section examines the recent the decisive role of risk resulting from *climate change* in framing and forging the planning of New York City, identifies the major practices in coping with anticipated risk.

Figure 2. Research Methods



This research applied the framework of the risk city to identify and understand the risk-oriented planning practices in New York City. In brief, Figure 2 presents the methods of identifying these practices. Accordingly, the methods analyze each planning practice of these plans based on the two logics: the risk and fantasmatic or the imaginary. Based on that, a risk-oriented practice is that which come to address a type of risk, and at the same time has a fantasmatic target, i.e. it



comes to contributing to the 'filling of a lack' that is related to threats that a city anticipated to face.

For the purpose of this study, we reviewed the first master inclusive plan of New York City, *PlaNYC2030*, which was launched on Earth Day 2007, and all later plans related documents published by the city including: *OneNYC - One New York: The Plan for a Strong and Just City* (2015, 2017, 2018); *New York City Panel on Climate Change 2015; PlaNYC: Progress Reports 2009-2017; Climate Change Reports; Energy Conservation Plan* (2008); *Greenhouse Gas Inventory* (2008); *Municipal Energy Conservation* (2008); *Think Locally, Act Globally: How Curbing Global Warming can Improve Local Public Health* (2008); *PlaNYC: Inventory of New York City Greenhouse Gas Emission*. (2009); and *NPCC - New York City Panel on Climate Change: Climate Risk Information* (NPCC, 2009, 2015, 2017).

5. Findings: Risk-oriented Planning Practices of New York City

This section presents the main practices, which we identify through the review of the recent NYC planning documents, mainly *PlaNYC* and *OneNYC*. These plans are ambitious and landmark sustainability and resiliency blueprint aiming at charting the city's future for the coming decades and addressing the challenges of climate change-related risk (Rosenzweig et al. 2010; Rosenzweig and Solecki, 2010b; Solecki, 2012; Rosan, 2012; Jabareen 2015; *PlaNYC*, 2014). I identified four major categories of risk-induced planning practices as follows: **a. Visioning**

New York City NYC is a mega city with approximately eight million people, and its target population for 2030 will surge past nine million (*OneNYC*, 2017). Based on the review of the recent various plans of NYC, mainly *PlaNYC 2030* and *OneNYC* (2015, 2017), we conclude that the city decision makers and planners portray NYC as a city at risk: *A Risk City*. Most interestingly, the climate



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change related risk is at the departure point of the problem statement, visioning, and justification for the urgency of the recent planning of the city.

A fundamental assumption of *PlaNYC 2030*, which is the first inclusive master plan of the city is that “climate change poses real and significant risks to New York City” (PlaNYC, 2009: 39). Furthermore, “climate change poses a range of hazards to New York City and its infrastructure” and that “these changes suggest a need for the City to rethink the way it operates and adapts to its evolving environment” (NPCC, 2009: 3). The planning documents suggest that climate change is likely to bring warmer temperatures to NYC, as the mean annual temperatures projected by global climate models are expected to increase by 1.5- 3 degrees (Fahrenheit) by the 2020s, 3-5 degrees by the 2050s, and 4-7.5 degrees by the 2080s (NPCC, 2009). The city will also experience more intense rainstorms, and heat waves are also expected to become more frequent, intense, and longer in duration, and sea levels are likely to rise, with an increase of 2-5 inches by the 2020s, 7-12 inches by the 2050s, and 12-23 inches by the 2080s.

New York City has almost 578 miles of coastline and over half a million residents living within the current flood plain, and this poses a particularly dangerous risk to the city. NPCC holds that New York City already faces the probability of a “hundred year flood” once every 80 years. This could increase to once every 43 years by the 2020s and to once every 19 years by the 2050s. As a coastal city, PlaNYC concludes, “we are vulnerable to the most dramatic effects of global warming: rising sea levels and intensifying storms” (PlaNYC, 133).

Countering the climate change related risk is central to the visioning of NYC and its planning.

PlaNYC begins by diagnosing the local and global climate change crisis as problematic and critical for NYC and the world as a whole. According to the Plan, NYC is a globally responsible, pioneering, modern and innovative city – a city with an “unending sense of possibility” (PlaNYC:



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130). Still, PlaNYC acknowledges, “in spite of our inherent efficiency, we can do better. And we must. Instead, we are doing worse” (PlaNYC, 135). As one of the world’s most spectacular cities, planners hold, NYC should seize the opportunity and “define the role of cities in the 21st century and lead the fight against global warming” (PlaNYC, 130). The City “cannot afford to wait until others take the lead” on curbing climate change. “New York has always pioneered answers to some of the most pressing problems of the modern age,” the planners argue, and “it is incumbent on us to do so again, and rise to the definitive challenge of the 21st century” (PlaNYC, 9). Furthermore, PlaNYC’s vision generates a sense of local and global urgency: “unless the public...appreciate[s] the urgency,” it warns, “...we will not meet our goal” (PlaNYC, 110). “Meanwhile, we will face an increasingly precarious environment and the growing danger of climate change that imperils not just our city, but the planet. We have offered a different vision... It is a vision of New York as the first sustainable 21st century city— but it is more than that. It is a plan to get there” (PlaNYC, 141). PlaNYC promises a better future: “The result, we believe, is the most sweeping plan to strengthen New York’s urban environment in the city’s modern history... we have developed a plan that can become a model for cities in the 21st century” (PlaNYC, 10): It is a vision of providing New Yorkers with the cleanest air of any big city in the nation; of maintaining the purity of our drinking water;...; of producing more energy more cleanly and more reliably, and offering more choices on how to travel quickly and efficiently across our city. It is a vision where contaminated land is reclaimed and restored to communities; where every family lives near a park or playground; where housing is sustainable and available to New Yorkers from every background, reflecting the diversity that has defined our city for centuries (PlaNYC, 141).



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The new recent plan *OneNYC* (OneNYC 2017: 5) is organized around four primary visions, which at large are related to the emerging and anticipated climate change risk, economic growth, equity, sustainability, and resiliency: (1) *Growth*: NYC as the world's most dynamic urban economy in the world. (2) *Equity*: NYC "will have an inclusive, equitable economy that offers well-paying jobs and opportunity for all to live with dignity and security;" (3) *Sustainability*: NYC "will be the most sustainable big city in the world and a global leader in the fight against climate change;" (4) *Resiliency*: "New York City's neighborhoods, economy, and public services will be ready to withstand and emerge stronger from the impacts of climate change and other 21st century threats."

b. Just planning practices

The terms of equity, justice, equality, fairness, and urban rights are crucial moral terms for planning the risk city, and for addressing the injustices and inequalities of contemporary cities. The literature suggests that the more just the city is, the more efficiently it will cope with climate change (Jabareen, 2015). Likewise, inequality leads to greater environmental degradation and that a more equitable distribution of power and resources would result in improved environmental quality (Agyeman et al., 2002). Furthermore, Climate change injustice occurs along ethnic, gender, class, and racial lines involving neighborhoods and communities (Mohai et al., 2009). Since all societies contain individuals and groups who are more vulnerable than others and lack the capacity to adapt to climate change, planning must address this issue in terms of practices and promoting urban justice.

New York is a diverse city with 5 boroughs, 59 community districts and hundreds of neighbourhoods. Moreover, all five New York City boroughs "have vulnerable coastline." Moreover, the massive growth proposed by PlaNYC will certainly affect these communities and



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may even “erase the character of communities across the city” (PlaNYC: 18). Yet, despite the significant planning it embodies and the crucial dilemmas it raises, *PlaNYC* the mechanism and procedures it proposes for facilitating citizen participation in the planning process are wholly inadequate (Angotti, 2008, 2010; Brian, 2011; Finn, 2008; Finn and McCormick, 2011; Marcuse 2008; Markey, 2007; Metro APA, 2007; Rosan, 2012). The public participation in the planning process was inadequate and insufficient for meeting the planning challenges stemming from climate change for one of the world’s most socially and culturally diverse cities. *PlaNYC* poses important urban dilemmas but does little to elicit real community participation. Persuasively, Brian Paul (2011: 2-3) argues that: “*PlaNYC* 2030 is a top-down bureaucratic initiative with little community involvement and “buy-in” and is not well-integrated with the rest of city policy making.” Angotti (2008) argues that *PlaNYC* 2030 is actually a strategic real estate growth plan, and its presentation of “sustainability” is primarily a public relations effort. Dan Miner (2011: 1) suggests, “The public wasn’t involved in creating the plan, so no grassroots constituency or broad public support ever developed around it.”

Although *PlaNYC* notes the existence of environmental injustice in the city, it fails to address the issue in a serious manner and takes no practical measures to mitigate the phenomenon.

Convincingly, Tom Angotti (2010: 3) argues that the city’s 59 community boards are: “Still invisible in the 2030 plan barely mentioned in the scores of spreadsheets, maps and colorful images that herald the coming of the green city”.

Significantly, some scholars show the persistence of unequal and unjust environmental conditions among various communities of poor people and of color in New York (Rosan, 2012: 963-6; Sze, 2007; Corburn, 2002; Restrepo and Zimmerman, 2009). *PlaNYC* notes the existence of *environmental injustice* in the city, it fails to address some major issue. For



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example, planners acknowledge that most brownfields are concentrated in low-income communities, resulting in a case of severe environmental injustice (PlaNYC: 41). The owners of such land “often find that their financial interests dictate development plans that minimize cleanup requirements” and “may choose new uses for the land” that “do not reflect community needs or desires” (PlaNYC: 42-42). Moreover, “in some communities, the impacts of exposure to local air emissions have likely contributed to higher asthma rates and other diseases” (PlaNYC: 119). These clear cases of environmental injustices also go unaddressed by the plan. Yet, only recently the term justice has appeared in the NYC planning documents through the planning document of *One New York: The Plan for a Strong and Just City* (OneNYC) in 2015 (see also progress report *OneNYC 2017*). OneNYC (2017: 125) acknowledges the environmental injustice in the city. Accordingly, "OneNYC explicitly seeks to address the disparate environmental conditions that have historically resulted in diminished health outcomes, economic opportunities, and quality-of-life in some of our city's neighborhoods". These injustices are related to "public health impacts from poor air or water quality, disproportionate exposure to contamination and toxins, and increased risks related to chronic exposure to extreme heat and the urban heat island effect." According to the plan, the City has developed two bills which "will provide the City and all New Yorkers the necessary information to enhance community participation and deliver environmental justice through the City's deliberations and actions" (OneNYC, 2017: 125). Interestingly, OneNYC suggests that NYC will have an inclusive, equitable economy that offers well-paying jobs and opportunity for all to live with dignity and security, and seeks to ensure that "all New Yorkers have access to education, well-paying jobs, physical and mental health care, and other services and opportunities that will allow them to live in dignity and security" (OneNYC 2017: 81). Significantly, OneNYC goes beyond and suggest raising the minimum wage, which



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already has given to City employees, and which has "brought hundreds of thousands of New Yorkers out of poverty or near poverty". OneNYC suggests fighting for higher wages and "estimated that 750,000 people would have been lifted out of poverty or near poverty if the minimum wage had been \$15, rather than \$7.25, in 2013. With a higher minimum wage law now enacted, the rate has climbed to \$11 in 2017, raising an estimated 281,000 New York City residents out of poverty or near poverty above the 2013 baseline. The City has also expanded programs to increase opportunity, including job training and educational initiatives, as we work toward our goal of reaching 800,000 New Yorkers out of poverty or near poverty by 2025" (p. 83).

c. Adaptation practices

The concept of adaptability pertains to the ability of a present city to adapt to anticipated and uncertain threats. Adaptation means "controlling uncertainty – either by taking action now to secure the future or by preparing actions to be taken in case an event occurs" (Abbott, 2005: 237). Understanding future vulnerabilities, their exposure, and the response capacity of interlinked human and natural systems is challenging, particularly because the interaction of various social, spatial, economic, and cultural factors have not been fully understood or considered to date (see: IPCC, 2014). Through its recent plans, NYC proposes various adaptation policies include measures to strengthen coastal defenses, fortify the city's critical infrastructure, upgrade buildings, protect infrastructure and critical services; updating the flood plain maps to better protect areas that are most vulnerable to flooding; and working with at-risk neighborhoods across the city to develop site-specific plans.



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Furthermore, the City developed preliminary climate resiliency guidelines which aim to embed resiliency across the City's capital program by providing forward-looking climate data to be incorporated in all capital projects. This is a significant shift which shows how "the City invests and operates to ensure that New York is prepared for the impacts of climate change including shocks like Hurricane Sandy and chronic stresses like sea level rise and rising temperatures" (OneNYC, 2017: 183). Interestingly, the City launched a Community Emergency Planning Toolkit, which supposed "to help communities become more resilient". The toolkit covers how New York City plans for hazards and guidance for how communities can create their own emergency plan. The toolkit includes also a guidance for emergency planning specific to New York City, and a plan template and scenarios for communities to develop their own emergency plan, with examples of other community

Recently, and following Sandy, the most disastrous storm that the city face in modern times, the plan OneNYC (2018) suggests that "our neighborhoods, economy, and public services will be ready to withstand and emerge stronger from the impacts of climate change and other 21st century threats" (p. 7). Through litigation against five fossil fuel companies most responsible for climate change, and the New Climate Resiliency Design Guidelines, the city will institutionalize climate-smart construction across the city. Furthermore, the City secured a "groundbreaking commitment to redraw our flood maps to better account for flood risk," and "major project milestones continue to be met across the City's over \$20 billion resiliency program," including interim flood protection measures, hundreds of home elevations, and launched a comprehensive \$106 million heat mitigation and adaptation program to keep New Yorkers safe during extreme heat.

d. Energy-oriented spatial practices

Energy-oriented practices refer to mitigation measures, which aim to reduce the sources of factors causing climate change, such as greenhouse gases and to the reduction of GHG emissions (CCC,

2010). The recent plans of NYC promote initiatives to improve air quality and reduce emission by 30% by 2030. In order to achieve this goal, the main planning strategy of the Plan is to counter major energy consumers sector in the city. Accordingly, it has these specific design strategies:

1. *Buildings Code: PlaNYC* calls for focusing major efforts on buildings, the city's largest energy consumers. The plan asserts that over two thirds of the city's energy is consumed within buildings, compared to a national average of less than one third. By 2030, at least 85% of the city's energy will be used by buildings that already exist today. If no action is taken, New York City's carbon emissions will grow to almost 74 million metric tons by 2030 (PlaNYC, 9). In this way, energy saving measures in existing buildings will result in a seven million ton reduction in global warming emissions. Approximately 50% of reductions in CO₂ emissions will come from increased energy efficiency in buildings, while 32% will result from improved power generation and 18% from changes in transportation. Planners explain their decision to not rely on "the widespread *use of solar energy in this* plan because its costs today are too high for general use" (PlaNYC:136). *PlaNYC* suggests "greening" the Building Code of New York and proposes focusing on the reduction of the amount of cement used in concrete, as cement production is an energy-intensive process that releases one ton of CO₂ for every ton of cement produced (PlaNYC: 106-7).



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2. *Transportation:* The most effective strategy, the Plan asserts, is to reduce the number of vehicles on the road and to simultaneously expand the city transit system and implement congestion pricing (PlaNYC, 136).

3. *Spatial practices:* The planning approach to NYC uses different spatial measures which are designed to use energy more efficiently, mainly *compactness, rezoning, infill, mixed land uses, transit-oriented development, and greening* strategies. The current overall population density in

New York City is 25,383 persons per square mile, and the highest density in the city is 128,600. Today, less than 4% of the City's buildings account for roughly 50% of the city's built area (PlaNYC, 102). *PlaNYC* proposes a number of planning strategies to increase compactness and density within the City. It suggests *infill* "everywhere it is possible" and development of spaces that "are now lightly used," such as parking lots in public housing areas that were developed in the 1930s (PlaNYC: 23). It also calls for developing underutilized areas throughout the city that are well-served by public transportation and other infrastructure; for capturing the potential of transportation infrastructure investments; and for decking over rail yards, rail lines, and highways. Through *rezoning*, *PlaNYC* directs growth toward areas with strong transit access; reclaiming underused or inaccessible areas of waterfront; and explores opportunities to spur growth through the addition of mass transit. *PlaNYC* fosters rezoning and redevelopment of brownfields, which according to the Plan represents one of the City's greatest opportunities and cover some 7,600 acres throughout the five boroughs. It encourages *mixed land use* in future development, mainly by mixing transportation use with residential areas and open spaces. Furthermore, *PlaNYC* adopts *greening* as a major strategy and proposes three primary ways to



ensure that by 2030, nearly every New Yorker will live no more than a 10-minute walk from a park: 1) by upgrading land already designated as play space or parkland and making it available to new populations; 2) by expanding usable hours at current, high-quality sites; and 3) by reconceptualizing streets and sidewalks as public spaces. The combined impact of these policies will be the creation of over 800 acres of upgraded parkland and open space across the city.

PlaNYC also calls for beautifying the public realm and undertaking “an aggressive campaign to plant trees wherever possible, in order to fully capitalize on tree opportunities across the city” (*PlaNYC*: 38). In addition, it proposes the expansion of “Greenstreets” and the transformation of thousands of acres of unused road space into green space. It also suggests offering incentives for green roofs, which can reduce runoff volume and aid other natural process by absorbing and/or storing water.

6. Conclusions

The findings reveal four categories of risk-oriented planning practices as Figure 2 shows. These practices are illuminated through the two logics of risk and the fantasmatic, as Table 1 shows. However, altogether these practices illuminate the planning mission of the city in coping with anticipated risk as perceived by the planners and decision makers. Accordingly, this paper concludes that planning practices are not mere objects, policies or actions, but responsive, logical, functional, and imaginary actions. These practices are responsive to targeted risk and articulated through the logic of risk and the fantasmatic logic. They have an imaginary function

aiming at reducing risk and filling security gaps aiming at achieving a more resilient and sustainable city.

Table 1. The logics of climate change risk-oriented practices

<i>Category of practices</i>	<i>Risk logic</i>	<i>Fantasmatic logic</i>
Visioning	The climate change poses serious threats to the very existing of the city. It is a 'lack of being' of the city. Accordingly, the sources of risk is	Visioning the city as resilient & sustainable city, which supposed to properly fill the 'lacks' of the city, and cope with future risk.
Adaptation	Risk reduction is achieved through adaptation measures	To achieve future resiliency where the city will be more 'fortified', and ready to withstand and "emerge stronger from the impacts of climate change and other 21st century threats." The idea is to ensure that the City's assets, services and infrastructure continue to function appropriately in the face of climate change.
Energy-oriented	Energy-oriented and mitigation practices aim to reduce the effects of climate change by reducing GHG emissions	To achieve a more sustainable city through energy measures.
Just-oriented	The impact of climate change is unevenly distributed and "socially differentiated" in terms of communities' capacity to address the uncertainties and risk and is therefore a matter of distributional equity and justice.	A more 'just city' and policies will promote resiliency and sustainability properly.

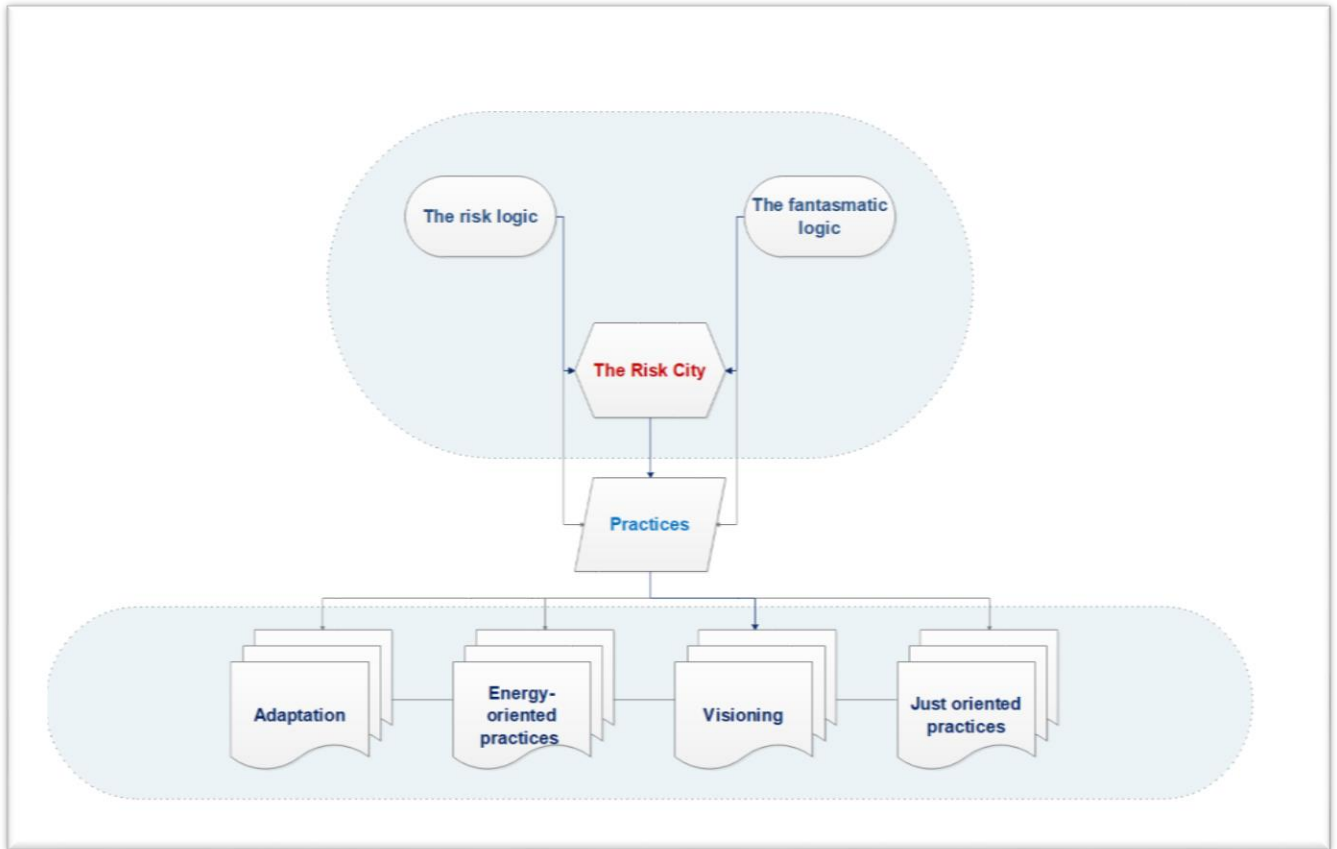


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This paper conceptualizes the contemporary city as a 'risk city' and identifies its risk-oriented practices as Figure 3 demonstrates. The conceptual framework of the risk city is articulated through two interrelated logics: (1) The logic of risk, which c

aptures the perceptions of risks and the manipulation and reshaping of the public opinion regarding the nature and intensity of the risks faced by the city. (2) The fantasmatic logic, which is based on the assumption that the city is a lacking subject in the sense of security, and, which grasps the motive behind the urgency of taking actions and deciphers the visions of the city futures of bridging the current and anticipated risk conditions, and the imagined scenarios that seek to fill the 'lack' of security that are related to risk. Being lacking, uncertain, and insecure, the risk city is eager consistently to fill the lack of insecurity. These two logics induce various specific social and spatial practices aiming at addressing risk and anticipated threats.

Figure 3. The logics of the risk city and its climate-change-risk related practices



Based on to this conceptualization, New York City is a risk city. As such, climate change related risk is a critical threat that the city strives to address through planning measures. Its recent ambitious plans imagine the city as a sustainable and resilient city who is adequately coping with anticipated harsh risk. The logic of risk suggests that the city is under critical climate change related risk. Figure 2 illuminate the framework of the risk city and its climate change risk appropriate practices.



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Furthermore, based on this framework and the analysis of NYC plans, this paper concludes that emerging risk and its resulting uncertainties challenge the concepts, procedures, and scope of conventional approaches to city planning and design. Planning the risk city' is an emerging approach in planning contemporary cities aiming at countering climate change impacts, adapting cities to future uncertainties, and protecting residents from environmental hazards and risk. Risk plays a central role in formulating the problem, visioning and goal setting, and the outcomes of such planning. Planning practices then seek to cope with issues of risk on the ground. These practices have a central function in serving the imaginary, or fantasy, regarding the city. In this context, the power of planning practices is supreme since it can manipulate and address the perceived risk and threats.

Eventually, risk stemming from climate change suggests to us that it has become too risky to continue business as usual; cities must undergo a paradigm shift in the way in which they plan their future.

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