Carnegie Mellon University

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The Local Ecology of New Movement Organizations

DISSERTATION
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Submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
In
Public Policy and Management

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April 12, 2011

Abstract

Recent scholarship from political science, urban studies, and sociology conceptualizes the city as a space of decentralized democracy – a view emphasizing localization, participation, difference, and anti-hierarchical organizational form. Instead of conceiving the city as a place of atomized individuals and a locale for market exchange, this alternative framework recognizes the city's role as "civitas" – a "space of active democratic citizenship" and "full human realization" based on open and free encounter and exchange with difference. The current research emerges from and fills a need within this perspective by examining how local urban contexts undergird and bolster new movement organizations (NMOs). Theory elaborates how urban density, land-use mix, housing age diversity, and connectivity generate and enable interaction with the social diversity fundamental to decentralized and anti-hierarchical NMOs. In addition, theory also examines how urban walking mediates the relationships between these urban contextual traits and NMOs.

Linear regression is used to assess the direct effects of density, connectivity, land-use mix, and urban walking on NMO activity (measured as human rights, environmental, and social advocacy groups), and the Sobel test is employed to assess mediation. Data to measure the NMO dependent variable come from the 2007 ZIP Code Business Patterns, while urban contextual independent variables and socio-economic and demographic measures are drawn primarily from the 2000 U.S. Census. Regressions at the ZCTA level show that NMO activity is positively predicted by density, connectivity, and housing age diversity. Furthermore, Sobel tests indicate that walking mediates the relationships that NMOs have with density, connectivity, and land-use-mix. Several additional analyses are also performed. First, Guidestar Form 990 data are

employed to validate the NMO dependent variable. Second, inclusion of an ideology measure in the regression estimations shows that the relationships of interest are not confounded by "liberalism". Third, cross-lagged regressions are employed to investigate "self-selection" effects. Finally, counterfactual cases are explored by estimating regressions with several alternative dependent variables. While coefficients on the independent variables of interest are typically larger and more often in the predicted direction when NMOs are employed as the dependent variable, results for several of the alternative dependent variables shed light on the main results by showing that urban contexts are conducive to specific kinds of activity.

Acknowledgements

I would like to thank several people for their help and support. First, my family. Mom, Dad, Chris, and Nicole, I want to express my profound gratitude for everything you have ever done for me. Your lifelong support, love, and encouragement have meant everything, and have helped me see this through. Thank you. Helen, your patience, help, understanding, intelligence, and love are more than I deserve, and have made this possible.

This dissertation would also not have been possible without my advisers. Denise, you are a true mentor and a friend. I cannot thank you enough. Terry, I greatly appreciate your help on this project, and look forward to future endeavors. Richard, I am fortunate to have you as a colleague, and continue to learn from you all the time. Thank you, Lowell, for your help on this and past papers.

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1. Introduction

This dissertation addresses several interrelated research questions. Foremost, it explores the relationships between cities and innovative political activity. Specifically, it probes whether city contexts activate and undergird new movement organizations (NMOs), defined as decentralized, anti-hierarchical organizations pursuing liberty, egalitarianism, and solidarity. It also elucidates how one's unique experiences in cities – the ways in which an individual interacts with and makes use of urban environments and spaces – relates to this particular type of political phenomena. The thesis identifies the precise urban contextual traits that pertain to these effects, postulates how these traits interact with the ways in which individuals experience cities, and shows the subsequent implications for political outcomes. In other words, this research looks at the ways in which cities act as agentic forces in the political realm by exploring the intricate inter-relations between the distinct traits and qualities of cities, our individual experiences of them, and NMOs. I contend that the physical accessibility characteristic of dense, diverse, walkable cities enables a social accessibility to a variety of ideas, actions, and happenings. Encounter with difference is fundamental to the orientation of NMOs. As such, through their capacity to generate and facilitate encounter with difference, cities serve as a primary social setting for these new organizations. Furthermore, I propose that pedestrian activity – i.e. walking – bridges between the physical accessibility of urban context and the social accessibility central to NMOs. Through walking, people experience both the physical and social diversity of their city in an engaged manner. Therefore, I contend that walking mediates the relationships between urban context and NMOs. This thesis develops these ideas, formulates them into testable hypotheses, and submits them to empirical test for U.S. cities.

Examining the links between urban context, walkability, and NMOs contributes to and extends the prominent work on Political Opportunity Structures (POS). As McCright and Clark (2006) explain, research should employ the POS conceptualization to probe the factors that cause "variation in the mobilization of social movements across U.S. communities." Describing the POS as the "structure and dynamics of the political environment", they note that much past research has sought to connect the emergence and mobilization of social movements to specific characteristics of the external political environment, such as institutional, state-based variables. Yet, McCright and Clark contend that existing accounts of political opportunity structures too rigidly define the concept as equivalent to institutional factors, and argue that it remains for future work to expand POS boundaries to include additional aspects of political, social, and cultural contexts that assist in the mobilization of social movements.[1] By looking at the relationships between urban contexts, walkability, and NMOs, this work extends the concept of POS by examining a number of other factors that help explain the emergence and mobilization of movement organizations. I agree with McCright and Clark that state-based institutions are not the only external environmental factors contributing to the formation of movement organizations. However, I extend their definition[2] of non-institutional factors to study the ways in which urban spatial contexts undergird NMOs. By doing so, I add to and expand upon past research into the "contextual structures" for social movements and movement organizations.

[1] Referring to their study of the U.S. environmental movement, McCright and Clark (2006) write: "Our emphasis in this chapter was the local political milieu in which the environmental movement operates. Yet, other elements of this movement's external environment are crucial to understanding its emergence, trajectory, and outcomes. We adopt Dieter Rucht's tripartite distinction of the political, social, and cultural dimensions of the overall contextual structure. Not only is each an important part of the environmental movement's external environment, but their key causal influences come from their dynamic interactions."

[2] McCright and Clark study the role of several non-institutional factors – including interest groups, other social movement organizations, and individual citizens – in the emergence, mobilization, and outcomes of the environmental movement in 257 U.S. cities.

There are several additional motivations for this research. First, by postulating the city as a context for NMOs, I hope to add to the growing scholarship revealing the ways in which modern cities enable important social processes. Jennings (2001) suggests that in the Western tradition, cities have been conceptualized as venues for two different forms of social activity. First, some portray the city as an "urbs": the city as economic market, place of commercial transaction and exchange, social individualism, and self-interest. Much recent social scientific research [Acs and Arrington 2004; Currid 2007; Florida 2002, 2005; Glaeser 1994, 2003, 2007ab; Glaeser, Kallal, Scheinkman, and Schleifer 1992; Glaeser, Scheinkman, and Schleifer 1995] explores the city as the setting for economic accumulation, market exchange, and the force behind growth. This research has been influential in portraying the ways in which current-day economic processes – centered on human knowledge, skills, creative capacities, and innovation – are supported and facilitated by the proximity, diversity, and cultural offerings afforded by the modern city. Yet, this economism is not the only conceptual framework through which to understand cities and their importance for social relations. Nor is it the perspective that this thesis takes. This study is instead situated within a different tradition, described by Jennings as "the city as 'civitas'": the city as a "space of active democratic citizenship, equality under the law, and civic virtue", as well as "full human self-realization". Instead of a city based upon individualistic "instrumental relationships of economic transaction", the city as civitas is organized around the "active pursuit of shared purpose", and the "sharing of a common moral space, common commitment to each other, and a common political identity". Likewise, Young (1990) presents the city as an example of decentralized democracy – "diversity without exclusion", as she calls it – instead of as a model of either atomized individualistic utilitarianism or exclusionary communitarianism.

Given the predominant focus – academic and popular – on the city as context for economic processes, this research adds to and further develops the second category, the city as civitas. By hypothesizing cities as spaces for NMOs, this thesis presents a specific characterization of the city as civitas. There are a number of reasons for focusing on this particular account. One primary reason is that although current research has looked at other important overlaps between politics and the city, there is a distinct lack of scholarship concerning this intersection of NMOs and cities. For instance, a number of studies [Cox 1968; Gainsborough 2001, 2005; Ley 1994; McGirr 2001; Oliver 2001; Sauerzopf and Swanstrom 1999; Walks 2004, 2006; Williamson 2008; Wolman and Marckini 1998, 2000] have pointed to differences in voting behavior, party preferences, and political attitudes between people living in and out of cities and urban contexts. Other important work [Ferman 1996; Logan and Molotch 1987; Mollenkopf 1996; Molotch 1976, 1993; Peterson 1981; Stoker 1996; Stone 1993; Weir, Wolman, and Swanstrom 2005] has focused on urban governance and the characteristics of the coalitions that influence municipal government and policy formation. Castells' (1983) study on historical urban movements remains an important contribution. By contrast, little analysis probes the ways in which current-day movements relate to cities. Nicholls and Beaumont (2004, p.107) claim that scholarship devotes insufficient attention to the "urban arena as a site for contentious politics." More specifically, Nicholls (2008, p.841) points out that "…few have actually opened up the urban 'black box' to identify the processes and mechanisms that allow cities to play specific roles in broad social movements." I contend that the "processes and mechanisms" linking NMOs and cities stem from the centrality of diversity to NMOs and the role that cities play as spaces of difference. To date, these relationships have been neither conceptually nor empirically probed. Therefore, it remains to further develop the city as civitas through investigations of the role

played by cities in the formation of NMOs. This research contributes to filling that space by hypothesizing and testing specific mechanisms and processes by which cities enable these organizations.

Another motivation for exploring NMOs is to emphasize and elucidate the important distinction between "strong" and "thin" democracy, and to give that distinction a current-day instantiation by showing that cities are locales for strong democracy. Standard liberal democratic pluralism – or thin democracy as it is colloquially called – is understood to denote a governmental system of the sort currently found in most modern constitutional republics, including the United States. A centralized system of representative delegates, it regards the individual as sovereign and atomized with fixed, inherent preferences. As such, to the thin democrat, politics is merely an instrumental process, meant to aggregate and choose from these individual preferences[3]. Because actual governing is delegated to representatives, proper functioning of this model relies on individual passivity and acceptance of authority. By contrast, "strong democracy" (Barber 1984), "expansive democracy" (Warren 1992), or "decentralized democracy" (Sennett 1999) is participatory in nature. It rejects the standard liberal precept that the self is atomized with fixed preferences, instead holding that individuals are socially constituted. As Barber (1984, p.188) writes, whereas thin democracy presents "politics as nothing more than the chambermaid of private interests", strong democracy is an alternative politics – a participatory one – satisfying the need for both sociality and individuality. Furthermore, given its understanding of individuals and politics as social and interactive, strong democracy emphasizes self-transformation through

[3] As Warren (1992, p.8) writes, thin democracy is based on a view that the "self is defined by interests that are formed prepolitically" and that these interests "reflect fixed desires", so that democracy "is primarily a means for aggregating prepolitical interests…and not a good in itself." Politics becomes merely an (p.9) "allocative or economic kind of activity, operating in a world of scarce values."

participation and encounter with difference. Strong democracy is "decentralized" since it regards individuals as social and open to change, in contrast to thin democracy's reliance on centralized institutions to aggregate fixed individual preferences. I argue that NMOs are modern forms of strong democracy, and that by studying them we gain concrete insight into an alternative to standard liberal representative systems. Also, the aims and structures of these groups are suited to cities. Because NMOs are devoted to self-determination, accessibility to diversity, and freedom from impositions, they thrive in dense, diverse, walkable cities, since such locales are where encounters with diverse views and people occur, and where open, free, and equal access to a broad array of experiences, ideas, and views is possible. Therefore, in this thesis I explore the idea that cities are a primary locale for strong democracy, thus enabling more precise statements concerning the city as civitas.

Probing these links between cities and NMOs is especially important in light of the increasing scholarly attention to decentralized social relations in general. As Cumbers et al (2008, p.185) describe, recent commentary on "globalization" and the "network society" posits a "new set of social relations", marked by "flatter, dynamic and more fluid forms of economic and social organization." In much of this commentary, these new social relations also become unbound from geography such that (Cumbers et al 2008) "…locationally defined communities are being replaced by delocalized networks of association." In essence, some analysts suggest that new social forms – impermanent, decentralized, anti-hierarchical relationships and organizational forms – are accompanied by decentralized spatial forms or even complete deterritorialization. By contrast, this thesis contests this increasingly prevalent idea, especially as it relates to politics. Instead, I argue here that the decentralized, anti-hierarchical social relations of strong democracy

and NMOs increasingly rely on and are bolstered by the spatial concentration and centralization provided by cities. Thus, this thesis is partly devoted to explicating the ways in which the centralization of space undergirds the decentralization of key political relationships.

The distinction between strong and thin democracy is also important because there have been numerous critics – both academic and activist – of thin democratic systems, many of whom suggest that they insufficiently meet the needs of the citizenry. Strong democracy – and specifically NMOs – is often offered as a potential alternative. In addition, Barber (1984, p.118) contends that strong democracy's sociality is important because the "history of the twentieth century should have taught us that when democracy cannot respond to the need for community with anything more than a pusillanimous privatism, other, more oppressive political ideologies will step in." Lastly, with the recognition that intolerance stems from isolation, Warren (1992, p.8) suggests that strong democracy's sociality and interactivity results in individuals that are "more public-spirited, more tolerant, more knowledgeable, more attentive to the interests of others, and more probing of their own interests." Thus, there are a number of compelling reasons to pursue a study of strong democracy, and this thesis does so through a focus on NMOs.

This dissertation discusses and expands upon these issues, as well as others. It is structured as follows. Part 2 presents relevant concepts. It begins by defining NMOs, looking specifically at their differences from past historical movements, the reasons for their recent formation, their values and aims, and their unique organizational forms. I then describe the ways in which these qualities make NMOs suited to urban contexts. Urban scholarship from a variety of fields clarifies these links. Finally, I explore the role of pedestrian activity in these processes,

demonstrating the important relationships of walking both to urban contexts and NMOs. These ideas are translated into formal hypotheses, which are also presented in this section. Part 3 discusses data, empirical methods, and results. Specifically, part 3 covers the nature of the data to be employed, the primary and control variables, the formal analyses, and presents the results in the context of the concepts developed earlier. Part 4 concludes, draws final implications, and discusses ways in which this research suggests future paths.

2. Concepts

This concepts section develops arguments and specifies hypotheses regarding the relationships between NMOs and cities. I begin by defining and characterizing NMOs. I then explain their relationships to urban contexts.

* * * *

2.1 New Movement Organizations

NMOs are diverse, decentralized, anti-hierarchical political organizations pursuing expanded democracy and enhanced liberty, equality, and solidarity. The concept of "NMOs" introduced here is unique, but originates from the distillation and synthesis of numerous extant literatures. As such, because the NMO construct does not follow one particular literature, it is not entirely characterized by its structure or issue area. Specifically, NMOs share characteristics with the "anti-systemic movements" described by Wallerstein and the "new social movement" organizations described by Offe and others. I also draw from literatures on volunteering and

civic engagement. This section briefly explores these literatures, and develops the NMO construct from them.

Sociologist Immanuel Wallerstein has long analyzed "anti-systemic movements". In a recent account he notes that (Amin, Arrighi, Frank, Wallerstein 1990, p.9-10) "for at least 150 years, if not longer, there have existed multiple movements throughout the world-system that have protested and organized against the multiple injustices of the existing system and have offered alternatives which they believed would bring about a fundamental change in and/or improvement of the situation." These "multiple movements" are typically referred to as "anti-systemic", and seek "greater democracy and greater equality in the world…." Furthermore, "to be antisystemic", writes Wallerstein (1990, p.36), "is to argue that neither liberty nor equality is possible under the existing system and that both are possible only in a transformed world." In past and current work, Wallerstein provides a description of both historical and new "anti-systemic movements"[4], providing examples and focusing on the values and principles that motivate them.

Wallerstein (2002) explains that historical anti-systemic movements were of two types: social – which were primarily socialist parties and trade unions waging a class struggle against the bourgeoisie or employers; or national – fighting for the creation of a national state, often against the imperial power to which they were colonized. Both emerged in the latter half of the nineteenth century and remained the dominant movements for close to one hundred years. These

[4] "Anti-systemic" movements are a specific kind of social movement. Nicholls (2007, p.607) defines social movements in general as "collective forms of contentious politics activated for the purposes of achieving political goals through non-traditional means (e.g. protest, boycotts, public campaigns versus strictly electoral politics)."

historical movements utilized a two-step strategy to achieve "fundamental transformations in social relations": gain power through the state, and then change the world. Historical anti-systemic movements intended to make society more egalitarian and democratic from conditions prevailing under existing economic, governmental, cultural, and social systems and sources of authority. Specifically, historical movements were often motivated by the French Revolution's slogan, "liberty, equality, fraternity" [5]. These movements argued for the universality of these concepts, but ultimately did not extend liberty, equality, and fraternity as far as promised, and in many cases made situations worse. Although social and nationalist movements had by the 1960s come to power over much of the world, they found that transforming society through the state was more difficult than envisioned. Under the leadership of labor or nationalist governments (Wallerstein 2002, p.33), "Alienating wage labor had not disappeared; on the contrary, it had increased as a percentage of work activity. There was little or no expansion of real democratic participation, either at the governmental level or in the workplace; often it was the reverse. On the international scale, these countries tended to play a very similar role in the world-system to that which they had played before. Thus, Cuba had been a sugar-exporting economy before the revolution and remained one after it, at least until the demise of the Soviet Union. In short, not enough had changed." Frank and Fuentes (1990) contend that historical movements in power across the world "failed to address or resolve problems of economic exploitation and deprivation; political oppression; peace threatening or disturbing insecurity (1987 witnessed the highest level of third-world wars ever); environmental degradation; ethnic, religious, gender,

[5] Wallerstein (1990, p.14) writes that "liberty" for the labor movement often meant "full rights of political participation, access to a secure economic base to make possible political and social choice, social control over the workplace and living space", whereas for the nationalist movements it meant "political, economic, and cultural autonomy as a collective group". "Equality" for the labor movement often meant "elimination of political, economic, and social differentials", whereas for the nationalist movement it was "embodied in the concept of formal sovereignty". Finally, "fraternity" for the labor movement meant "mutual aid and solidarity of the working classes which would thereby make possible the fraternity of all humanity", whereas for the nationalist movement it pointed to "solidarity of the people as a people rising above internal differences".

age, and class discrimination, marginalization, and injustice; regional, sectoral, and community (mal)integration or segregation; and individual and other crises of identity, which are more or less rampant everywhere…." Wallerstein (1990, p.38-9) concludes that "despite initial advances in social equality, political liberty, and international solidarity, in the longer run, the movements disappointed, and disappointed greatly, in all three domains." NMOs thus emerged to address those issues that the historical movements had neglected or made worse.[6]

Historical movements failed to address important social problems and fulfill their motivating values, thus leading to the rise of NMOs. The emergence of NMOs did not signal a value change, but instead a recognition that old institutions and organizational forms could not fulfill extant values (liberty, equality, and solidarity) and solve pressing social problems.[7] For instance, Offe writes that (1985, p.849-50) "personal autonomy is by no means a 'new' value; what is new is the doubt that this value will be furthered as a more or less automatic by-product or covariant of dominant institutions such as property and market mechanisms, democratic mass politics, the nuclear family, or the institutions of mass culture and mass communications. What is at issue is

[6] Offe (1985, p.836) writes that "…struggles and successes that were won on behalf of people as workers, employees, and recipients of social security transfers [the welfare state] were accompanied by a cumulative de-emphasis of the interests of people as citizens, as consumers, as clients of state-provided services, and as human beings in general. According to some logic of political compromise and interclass accord, the broadening of welfare state inclusion is not to be had without the exclusion of important dimensions of class conflict and the corresponding narrowing of its agenda. On the other side, the issue areas from which working class organizations (unions, socialist, social democratic, and communist parties) have largely withdrawn, and which they often had to abandon in the interest of their struggles for institutional recognition and the material improvement of the social and economic conditions of their core constituency, tend now to be occupied by [the NMOs]…." NMOs arose because historical movements failed to do what they had promised, and because they neglected additional social concerns that became important to growing segments of society.

[7] Offe (1985, p.849) suggests that "there is certainly nothing new in moral principles and demands such as the dignity and autonomy of the individual [liberty], the integrity of the physical conditions of life, equality and participation [equality], and peaceful and solidaristic forms of social organization [fraternity]. All these values and moral norms advocated by the proponents of the new political paradigm are firmly rooted in modern political philosophies (as well as aesthetic theories) of the last two centuries…."

not the values but the mode of implementation of values…." NMOs arose to fulfill these classic values – liberty, egalitarianism, and solidarity (LES) – while rejecting many of the precepts (statist orientation, centralization, hierarchical organizational form) of the older movements.[8] In addition, with increasing societal complexity come demands that LES extend to more aspects of civil society than the narrower set with which older historical movements were concerned (i.e. industrial, class, labor matters). NMOs develop around these expanded priorities and create new institutions and organizational forms outside of party politics, the state, and the market, which are now regarded as insufficiently able to fulfill society's needs.

The new institutions and organizational forms that characterize NMOs merit attention. Drawing upon literature on the "new social movements", I contend that NMOs are (Offe 1985, p.826) "neither 'private' (in the sense of being of no legitimate concern to others) nor 'public' (in the sense of being recognized as the legitimate object of official political institutions and actors)…." As is also the case for new social movements, NMOs are instead a form of "non-institutional politics which is not provided for in the doctrines and practices of liberal democracy and the welfare state." Offe (1985, p.826-7) further explicates these organizational forms by comparing non-institutional politics to other forms of non-institutional action. He notes that a "minimum requirement for using the word 'political' for some mode of action is that the actor makes some explicit claim that the means of action can be recognized as legitimate and the ends of action can become binding for the wider community. Only those social movements that share these two

[8] Along these lines, Gundelach (1984) argues that the recent emergence (p.1050) of the "loose, open, and fragmented" "grass-roots movements" is a result of the bureaucratization of previous peasant and workers cooperatives. This bureaucratization has (p. 1062) "resulted in a weakening in the influence of the members. The gap between the centralized structure and the democratic ideology of the members demanding influence is a central part in the basis for a critique of present organizations. This perception becomes one of the explanations for the emergence of new kinds of voluntary associations."

characteristics have a political quality and will therefore interest us here." NMOs are the kind of non-institutional action – i.e. political action – where the means are legitimate and the ends are taken to be binding for the wider community, as in cell 4 of Figure 1. They exist in an "intermediate", non-institutional sphere that is neither state-oriented nor fully private. By contrast, cell 3 is an example of a non-political retreat into private concerns. In this kind of non-institutional action, a religious group uses legitimate means, but its ends are not intended to apply to the wider community (i.e. they are private). NMOs pursue LES, have non-institutional, decentralized organizational forms, and practice legitimate and binding political activity.

Figure 1: Schema of Forms of Noninstitutional Actors

ends / **means/actors**	**ends not binding for wider community if accomplished**	**ends are binding for wider community if accomplished**
means/actors not recognized by political community as legitimate	"private crime" 1	"terrorism" 2
means/actors are recognized by political community as legitimate	sociocultural movements advocating religious practices 3	"sociopolitical movements" 4

(reproduced from Offe 1985, p.827)

Also, recent scholarship (Wallerstein 1990, 2002, 2004; Graeber 2003; Offe 1985; Johnston, Laraña, Gusfield 1994) distinguishes them from the previous historical movements that focused on class or nationalist issues, and were statist, centralized, and hierarchical organizations. These NMOs are still committed to pursuing LES but have issue concerns extending beyond economic demands, and include environmental and ecology organizations, feminists, campaigns of racial or ethnic minorities, organizations for human rights, gay/lesbian organizations, antiwar organizations, and "alternative globalization" organizations. They regard their decentralized organizational forms as consistent with their ends. For instance, Graeber notes that these NMOs

have (Graeber 2003, p.327) no "organized structure", "central head or decision maker", or "central command or hierarchies", and are highly committed to diversity. Wallerstein (2002) underscores this diversity by noting that the Seattle alternative globalization protests included environmentalists and other "single issue groups" of the sort listed above, as well as "anarchist" groups, and trade unions. NMOs contend that hierarchical, centralized structures – whether state or capital – impede the spread of LES, limit self-determination, and lead to a relatively less democratic world. Importantly, the decentralized, anti-hierarchical organizational forms are actually very recent innovations. From the 1970s to early 1990s, many of these new movements mimicked political parties and retained many hierarchical elements, official membership, voting for officers, and bureaucratic domination. Some were even dominated by unions or political parties or other actors, such as the Tuscany environmental movements that were supported by mayors and their parties (Della Porta and Andretta 2002). Eventually there was a reaction against such hierarchy within the NMOs[9] themselves.

Finally, the relationships among liberty, equality, decentralization, and diversity are important to this study of NMOs and urban contexts. For NMOs, liberty means being free from constraints on self-management. To them, the major constraint to liberty is social inequality – the hierarchy and centralization that limits freedom by subordinating some individuals to others. Thus, as McKay, Elkin, Neal, and Boraas (2008, p.9) point out, NMOs regard liberty and equality as "mutually self-supporting" such that centralized and hierarchical institutions inhibit freedom and self-management. An illustration of the links between the ends of liberty, the means of social

[9] As noted, the earliest instances of these movements sometimes mimicked the hierarchy of political parties and states, or aligned themselves with parties and states. More recently, these movements have emphasized decentralization and anti-hierarchical forms. As such, the more recent anti-hierarchical instances of these movements are sometimes referred to as "new new social movements".

equality and decentralization, and diversity comes from the anti-statist, anti-capitalist German "autonomist" organization (also known as the Autonomen). Katsiaficas (2006, p.187) writes that: "the Autonomen are relatively unencumbered with rigid ideologies. The absence of any central organization (or even primary organizations) helps keep theory and practice in continual interplay. Indeed actions speak for most Autonomen, not words, and the sheer volume of decentralized happenings generated by small groups acting on their own initiative prohibits systematic understanding of the totality of the movement, a first step in the dismantling of any system. No single organization can control the direction of actions undertaken from the grassroots…. [The Autonomen] want self-determination and 'the abolition of politics', not leadership by a party." There is no imposed, constraining "ideology" and no centralized organization to enforce it, which would limit the ideas and actions accessible by individuals. Cumbers et al (2008) point out that centralized, "verticalist" politics is exclusionary, since this form of politics is more effective if diverse people, ideas, and approaches are excluded, leaving the centralized organization to efficiently enforce the ideological program[10]. Instead of the impositions of a central organization, the non-institutional, decentralized approach favored by NMOs is supposed to allow for encounter with diverse viewpoints and happenings, making possible self-governed and self-determined individuals and societies. These organizations contend that without social equality, some individuals will impose their views and tendencies on others. Those imposed upon will not encounter diverse experiences, people, and ideas, and thus will be hindered in their ability to self-manage. As Warren (1992, p.12) writes, "autonomy is an inherently social capacity that individuals develop through their interactions with others, by coming to know others both as separate human beings with their own unique capacities,

[10] "Verticalist" politics include political parties, unions, and representative governments. As Cumbers et al (2008, p.186) note, these institutions are characterized by "conventional hierarchical structures, vertical social relations based on delegation, and formal organizational processes."

problems, and interests, and as beings with whom one shares at least some experiences, problems, and interests." The socially equal, decentralized organizational forms of these groups permit the flourishing of and encounter with diverse ideas, actions, and happenings which are necessary for self-management and autonomous action.

Along these lines, Routledge (2003, p.335) writes that underpinning the NMOs "is a conceptualization of protest and struggle that respects difference, rather than attempting to develop universalistic and centralizing solutions", adding that out of this diversity has emerged a "coalition of difference". These coalitions of difference retain (Nicholls 2008, p.848) the "distinctive organizational, political, and ideological traditions" of their participants while also recognizing "their dependence on diverse and inclusive networks to address complex issues." This coordination with diversity is often founded upon a devotion to "loosely articulated concepts like ['justice', 'liberty', and 'equality'] that provide diverse actors with a common objective that can be applied to a wide variety of issue areas", while still permitting freedom for diverse approaches. Nicholls (2008, p.848-9) adds that as these coalitions of diversity take shape, participants learn about other issues, discover that "these issues are equally responsible for determining the livelihood conditions of their constituent groups", and thus "begin to perceive their particular issues in complementary ways". These discoveries eventually reorient movement organizations to broader campaigns for "justice", "liberty", or "equality", as opposed to narrower struggles for parochial concerns. The range of issues that can be effectively addressed is widened such that "the same cluster of insurgents from a city can play a major role in municipal living wage campaigns, metropolitan-based environmental justice campaigns, and national immigrant rights campaigns."

Therefore, NMOs are based upon the links between decentralization and encounter with diversity. These links – and especially the importance of diversity to these organizations – are central to my explanation of the relationship between NMOs and cities. Routledge (2003, p.334, emphasis added) alludes to this relationship when he writes that "grassroots globalization networks forge an associational politics that constitute a diverse, contested coalition of place-specific social movements." Cumbers et al (2008, p. 187, emphasis added) write that these horizontalist, decentralized, diverse political relationships need "spaces in which people can interact to mutual benefit, as opposed to the annual congress mechanism of traditional parties, designed to create a line to which members will adhere." The diversity that is a fundamental aspect of these decentralized political entities requires a social setting, and I propose that walkable urban contexts fulfill this role. Cities are spaces of difference, generating and enabling interaction with new social insights, influences, and activities, thus bolstering and undergirding NMOs. Therefore, having defined and characterized NMOs, the remainder of Part 2 is devoted to detailing how cities act as social settings for them. Specifically, I hypothesize relationships between urban contexts, pedestrian behavior, and this unique form of decentralized democracy – NMOs.

* * * *

2.2 Urban contexts, walkable cities, and new movement organizations

As noted, NMOs are instances of decentralized democracy. This decentralization emphasizes diverse encounters and social accessibility, evoking familiar depictions of the city and linking these organizations to walkable urban contexts. As instances of decentralized democracy, NMOs

are undergirded by the ability of cities to generate and facilitate access to diverse people and ideas.[11] I explicate these concepts throughout the remainder of this thesis, but they have a longstanding conceptual basis in established democratic theory. For instance, Sennett (1999, p.283) concludes that democracy thrives on features that are found in urban areas, writing that "decentralized democracy has a particular affinity to the modern city." Looking back to the agora of ancient Greece, he writes that (p.276) a democracy "supposes that people can consider views other than their own. This was Aristotle's notion in the Politics. He thought that the awareness of difference occurs only in cities because every city is formed by *synoikismos*, a drawing together of different families and tribes, of competing economic interests, of natives with foreigners." If authoritarianism implies the forced conformity to a single viewpoint, democracy is an opposing condition where one has access to and may be influenced by a diverse variety of views and modes of action. Early theorists felt democracy should thrive in cities, given urban diversity and the wide variety of choices available in cities. Likewise, Young (1990, p.226-7) offers the city as "an appropriate alternative vision of a democratic polity" based upon "an ideal of city life as a vision of social relations affirming group difference…without exclusion." Similar to Sennett, city life is (p.237) "a form of social relations" which Young defines as "the being together of strangers", a condition of being with those that are unfamiliar and likely different. She continues by explaining that (p.238) the "urban ideal expresses difference [and thus also democracy] as…a side-by-side particularity, neither reducible to identity nor completely other. In this ideal groups do not stand in relations of inclusion and exclusion, but overlap and intermingle without becoming homogeneous…." More recently,

[11] I have chosen to situate my analysis of NMOs and their relationship to cities within precise boundary conditions and cultural contexts, namely modern Western societies. I argue that comparatively, cities in the Western world are less rigid, have relatively more open governments, and are under relatively less social stress. As such, the nature of the choice sets in such societies and cities is broader and more conducive to NMOs.

Glaeser (2008) associates democracy with cities, noting that the atomized private spaces of "dispersed rural societies" historically led to monarchical rule, whereas the diverse, interactive public spaces of cities powered by urban density "connects citizens and enables them to meet and plan and talk" thus supporting "the coordinated action that creates and defends democracies."

More specifically, Nicholls (2008, p.841) writes that cities contribute to the formation of movement groups by acting as "relational incubators" that generate diverse social forms possessing high-grade specialized resources available for use by organizations. In addition, "the rich and diverse resources found in complex cities can only yield their advantages" through interactions and encounters between diverse social forms. Since location "in a common urban system facilitates bridging opportunities", cities both generate and enable the encounters with diverse social forms upon which NMOs are based. I now translate these general concepts into more concrete considerations of the precise mechanisms linking urban contexts and NMOs. As such, I first discuss the role of spatial context – sometimes denoted as "place" – in explanations of social outcomes. This leads me to characterize the components of "urban context", and to look at their links to social outcomes in general and NMOs in particular. These links mirror the above discussion of cities and democracy, and lead to several testable hypotheses. Finally, I explain how the value of urban context is fulfilled by pedestrian activity, and present an argument that the effects of urban context on NMOs are mediated by walking. These relationships are also subsequently hypothesized.

2.2.1 Urban context

This thesis is particularly influenced by "human ecology" theories in sociology. The human ecology perspective contends that human beings are subject to environmental influence, and it attempts to explore and characterize the relationships between social and behavioral outcomes and external environments. For instance, in a classic statement, McKenzie (1924, p.288) defines human ecology as "a study of the spatial and temporal relations of human beings as affected by the…environment." In his seminal account, Hawley (1950, p.12-13) defines the "environment" as "all external forces and factors to which an organism or aggregate of organisms is actually or potentially responsive", or in other words, "the medium in which an organism exists."

Of relevance to the current work is how the classic questions of human ecology are mirrored in more recent debates over the influence of "place" [12] on social and behavioral outcomes. A recent exchange between Gans (2002) and Gieryn (2002) reveals the contours of this important conversation. Gans (2002) rejects the idea that place has independent and direct causal impacts on social processes and outcomes. To Gans, either place has direct effects on social outcomes, or it enters causal relations only as acted upon by its social users. He definitively argues for the latter, saying that (2002, p.330) "the direct effects of [place] on society are limited". Gans (1968a,b,c) critiques "the fallacy of physical determinism", contesting the notion that the physical environment affects social phenomena. He (1968a) contends that there is no direct effect of physical form on social outcomes, arguing instead that individuals select into locations that enable them to fulfill existing predispositions and sought social behaviors. The social behaviors and outcomes present in certain places are not due to place-specific traits, but instead to the characteristics and predispositions of the persons who live in and sort into those places.

[12] Place refers to spatial context, built and physical form, or natural or constructed environments.

Gans argues (1968b) that the working-class culture and demographics of neighborhood inhabitants explain the "urban vitality" and "abundant street life" in places like Greenwich Village, as opposed to the urban design characteristics that Jacobs (1961) singles out. Elsewhere (1968c), he counters Wirth's (1938) famous ideas regarding the social effects of urban density, diversity, and size by writing that most urban residents are isolated into homogenous ethnic, occupational, or cultural groups that shield them from the supposed effects of physical form. Conversely, Gieryn (2000, 2002) adopts an opposing perspective, arguing instead that the "agentic" properties of place should be recognized. Gieryn (2000) suggests that place has three necessary and sufficient conditions: geographic location, material form, and investment with meaning and value. He writes that a "spot in the universe, with a gathering of physical stuff there, becomes a place only when it ensconces history or utopia, danger or security, identity or memory" (p. 464-5). Contrary to Gans, place is neither background nor an intermediary variable in social processes, but instead is "an agentic player in the game – a force with detectable and independent effects on social life" (p. 466). Gieryn (2002, 342) indicates that he "respects the agentic capacity of material realities (natural or built, volcanoes or street-grids) and acknowledges that outcomes (beliefs about nature, behavior patterns, social change) are substantially and autonomously caused by this 'stuff'."[13]

[13] Gieryn's perspective does not imply a place-based or environmental determinism. Indeed, the original human ecologists argued against all deterministic theoretical approaches. For instance, Hawley (1950, p.18) writes that the "tendency to view environment, and especially the concrete, tangible environment, as the sole cause of behavior…has a long history…. The defects of such a monistic view have been repeatedly shown…. All events are effects of multiple causation. Speaking very generally, there are always at least two causes operating where life is concerned – organic and inorganic, or organism and environment. Behavior is a product of the interaction of the two; the organism is not the only cause of its activity, nor is environment the only source of stimulation. Unfortunately, critics of environmental determinism have often been inclined to omit completely the environmental factor, which simply results in the substitution of a different form of determinism…. [Specific social outcomes and human behaviors are] the result of organism interacting with environment." As such, this dissertation recognizes the "agentic properties of place", but not deterministically.

This thesis focuses on the effects that a specific kind of place – cities – has on political outcomes. I agree with Gieryn that place is not merely a background to social processes, and will explore how cities act as contexts for NMOs. Scholars have written about cities and the effects of urban environments for close to a century, focusing on the outcomes arising from the physical and social forms that cities take. In this vein, Park (1915) argues that the city has both a physical and a moral order which interact to shape and mold one another. Commenting on Park's influence on later urban sociology, Sennett (1969, p.13) suggests that Park "believed that the city could be described in such a way that its functional, tangible character would ultimately reveal the cultural and ethical possibilities for life in it." For Sennett (1969, p.6), the tangible character of the city centers on cosmopolitanism, diversity, and the coexistence of a variety of people and functions in one location. Urban cosmopolitanism makes the city "the set of social structures that encourage social individuality and innovation" and "the instrument of historical change." Similarly, Talen (2006a, p.237) notes that "Lewis Mumford wrote about the importance of social and economic mix often, citing the 'many-sided urban environment' as one with more possibilities for 'the higher forms of human development'". Jacobs (1961) depicts the ways in which urban size, density, diversity, and the intricate movements and interactions of city residents on streets and sidewalks contribute to a vibrant urban vitality, an active and fulfilling street life, and the tolerance for difference[14]. Jacobs and Appleyard (1987) identify five characteristics that they regard as central for creating livable urban environments that also "invite

[14] Jacobs writes, "The tolerance, the room for great differences among neighbors—differences that often go far deeper than differences in color—which are possible and normal in intensely urban life, but which are so foreign to suburbs and pseudosuburbs, are possible and normal only when streets of great cities have built in equipment allowing strangers to dwell in peace together on civilized but essentially dignified and reserved terms. Lowly, unpurposeful and random as they may appear, sidewalk contacts are the small change from which a city's wealth of public life may grow" (p.72).

and encourage public life" (p.170). These traits are density[15], integration of activities (living, working, and shopping) in close proximity to each other, appropriate arrangement of buildings to enclose public space, many different buildings with complex relationships to each other, and livable streets and neighborhoods. They argue that the "good urban life" is only fully available when all five of these physical characteristics are present, and also argue that places lacking these traits are also more likely to lack the community that they consider to be important to social life.

Fischer's seminal "subcultural theory of urbanism" (1975) is a central sociological argument regarding the impact that cities have on their residents. Fischer contends that "differing levels of urbanization" result in "cultural and behavioral differences", or in other words, that there are "social effects of urbanism" (p. 1319). Fischer looks at the ways in which and reasons why urban size and density account for "urban unconventionality". Fischer's hypothesis is that the larger or denser a city is, the more varied and intense its subcultures will be. Big, dense cities create subcultures that often stand outside of society's predominant norms and which create ideas and innovations which are unconventional, like avant-garde art, organized criminal communities, and radical political organizations. Jacobs (1969) portrays how urban form – density especially – eliminates distance between diverse people holding varying ideas, while also fostering the combinations of these ideas into economic innovations. Building on Jacobs, Knudsen et al (2008) demonstrate empirically the direct effects of urban population density on technological innovation as measured by patents. Following Jacobs and Fischer, Glaeser (2000) uses data from the GSS to examine how city size and density shape ethical systems. First,

[15] Dense, pedestrian-friendly design seems especially important to them. They write: "Some minimum number of people living and using a given area of land is required if there is to be human exchange, public life and action, diversity and community" (p. 172).

Glaeser finds that density-enabled mobility and exit to other communities weakens the enforceability of social sanctions, and therefore results in unconventional ethical norms[16]. He also finds that ethical "change" occurs more easily and quickly in cities. For instance, he finds that people in big cities are more likely to approve of gays, pre-marital sex, the provision of birth control information to teenagers, and women working[17].

This literature depicts cities as environments that generate diversity and that enhance "accessibility", which Handy (1996, p.184) defines as the "intensity of the possibility of interaction." There is (Talen 2006a, p.234) a "complex encounter between the physical world and the social world", between urban context and enhanced access to and interaction with diverse social influences, insights, and activities. Solnit (2000, p.176) reflects this view when she notes that "the city" is important because "its spatial structure (basically its concentration) is functional to the intensification of mobility: spatial mobility, naturally enough, but mainly social mobility." Urban contexts with sufficient density, size, mixed uses, and connectivity offer easy access to and the possibility of interaction with a diverse variety of physical destinations in an urban context, and in so doing permit and encourage encounters with a greater variety of social influences, ideas, and people.[18] The extant research furthermore concentrates on the myriad social outcomes which follow from urban-enabled encounters with diversity. I contend that this

[16] Or, as Glaeser puts it, "there is a regular pattern of people in cities being more likely to have transgressed our society's most extreme ethical standards" (p. 484).

[17]He concludes that "urban residents are likely to hold ethical attitudes that are more gradually being adopted elsewhere….[C]ities appear to be genuinely more progressive on a wide range of ethical topics" (p. 488).

[18] Talen (2006b) finds a positive statistical relationship between measures of urban form and social diversity in Chicago neighborhoods.

relationship between urban context and enhanced accessibility to social diversity also has clear implications for NMOs.

However, scholarship has not reached consensus regarding the relationships between urban context, diversity, and social processes. Other theories contend that city context creates atomized individuals and undermines interactions, trust, and societal engagement. Like many early twentieth century sociologists, Louis Wirth was interested in how urbanization changed the nature of social relations, suggesting that (Smith 1980, p.1) "the large size, high population density, and heterogeneous population mix resulting from urbanization produced numerous social and social-psychological consequences." Wirth (1938) posits specific relationships between increasing urban size, density, and diversity, a society's declining capacity to maintain moral "consensus", and resulting difficulty in achieving society-wide collective action. He suggests that urban size and density impel contact with diverse and conflicting social influences, thus subjecting an individual to friction, disorientation, and stress. Wirth concludes that individuals withdraw into an atomized private life in order to minimize their exposure to conflict and disorientation, thus disengaging from public life, leading to loneliness and anomie, as well as threatening (Smith 1980, p.5) "social harmony and consensual integration" and society-wide collective action. In general, Wirth contends that urban density, size, and diversity undermine the (Smith 1980, p.15) "morale and sense of direct participation and involvement in common concerns that derive from living in an integrated society", instead inducing retreat into atomization. Reflecting Wirth's thesis, Glaeser and Gottleib (2006) and Brueckner and Largey (2008) find that some aspects of "civic engagement" such as church attendance, volunteering, and socializing associate negatively with density. Putnam (2007) finds negative correlations

between ethnic diversity and traditionalistic social capital[19]. Alesina and La Ferrara (2000) find negative relationships between participation in associational groups and racial and ethnic fragmentation and income inequality. Costa and Kahn (2003a, 2003b) find negative relationships between volunteering and organizational membership and income inequality. Conversely, Senior (2008) quotes Harvard criminologist Robert Sampson as saying that "this idea that cities are bastions of lonely, despairing people is a myth". Senior surveys recent studies suggesting instead that urban contexts mitigate loneliness and encourage connection by increasing the size of social networks and encouraging "weak ties".

Despite this lack of consensus, this work proceeds from the standpoint that urban context engenders diversity as well as enables encounter with it, and these encounters undergird the formation of NMOs. As previously elaborated, these organizations are examples of decentralized democracy and are based upon the encounter with diverse ideas and influences. Unlike more centralized institutions, their decentralized organizational forms permit these encounters with social diversity. Although permitted by decentralization, I argue that social diversity requires a social setting to develop and flourish, and that urban contexts provide this setting. Therefore, NMOs are bolstered by urban contexts, since it is there where access to diverse views, people, experiences, and ideas is most prevalent. Several aspects of urban context are particularly important in terms of their ability to generate encounters with social diversity – density, mixed urban uses, and connectivity. As such, I now develop and propose a number of specific hypotheses pertaining to the relationships between these components of urban context and NMOs.

[19] However, Putnam (2007) finds a positive relationship between diversity and participation in protest politics and social reform groups, a finding in line with my concepts.

Density – the concentration of people, dwelling units, and activity in a location – both generates diversity and facilitates encounter with it. As noted above, Fischer (1975) explains the ways in which urban density generates and supports diverse subcultures. He argues that densely concentrated cities possess large numbers of people at close proximity to each other, and therefore can sustain unique commercial enterprises, minority ethnic communities, divergent cultural movements, and dissenting ideas. Whereas places with thinly spread populations are homogenizing and can typically only support mainstream enterprises and views, dense cities construct the infrastructure needed to support diverse social forms by concentrating many people together in close range. Jacobs (1961, p.147) explicates this threshold effect of urban density when she writes that the diversity "that is generated by cities rests on the fact that in cities so many people are so close together, and among them contain so many different tastes, skills, needs, supplies, and bees in their bonnets." In addition, Glaeser (2000) links diversity to urban density, the absence of physical space between actors, low transport costs, and the resultant easy mobility to other urban districts. Density undergirds diversity because low transport costs in dense cities facilitate exit to nearby urban districts to avoid social sanction. City density supports diversity by providing opportunities for anonymity.[20] In addition to generating diversity, density facilitates encounter with it. The capacity to encounter diverse physical locales in a dense context also brings one in contact with diverse social influences. Density creates low transport costs for both people and ideas, enabling encounters with diverse people, ideas, social influences, and physical destinations. Glaeser (2000, p.484) writes that dense "cities excel in permitting

[20] Glaeser (2000, p.476) writes: "One of the great strengths of urban areas is that these areas give their residents a large number of potential neighborhoods in which to reside. However, this strength also means that punishment becomes much more difficult. In a small town, joining a new social group means leaving the city entirely. In a big city, joining a new social group may just mean hanging out in a different tavern. Low transport costs in cities and the many urban neighborhoods generally will mean that exit is easier and non-legal punishments will be less severe."

combinations [of diverse ideas] because of the absence of physical distance." Jacobs, Glaeser, and others add that new ideas emerge from the interaction with and combination of diverse perspectives, making dense cities conducive to innovativeness. The presence of and encounter with diverse social forms is a central characteristic of NMOs. Since dense urban contexts generate such diversity and facilitate interaction with it, I conclude that density is a key component of a social setting for these organizations. Therefore, I offer the following hypothesis:

H1: In urban locales with higher density, there is a higher incidence[21] of NMOs.

Another aspect of urban context – **mixed land use** – is also related to social diversity in important ways. Mixed use refers to (Saelens, et al 2003, p.81) the "level of integration within a given area of different types of uses for physical space, including residential, office, retail/commercial, and public space." Like density, urban contexts characterized by mixed use generate diversity and enable encounter with it. As Jacobs (1961) explains, mixed land uses helps to generate diversity by drawing more people to a district at different times, and for different reasons. Multiple uses draw greater numbers and varieties of people to a district, enabling the support of more establishments, services, cultural enterprises, and unique ideas. As Jacobs (1961, p.162) explains, the "more intricately mixed [i.e. from different uses]…the pool of users are, the more services and shops there can be that need to sift their clienteles from all sorts of populations." By drawing different people to an urban district, mixed use generates diversity. Encounter with diversity also occurs, because the intermixing of different uses in an urban district means that the diverse individuals drawn to them would also intermix as they passed

[21] Incidence is here understood to mean the fact of occurrence, as defined in the Oxford English Dictionary.

between the various destinations. Once again, the enhanced possibility for interaction with various spatial locales undergirds the encounter with diverse social influences. On this, Jacobs (1961, p.163) writes that the "effectiveness" of mixed use comes from interactions that take place as diverse people are drawn to use the same streets for different reasons. She notes that "[i]f their paths are separated from one another, or buffered from one another", as in single-use districts, "there is no mixture in reality." Thus, mixed use urbanism contributes to interaction with the diverse social influences that are critical to NMOs. As such, I offer a second hypothesis:

H2: In urban locales with more mixed land uses, there is a higher incidence of NMOs.

Mixed building age is a third component of urban context that generates and enables encounter with diversity. A variant on mixed urban uses, mixed building age (Jacobs 1961, p.212) "has a direct, explicit connection with diversity of population, diversity of enterprises, and diversity of scenes." As was the case for mixed urban uses, mixed building age draws different types of people into a district, where they then interact and mix. The relationship between diversity and mixed building age assumes an association between the age of a building and the nature of the activities held in it. Only well-established, standardized establishments can be inhabitants of new buildings, because they can support the high costs of construction. By contrast, less established, experimental, and higher risk enterprises often seek older and less expensive buildings to inhabit.

To achieve social diversity, districts need a mix of establishments and people, and thus need a mix of old and new buildings. Jacobs (1961, p.188) further explains the relationship between diversity and mixed building age by writing that "[a]s for really new ideas of any kind…there is no leeway for such chancy trial, error and experimentation in the high-overhead economy of new construction. Old ideas can sometimes use new buildings. New ideas must use old buildings." Furthermore, Merrifield (2002a, p.45) provides a lucid contemporary example of these relationships in a description of the financial constraints faced by developers in Baltimore. Writing about the transformation of a deserted factory site in the Canton neighborhood into a retail shopping area, he explains that "provision for small-scale businesses incur high-risks: those catering exclusively to a Canton catchment area would be unlikely to have extensive monetary turnover. Here small businesses would be hard-pressed to pay any market rent, especially one that would give the developer an adequate return for their initial investment." Small, less-established, locally oriented enterprises cannot easily inhabit new or extensively reconstructed buildings. For diversity, there must be a mix of new and old buildings. Finally, the intermixing of different aged buildings means that the diverse people drawn to the district also intermix. As such, this third aspect of urban context also generates and facilitates encounter with diversity. Therefore, a third hypothesis is:

H3: In urban locales with more mixed building ages, there is a higher incidence of NMOs.

Connectivity is the final component of urban context that I consider in terms of its relevance to social diversity. Saelens et al (2003, p.82) explain that "…connectivity characterizes the ease of moving between origins (e.g., households) and destinations (e.g., stores and employment) within

the existing street and sidewalk-pathway structure." Connectivity is directly related to street design, and is higher when streets are arranged in a grid pattern with short blocks. Urban areas with high connectivity provide direct routes as well as alternative routes to a destination. By contrast "low connectivity is found in the layout of modern suburbs and is characterized by a low density of intersections (e.g., long block sizes), barriers to direct travel (e.g. cul de sacs), and few route choices."

Connectivity decreases travel costs in the city, increases alternatives and choices, and creates opportunities for interactions with diversity. Whereas streets with long blocks are (Jacobs 1961, p.179) "self-isolating", short blocks enlarge the situation of one's everyday life by removing impediments to movement and interaction. Given the limited alternatives to travel, too few people are drawn to districts with long blocks to support diverse establishments, enterprises, or ideas. By contrast, districts with short blocks do not have (Jacobs 1961, p.180) "mutual isolation of paths", but instead have streets that are "mixed and mingled with each other." Instead of the mutual isolation of people, the possibility for alternative routes also increases the possibility for interaction and encounter. These streets support diversity by drawing more people to use them, and enable encounter with diversity as people intermix when using the same streets for different reasons. Whereas long blocks (Jacobs 1961, p.183) "…thwart the potential advantages that cities offer to incubation, experimentation, and many small or special enterprises", by contrast "…frequent streets and short blocks are valuable because of the fabric of intricate cross-use that they generate among the users of a city neighborhood." Short blocks make accessible a wider range of destinations and resultantly open up possibilities for social exchange. The connectivity

provided by short city blocks bolsters the diversity that is central to NMOs. Therefore, I offer this hypothesis:

H4: In urban locales with higher connectivity (in the form of short city blocks), there is a higher incidence of NMOs.

2.2.2 Walkable cities

The above hypotheses link aspects of urban context to NMOs, by positing ways in which cities generate and enable access to diverse social influences and ideas. Since encounter with diversity is a primary component of NMOs, urban contexts that enable such encounters act as amenable social settings for this kind of political activity. In this section, I contend that it is possible to add further specificity to the links between urban context, encounter with diversity, and NMOs. I add this specificity by exploring how pedestrian activity – walking – mediates between urban context and the encounters with diverse social forms that undergird NMOs. Walking is an engaged way of experiencing and interacting with the physical and social forms of one's city, is the means by which individuals make use of density, connectivity, and mixed-uses, and is the manner through which the value inhering in these urban qualities is fully enacted. For instance, the flâneur, described notably by Charles Baudelaire in the 19th century and Walter Benjamin in the 20th, is an early account of the perceived connections between urban walking, diversity, and social outcomes. Portrayed as the gentleman walker in cities, the flâneur strolls leisurely and without instrumental purpose through 19th century Paris (McCue 2004) "in search of anything…interesting" and (de Botton 2004) with "eyes and ears [open] to [diverse] scenes around them." The outcome of this "flânerie", suggests Merrifield (2002b, 67) is that the city

becomes the "dwelling place of the collective" and an (2002b, 67) "expansive and inclusive public space." More recently, du Toit et al (2007, p.1679) suggest that walking "is expected to link [urban form] and sociability by increasing opportunities for local social interaction and the development of a sense of connection between people and the places where they live."[22] This section elaborates the connections between urban context, walking, and diversity in two parts. First, I describe the relationships between walking and urban context, showing how walking is facilitated by urban environments and is therefore the primary means by which the diverse resources of the city are accessed. Second, I contend that it is through walking that social diversity is fully activated and its benefits realized. Finally, I offer several hypotheses depicting the relationships between walking, urban contexts, and NMOs.

2.2.2.1 Walkable Cities – Background

Recent surveys and historical accounts provide insight into the reasons people walked in the past, why they walk now, and the attitudes and behaviors of pedestrians. For instance, the U.S. Department of Transportation's (DOT) National Household Travel Survey indicates that 8.6% of all daily trips in 2001 were walks, while 86.6% of daily trips were taken in personal vehicles. The NHTS also finds that walking is more prevalent in cities, where 11% of all trips are on foot. DOT's 2002 National Survey of Pedestrian and Bicyclist Attitudes and Behaviors asked respondents a variety of questions regarding their walking behavior, including if, how much, and why they walk. The survey found that 72% of people 16 or older walked on average at least once a week in the summer months. Their average walk was found to be 1.3 miles, with 50% of walks less than 1 mile. Respondents found walking desirable, with 77% reporting that they

[22] Similarly, Lund (2002, p.303) hypothesizes that "the built environment will increase the likelihood of community-oriented behaviors, such as walking, and these behaviors will in turn enhance community-oriented attitudes, such as neighborhood attachment."

would like to walk more than they do now, 88% stating that walking is enjoyable as a group activity, and 79% saying it is enjoyable alone. In addition, of those who walk for non-recreational purposes, 75% reported that other transportation alternatives were available. The survey also found that 38% of walking trips were for personal errands, 28% for exercise or health, 21% for recreation and leisure, 5% to get to work or school, and 4% because it is required for their job.

2.2.2.2 Walkable Cities – Walking and Urban Context

Previously, I looked at the ways in which certain aspects of urban context – density, mixed-use, and connectivity – generate diversity and enable encounter with it. To demonstrate how pedestrian activity bridges urban context, diversity, and NMOs, I first must reveal links between urban context and walkability, specifically showing that density, mixed-use, and high-connectivity enable pedestrian activity. For instance, Saelens et al (2003, p.80) suggest ties between urban form and walking. Since walking "can be done for multiple purposes" – such as exercise, recreation, occupation, basic transportation, and getting to work – it is "more susceptible to environmental influence". Jacobs (1961, p.230) writes that in "dense, diversified city areas, people still walk, an activity that is impractical in suburbs and most gray areas". For Handy et al (2002, p.66), neighborhoods are "pedestrian-oriented" if "they have relatively high densities of development, a mix of land uses, a street network with high connectivity, human-scale streets, and desirable aesthetic qualities in that they make walking both more viable and more appealing. Areas with opposite characteristics are labeled 'automobile-oriented' in that

they make walking, transit, and other alternatives to the car a practical impossibility or at least a significant challenge."[23]

As Saelens et al (2003) note, these urban traits enable walking because they promote proximity and directness of travel.[24] Saelens et al (2003, p.81) define proximity as "the distance between trip origins (i.e. where one is) and destinations (i.e. where one is going)." Density – of people, housing, retail, etc. – leads to walking by increasing the number and variety of destinations in an area, and thus increasing the proximity to any one destination. Land-use mix enables walking by increasing proximity to different uses in a district. When land uses are sufficiently co-located, distance between uses decreases and walking becomes feasible and attractive (Smith et al 2008, Boarnet and Sarmiento 1998). As Saelens explains, in many cities residences are often above or nearby street-level shops or offices, drastically decreasing distance between uses and facilitating walking. By contrast, in suburbs land uses are often purposely separated, increasing distance between them, and rendering walking difficult, if not impossible.

Directness of travel – i.e. connectivity – is the second factor enabling walking. As noted previously, connectivity reflects the ease of moving between origins and destinations. Connectivity and directness is achieved when (Saelens et al 2003, p.82) "route distance is similar to straight-line distance." This is understood to occur when streets are laid out in grid patterns with shorter blocks. As Smith notes (2008, p.238) directness is "expected to enhance walkability

[23] Similarly, Smith et al (2008, p. 237) contend that walkable neighborhoods "are those designed to include the 3Ds: population density, pedestrian-friendly design, and a diversity of destinations." Freeman (2001, p.70) suggests that high urban densities and mixed uses combine to facilitate walking, while Talen (2002) explicitly ties walking to the concept of "access" by contending that in urban districts with density, mixed-use, and high connectivity, pedestrianism provides access to proximate locations by linking them together.

[24] Saelens et al note that travel cost, environmental considerations, and other aspects of convenience (like availability of parking) may also influence travel mode choice.

by making walking trips relatively short, direct, and convenient", by "slowing car traffic via multiple stopping points", and by providing alternative routes to one's destination. Demerath and Levinger (2003, p.218) suggest that connectivity enhances walkability by placing few "constraints on a person's chosen route between two destinations", thus enabling freedom of movement and freeing people to take part in as full a range of encounters as possible.

Finally, a growing empirical body of work explores the relationship between these urban environmental traits and pedestrian activity. For example, in a study of the ten largest consolidated metropolitan statistical areas in the U.S., Boer et al (2007) find that people are more likely to walk when their neighborhoods have higher levels of business diversity as well as higher percentages of four-way intersections. In their examination of 27 Canadian neighborhoods, Craig et al (2002) find a positive association between walking to work and a composite urban form index which includes measures of the number and variety of neighborhood destinations.[25] In an analysis of a survey of U.S. adults, Berrigan and Troiano (2002, p.75) find that walking is significantly more prevalent among adults who live in older homes and traditional urban neighborhoods with "sidewalks", "denser interconnected networks of streets", and "a mix of business and residential uses".[26] Greenwald and Boarnet (2002) find that the distance of one's walking trips negatively correlates with walking, while density and connectivity positively relates to walking.[27] Frank and Pivo (1994) find that employment and population density and mixed-use relate positively to walking and negatively to single-

[25] Their results hold even after controlling for university education, income, and poverty.

[26] Their results hold even after controlling for gender, race/ethnicity, education, income, and health level.

[27] Their results hold even after controlling for age, gender, income, race, and the number of children in the household.

occupancy-vehicle use.[28] Also, Ewing (1997, p.113) notes that "every shred of evidence points to a strong link between [density and vehicle miles traveled]. As densities rise, trips get shorter, transit and walk mode shares increase, and vehicle trip rates drop. All of this translates into lower [vehicle miles traveled]." Recent empirical research (Handy et al 2006) considers the possibility that individuals who prefer to walk "self-select" into locations conducive to walking, finding instead that urban context still directly impacts walking behavior after controlling for attitudes and preferences for walking. In combination, these papers demonstrate a link between walking and city characteristics. Walking is more prevalent in urban environments characterized by density, connectivity, and mixed use. Therefore, I contend that it is the ability to walk that distinguishes cities, whereas driving is not unique to cities and as noted above is often found to negatively relate to urban contextual characteristics.[29]

2.2.2.3 Walkable Cities – Walking and Encounters with Diversity

Since walking is enabled by urban context and is the primary means by which individuals directly experience their city, I contend that walking links urban context with the generation of and encounter with the diverse resources of the city that serve as a factor encouraging NMOs. For instance, Leyden (2003) writes that "some neighborhood designs enable or encourage social ties or community connections", specifically "those that are mixed use and pedestrian oriented." Walkable cities enhance these social ties because "they enable residents to interact" with diverse social forms. By contrast, car-dependent suburbs are not walkable, and "are not places designed

[28] Their results hold even after controlling for income, gender, and age.

[29] I also find correlations between automobile use and urban contextual traits. For instance, with these data (described below) summarized to zip code tabulation areas I find that population density, employment density, retail density, housing density, and a measure of connectivity – Census blocks per square miles – all negatively correlate to the percentage of the workforce that drove to work.

to encourage social interaction." Jacobs and Appleyard (1987, p.174) note that "the central value of urban life is that of publicness, of people from different groups meeting each other and of people acting in concert, albeit with debate. The most important public places must be for pedestrians, for no public life can take place between people in automobiles." In empirical analysis, Leyden finds that social interaction and social capital is higher in pedestrian neighborhoods.[30] Likewise, Freeman (2001) claims that high urban density facilitates walking, and that walking then enables diverse encounters. Conversely, low density sprawl "reduces opportunities for spontaneous social interaction. By eliminating the feasibility of other modes of transit, sprawl forces residents to rely solely on the automobile. Compared to walking or taking the bus or the subway, there is obviously much less chance for spontaneous interaction with neighbors while driving." Using data from the Atlanta, Los Angeles, and Boston samples of the Multi City Survey of Urban Inequality, Freeman (2001, p.74) finds that a "1% increase in the proportion of individuals driving to work is associated with a 73% decrease in the odds of an individual having a neighborhood social tie."[31]

I can further elucidate and emphasize this latter point – the link between walking and the encounter with difference – by appealing to specific qualities of walking to demonstrate that pedestrian activity is especially responsible for maximally extracting value latent in the diverse social forms in the city. I suggest that it is through walking that the value held in diverse social forms is most meaningfully activated and realized. I further suggest that in order to benefit from

[30] Leyden finds that residents in walkable neighborhoods: feel more connected to the community, are more likely to know their neighbors, are more likely to have trust in other people, are more likely to contact elected officials and participate in politics, and are more likely to socialize with friends.

[31] This result holds even after controlling for a variety of demographic and socio-economic variables, such as age, gender, race, marital status, education, employment status, and income.

the value inhering in diversity, simply encountering it is insufficient. Rather, to obtain the full utility available in these diverse social forms, one must actively and directly engage with them. Walking, by enabling face-to-face contact, provides opportunity for such engagement. For instance, Storper and Venables (2004, p.351) contend that "existing models of urban concentration are incomplete unless grounded in the most fundamental aspect of proximity; face-to-face contact." Since walking is facilitated by the proximity and connectivity provided by urban context, we can conclude that face-to-face contact is a fundamental aspect of walkable cities. In walkable urban contexts, individuals have enhanced opportunity to be physically proximate and collocated with one another as they move about city streets, sidewalks, and parks. In such locales, walking permits individuals to have (du Toit et al 2007, p.1679) "frequent casual [face-to-face] contact, whether intentional or spontaneous", which enables a deeper engagement and familiarity with difference, thus permitting a fuller realization of the value inhering in that diversity. In general, face-to-face contact enables individuals to effectively utilize diverse information when they encounter it. Since face-to-face contact is enabled by walking, I claim that walking makes diverse encounters more useful as well as more probable. This enhanced capacity to utilize diverse social forms is not as easily achieved in private spaces, as when people access information online or experience their city in ways that do not allow for face-to-face encounters, such as in automobiles.

Recent scholarship provides insight into face-to-face contact, its relationship to urban contexts, and its importance in terms of interactions with diversity. In general, this scholarship centers on the idea that (Storper and Venables 2004, p.353) "[face-to-face contact] has unique behavioural and communicational properties which give it specific advantages as a technology of

communication, coordination, and motivation." Routledge (2003, p.339) writes that "[t]rust, friendship, reputation, predictability…are elements of political ability that certainly cannot be reduced to technologies of communication. There are features of face-to-face interaction [such as gestures, tone, and pitch]…that are highly informative; these features are concealed in computer-based interactions." He adds that "it is unlikely that trust between individuals who have not met can be fully developed over the Internet. The depth of trust required to plan, and conduct, political action together is place- and face-based." Similarly, Cumbers et al (2008, p.194) write that NMOs require interactions among diverse social influences and participants, and these "connections are grounded in place- and face-to-face [encounters]" which "facilitate mutual solidarity" necessary for collective action. Furthermore, Storper and Venables (2004, p.355) point out that face-to-face interaction "allows visual 'contact' and 'emotional closeness', the basis for building human relationships." Encounters among diverse individuals are the basis of NMOs, but these encounters should be face-to-face. In order for encounters between diverse individuals to be meaningful and to permit emergence of collective political action, traits like trust, solidarity, friendship, and predictability must be present. These traits are a function of the face-to-face contact that walking provides.

In addition to providing traits necessary to effectively utilize diversity and engage in collective action, face-to-face contact improves communication between diverse social elements, especially when uncodified knowledge is involved. I contend that much of the information held by diverse social forms in cities is uncodified. Uncodified information, explain Storper and Venables (2004, p.354) is "only loosely related to the symbol system in which it is expressed." For instance, one can learn a formal symbol system (i.e. the "syntax" and "grammar" of a language),

but fail to decipher certain information, subtleties, and idiosyncrasies in the system (i.e. "metaphors" of a language). I contend that much of the information inhering in the diverse social forms in the city is of this uncodified, "metaphorical" variety, in that it "includes much linguistic, words-based expression", as well as reflecting the different experiences, dispositions, and backgrounds of urban inhabitants. In order to successfully transmit the "metaphors" of diverse groups to each other, face-to-face contact is necessary; acquiring and mastering the formal "syntax" is not sufficient. As Storper and Venables (2004, p.354) write, uncodified information requires communication enabling "parallel processing of the complexities of an issue." As such, "[face-to-face] encounters provide an efficient technology of transaction under these circumstances by permitting a depth and speed of feedback that is impossible in other forms of communication." Storper and Venables also argue that since face-to-face contact "occurs on many levels at the same time – verbal, physical, contextual, intentional, and non-intentional", it is especially suited to facilitating communication of uncodified knowledge. They conclude that "the full benefits of diversity and serendipity are only realized through these multiple levels of communication", in other words, through face-to-face communication. Given the uncodified nature of the information inhering in the diverse social forms of the city, face-to-face contact – enabled by walking – is needed to ensure effective transmission of this information across groups. NMOs arise from such effective transmission.

In summary, by enabling face-to-face encounters with diverse social influences, walking enables individuals to utilize diverse information. As just described, face-to-face does so by engendering trust, solidarity, predictability, and emotional intensity, as well as by improving communication of uncodified knowledge. In other words, walking empowers individuals to utilize the diversity

to which they have access. Solnit (2006) writes that the "exercise of democracy begins as exercise, as walking around, becoming familiar with the streets, comfortable with strangers, able to imagine your own body as powerful and expressive rather than a pawn. People who are at home in their civic space preserve the power to protest and revolt, whereas those who have been sequestered into private space do not." Walking enables one to "become familiar with the streets" and comfortable with strangers, thus creating agents who obtain the capacity to act. Experiencing urban contexts through walking produces emboldened, empowered individuals, who can then be forces for change. As such, several additional hypotheses emerge:

H5: In urban locales with more walking, there is a higher incidence of NMOs.

H6: In urban locales, walking mediates the relationships between elements of urban context and NMOs.

H6a: In urban locales, walking mediates the relationship between density and NMOs.

H6b: In urban locales, walking mediates the relationship between mixed land uses and NMOs.

H6c: In urban locales, walking mediates the relationship between mixed building ages and NMOs.

H6d: In urban locales, walking mediates the relationship between connectivity and NMOs.

I now subject these concepts and hypotheses to empirical test. The analyses make novel use of several familiar data sources. Part 3 introduces these sources, describes both the nature of the data and the particular variables used in the course of the analyses, and where necessary provides

a rationale for the utilization of certain variables. Part 3 concludes by elucidating the analyses to be carried out, and finally presents the results.

3. Data and Methods

3.1 Data

As noted, this research examines relationships between urban contextual factors, pedestrianism, and NMOs, and therefore requires measures of each construct. These measures are described in depth below. The Zip Code Tabulation Area (ZCTA) is the unit of analysis for this study. Developed as a "new statistical entity" for the 2000 Census, ZCTAs "are generalized area representations of U.S. Postal Service (USPS) ZIP Code service areas" created to "overcome the difficulties in precisely defining the land area covered by each ZIP Code"[32]. The Census Bureau created ZCTAs "to meet requests by data users for Census data by ZIP Code area"[33]. ZCTAs are constructed "using ZIP Codes associated with addresses collected during Census operations and stored in the Census 2000 Master Address File (MAF)." The majority USPS ZIP Code is identified for MAF addresses within a Census 2000 tabulation block, which is the smallest geography for which Census provides data. Once majority ZIP Codes are identified, Census tabulation blocks with the same majority ZIP code are aggregated into a ZCTA which gets the majority ZIP Code assigned as its ZCTA code. There is a nationwide total of 33,322 ZCTAs. ZCTAs differ from other Census statistical areas primarily because they are computer delineated using addresses rather than formally delineated before the Census is carried out[34]. I use ZCTAs primarily because they are the smallest geography for which the dependent variables are

[32] See www.census.gov/geo/ZCTA/zcta.html.

[33] See ZCTA Technical Documentation: www.census.gov/geo/ZCTA/zcta_tech_doc.pdf.

[34] See State Data Center ZCTA Full Presentation: www.census.gov/geo/ZCTA/full_sdc_zcta.pdf.

available[35]. As Rousseau (1985) points out, the level of analysis applied to a dataset is determined by the level of the dependent variable. In addition, ZCTAs are appropriate for these analyses considering that urban contextual traits differ across areas within cities, and there are typically numerous ZCTAs within cities. ZCTAs therefore allow for more fine-grained measurement of urban contextual elements.

I now detail the dependent variables (i.e. measures of NMOs) and independent variables (i.e. measures of urban context, demographic traits, and other controls) used in subsequent analyses. I draw these data from two sources: (1) Zip Code Business Patterns, and (2) the U.S. Census. Table 1 in the Appendix provides descriptive statistics for all of these variables.[36] All subsequent results tables are also reported in this Appendix.

3.1.1 Dependent Variables – New movement organizations

The data used to construct measures of NMOs are drawn from the ZIP Code Business Patterns. ZIP Code Business Patterns (ZBP) is the ZIP Code version of the County Business Patterns (CBP), "an annual series that provides subnational economic data by industry.[37]" Like CBP, ZBP data include "the number of establishments, number of employees, and payroll data."

[35] In fact, the dependent variables use data from the Zip Code Business Patterns (ZBP), described below in 3.1.1. ZBP data use ZIP Codes, not ZCTAs. The ZIP Codes used by ZBP are those reported by the businesses or establishments, or on administrative address lists (www.census.gov/epcd/www/zipstats.html). The Census Bureau built ZCTAs in 2000 based on both residential and commercial addresses, but prioritized residential addresses because they were verified during the decennial Census operations. The Census Bureau did not have the same level of verification for commercial address locations, and as such the resulting ZCTAs may not match commercial addresses quite as well as residential address locations. This, along with imperfect correspondence in areal representation between ZCTAs and ZIP Codes (Grubesic and Matisziw 2006), may be a small source of measurement error in my analyses. However, most of the 30,000+ ZIP Codes should sufficiently match the Census ZCTAs.

[36] Because some analyses are later repeated at the county-level, Table 1 provides descriptive statistics for both ZCTAs and U.S. counties.

[37] See www.census.gov/econ/cbp/intro.htm.

Establishments in both CBP and ZBP are classified according to the 2002 North American Industrial Classification System (NAICS). An establishment is defined as "a single physical location at which business is conducted or services or industrial operations are performed….Establishment counts represent the number of locations with paid employees any time during the year.[38]" I use ZBP to attain the number of NMO establishments in all ZIP Codes for a given year. To the best of my knowledge, I am the first social scientist to analyze these data for research into NMOs. Located deep in electronic files of the US Census of Business, they were unearthed by researchers at the University of Chicago, and are a rich data source that permit the sort of contextual analysis social movements scholarship needs to sharpen its theory. ZBP includes three NAICS categories I utilize as measures of NMOs: (1) Environment, Conservation, and Wildlife Organizations; (2) Human Rights Organizations; and (3) Other Social Advocacy Organizations. Environment, Conservation, and Wildlife Organizations (NAICS code 813312) are establishments promoting the preservation and protection of the environment. They address issues such as clean air and water, global warming, conserving and developing natural resources (including land, planet, water, and energy resources), and protecting and preserving wildlife and endangered species.[39] Human Rights Organizations (NAICS code 813311) are establishments promoting human rights either for a broad or specific constituency. They address issues such as protecting and promoting the broad constitutional rights and civil liberties of individuals suffering from neglect, abuse, or exploitation; promoting the interests of specific groups, such as children, women, senior citizens, or persons with disabilities; improving relations

[38] See www.census.gov/econ/cbp/definitions.htm.

[39] See www.census.gove/cgi-bin/sssd/naics/naicsrch?code=813312&search=2002 NAICS Search. Environment, Conservation, and Wildlife Organizations (NAICS code 813312) include: Animal rights organizations, Animal welfare associations or leagues, Conservation advocacy organizations, Environmental advocacy organizations, Humane societies, Natural resource preservation organizations, Wildlife preservation organizations.

between racial, ethnic, and cultural groups; and promoting voter education and registration.[40] Other Social Advocacy Organizations (NAICS code 813319) are establishments engaged in social advocacy (except human rights and environment, conservation, and wildlife preservation). They address issues such as peace and international understanding; community action (excluding civic organizations); or advancing social causes such as firearms safety, drunk driving prevention, or drug abuse awareness.[41] I have these three measures for all ZIP Codes, for all years from 2001 to 2007.[42]

In section 2.1, I appeal to several extant literatures to create an ideal-typical conceptualization of the qualities, values, tactics, and strategies of NMOs. In practice, these ideal-typical characteristics will – to greater or lesser degrees – map onto actually-existing organizations. Some organizations more fully reflect these ideal-typical traits, scoring highly on many or most NMO characteristics. Other organizations will achieve only some of the idealized NMO qualities. One can envision a spectrum of existing organizations, with some groups more closely reflecting the ideal-typical NMO definition and other groups fitting it partly or less well. As such, I have tried to locate organizational data that achieve as many of the NMO ideal-typical

[40] See www.census.gov/cgi-bin/sssd/naics/naicsrch?code=813311&search=2002 NAICS Search. Human Rights Organizations (NAICS code 813311) include: Advocacy organizations for retired persons, Civil liberties organizations, Developmentally disabled advocacy organizations, Human rights advocacy organizations, Mentally retarded advocacy organizations, Senior citizens advocacy organizations, Veterans rights organizations.

[41] See www.census.gov/cgi-bin/sssd/naics/naicsrch?code=813319&search=2002 NAICS Search. Other social advocacy organizations include: Accident prevention associations, Antipoverty advocacy organizations, Aviation advocacy organizations, Community action advocacy organizations, Drug abuse prevention advocacy organizations, Drunk driving prevention advocacy organizations, Firearms advocacy organizations, Gun control organizations, Neighborhood development advocacy organizations, Peace advocacy organizations, Public safety advocacy organizations, Social change advocacy organizations, Social service advocacy organizations, Substance abuse prevention advocacy organizations, Taxpayers advocacy organizations, Temperance organizations, Tenants advocacy associations, World peace and understanding advocacy organizations.

[42]The Establishment data are contained in the Complete ZIP Code Industry Detail File for each year. The website for the 2007 data is: www.census.gov/econ/cbp/download/index.htm.

traits as possible for as many organizations as possible. I argue that ZBP does this. For example, I suggest that many of the organizations in these three measures (Environmental, conservation, and wildlife; Human Rights; and Other Social Advocacy) are committed to pursuing liberty, equality, and solidarity (LES), the primary concerns of NMOs. In addition, many establishments in these measures also reflect the expansion of LES demands to civil society domains beyond industrial and class-based matters. Furthermore, I suggest that the three ZBP measures are indicative of the non-institutional politics characterizing NMOs. These variables reflect non-institutional politics to the extent that most measured organizations operate outside of recognized political institutions like parties and representative governments, as well as pursue concerns beyond parochial, private matters. Idealized NMOs also eschew electoral politics to pursue political goals through non-traditional means. It is likely that some of the ZBP Environmental, Human Rights, and Other Social Advocacy groups utilize non-traditional methods such as protest, boycotts, and public campaigns. Finally, ideal-typical NMOs possess a decentralized, anti-hierarchical organizational form. I argue that most groups in the ZBP measures are more decentralized and participatory than explicitly verticalist varieties of politics like political parties or representative governments. Yet, to the extent that ZBP includes groups with paid employees, these variables do not measure up to the idealized conception of NMOs as having (Graeber 2003) "no organized structure" and no "central head or decisionmaker". This latter issue is examined in depth in section 3.1.1.1. ZBP is also advantageous in that these data cover the entire US, enabling full national analyses or analyses of specific sub-areas. ZBP data are available for a number of recent years (2001-2007), enabling examinations of changes over time. Furthermore, ZIP Codes are small geographies that offer desirable granularity in analyses of urban context.

3.1.1.1 Validating the dependent variable – Guidestar analysis

As described above, the variables I use to measure NMOs are ZCTA counts of establishments in three North American Industrial Classification System (NAICS) categories: Human Rights Organizations (NAICS code 813311); Environment, Conservation, and Wildlife Organizations (NAICS code 813312); and Other Social Advocacy Organizations (NAICS code 813319). An establishment is defined in the ZBP as "a single physical location at which business is conducted or services or industrial operations are performed….Establishment counts represent the number of locations with paid employees any time during the year." Therefore, one reason why these measures may not fully capture the NMO construct is that they may reflect "old" movement organizations and not just NMOs. For instance, groups like the Sierra Club and Catholic Charities could be included in the ZBP measures, both of which are "old" in the sense of having been around for a long time as well as in their hierarchical and formalized organizational form. As described at length above, NMOs are defined as informal groups without a hierarchical leadership structure that form in an ad hoc manner around particular issues. By contrast, "old" movement organizations are more formalized, centralized, and hierarchical, with specific leaders at the center/top who found and manage the organization. If the ZBP measures better reflect "old" movement organizations, then regressions estimated with these data may not be appropriate tests of the hypotheses. As such, a validation exercise would be appropriate to determine whether the ZBP measures are closer to the "old" movement organizations (i.e. formalized, centralized organizations with few leaders) or to what I describe as NMOs (i.e. informalized, anti-hierarchical, ad hoc organizations).

For example, I can attempt to determine whether the majority of organizations in a small selection of ZCTAs more closely resemble "new" or "old" movement organizations. One possibility for doing so would be to employ Guidestar Form 990 data, which provides information on the financial resources of not-for-profit organizations. Since there is a relationship between Guidestar and ZBP data (described below), if the majority of sampled Guidestar organizations possess substantial financial resources, then I should conclude that the ZBP variables more closely reflect formalized, centralized organizations and are better understood as measures of "old" movement organizations. By contrast, if the majority of sampled Guidestar organizations possess modest resources, I can more legitimately employ the current dependent variables as measures of informalized, decentralized, "new" movement organizations. To this end, I applied for and received access to Guidestar Premium, which provides non-profit income, expense, and end-of-year asset/liability data by ZIP Code, City, State, and/or National Taxonomy of Exempt Entity (NTEE) code. As such, for a selection of ZIP Codes, I am able to access financial data for non-profit organizations in particular NTEE categories.

Using Guidestar Premium, I download non-profit Total Revenue, Total Expenses, Program Expenses, Administrative Expenses, Funding Expenses, Total Assets, and Total Liabilities for fifty ZIP Codes. Since the purpose of this exercise is to validate the dependent variable, I download these seven Guidestar measures for the fifty ZIP Codes with the highest values on the NMO Index.[43] These fifty ZIP Codes are listed in Table 2. There are several reasons why I download Guidestar data for only these fifty ZIP Codes. First, Guidestar Premium only permits

[43] In fact, the geographic unit for the NMO Index is the ZCTA, which is not exactly equivalent to the ZIP Code. As described in footnote 35, this may be a source of error.

a maximum download of 5000 organizational records per subscriber per month. Since there are many hundreds (or thousands) of organizations per ZIP Code, there is a limit to the number of geographies for which it is possible to download organizational data. Second, the downloading process itself is very laborious. For each ZIP Code, it is necessary to perform separate searches for organizations within a large number of NTEE categories. The organizations returned from each of these numerous searches are then individually checked for recent and credible data and added to a download queue for export into excel files. Downloading data in this way for even just fifty ZIP Codes is therefore quite time consuming.

As just noted, for each of the fifty ZIP Codes, I download Guidestar organizational data for a number of NTEE categories. NTEE, or National Taxonomy of Exempt Entities, is a classification system for non-profit organizations[44]. Specifically, I will use NTEE codes that are linked with the NAICS codes that I use for my dependent variables[45]. The NTEE codes are linked to the NAICS by the Urban Institute's National Center for Charitable Statistics (NCCS)[46]. In total, I download organizational data for 71 separate NTEE codes[47]. Performing queries on

[44] A description of the NTEE can be found at nccs.urban.org/classification/index.cfm.

[45] The NAICS codes I use for the dependent variables are: NAICS code 813311 (Human Rights Organizations); NAICS code 813312 (Environment, Conservation, and Wildlife Organizations); and NAICS code 813319 (Other Social Advocacy Organizations).

[46] The NTEE/NAICS correspondences can be found here: nccsdataweb.urban.org/PubApps/nteeSearch.php?gQry=all&codeType=NTEE.

[47] The 71 NTEE codes for which I download organizational data are the following: A01 – Arts, Culture, and Humanities Alliances and Advocacy; B01 – Education Alliances and Advocacy; C01 – Environmental Alliances and Advocacy; C20 – Pollution Abatement and Control; C27 – Recycling; C30 – Natural Resources Conservation and Protection; C32 – Water Resources, Wetlands Conservation, and Management; C34 – Land Resources Conservation; C35 – Energy Resources Conservation and Development; C36 – Forest Conservation; C50 – Environmental Beautification; C99 – Environment, Not Elsewhere Classified (N.E.C.); D01 – Animal-Related Alliances and Advocacy; D20 – Animal Protection and Welfare; D30 – Wildlife Preservation and Protection; D31 – Protection of Endangered Species; D33 – Fisheries Resources; E01 – Health Care Alliances and Advocacy; F01 – Mental Health and Crisis Intervention Alliances and Advocacy; G01 – Voluntary Health Associations and Medical Disciplines Alliances and Advocacy; H01 – Medical Research Alliances and Advocacy; I01 – Crime and Legal-

Guidestar's online organizational search engine for these 71 NTEE codes in all 50 ZIP Codes results in a total download of 1471 organizations. As noted above, the Guidestar variables available for each downloaded organization include: (1) Total Revenue; (2) Program Expenses; (3) Administrative Expenses; (4) Funding Expenses; (5) Total Expenses; (6) Total Assets; and (7) Total Liabilities. My analysis focuses on Total Assets, as given in the various panels of Table 3.[48]

Part A of Table 3 gives basic descriptive statistics for the "Total Assets" of all 1471 downloaded organizations. The mean of Total Assets is $6,960,533.04, while the median is a much lower $414,363.00, suggesting a skewed distribution. The positive (and statistically significant, as indicated by the test statistic) "skewness" statistic in Part A indicates a long right tail of large values pulling the mean upwards. Building off of the median, Parts B and C of Table 3 give the quartiles and deciles of organizational Total Assets. We see that 10% of these 1471

Related Alliances and Advocacy; I23 – Drunk Driving-Related; I70 – Protection Against Abuse; I71 – Spouse Abuse Prevention; I72 – Child Abuse Prevention; I73 – Sexual Abuse Prevention; J01 – Employment Alliances and Advocacy; K01 – Food, Agriculture, and Nutrition Alliances and Advocacy; K25 – Farmland Preservation; L01 – Housing and Shelter Alliances and Advocacy; M01 – Public Safety, Disaster Preparedness, and Relief Alliances and Advocacy; N01 – Recreation and Sports Alliances and Advocacy; O01 – Youth Development Alliances and Advocacy; P01 – Human Services Alliances and Advocacy; Q01 – International, Foreign Affairs, and National Security Alliances and Advocacy; Q30 – International Development; Q31 – International Agricultural Development; Q32 – International Economic Development; Q33 – International Relief; Q40 – International Peace and Security; Q41 – Arms Control and Peace; Q42 – United Nations Associations; Q43 – National Security; Q70 – International Human Rights; Q71 – International Migration and Refugee Issues; Q99 – International, Foreign Affairs, and National Security, N.E.C.; R01 – Civil Rights, Social Action, and Advocacy Alliances and Advocacy; R20 – Civil Rights; R22 – Minority Rights; R23 – Disabled Person's Rights; R24 – Women's Rights; R25 – Senior's Rights; R26 – Lesbian and Gay Rights; R28 – Children's Rights; R30 – Intergroup and Race Relations; R40 – Voter Education and Registration; R60 – Civil Liberties; R61 – Reproductive Rights; R62 – Right to Life; R63 – Censorship, Freedom of Speech and Press; R67 – Right to Die and Euthanasia; R99 – Civil Rights, Social Action, and Advocacy, N.E.C.; S01 – Community Improvement and Capacity Building Alliances and Advocacy; T01 – Philanthropy, Voluntarism, and Grantmaking Foundations Alliances and Advocacy; U01 – Science and Technology Alliances and Advocacy; V01 – Social Science Alliances and Advocacy; W01 – Public and Societal Benefit Alliances and Advocacy; W90 – Consumer Protection; X01 – Religion-Related Alliances and Advocacy; Y01 – Mutual and Membership Benefit Alliances and Advocacy.

[48] I also have the same tables for Total Revenue, although not shown here.

organizations have Total Assets of $25,811 or less, and at least 25% of the organizations have less than $100,000 in Total Assets. As noted, 50% of the organizations have no more than $414,363 in assets, and a full 40% have less than $250,000. Therefore, a sizeable percentage of the organizations are small to moderately sized groups. Looking at the upper half of the distribution, 60% of the organizations have less than $750,000 in assets and 65.33% have less than $1,000,000. Total Assets become large in the very upper deciles, but 80% of the organizations still have assets of less than $3 million. The skew of the distribution comes into view as Total Assets rapidly enlarge to a maximum of $644 million from about $9 million at the 90th percentile. Overall, even though there are large, wealthy organizations at the upper end of the distribution, a majority of the groups are small to moderately sized, at least in terms of assets. We can see this further by looking at the mean and median assets within each quartile and decile (Parts D, E, F, and G). Except for in the 4th quartile and 10th decile, there are few differences when means within quartiles and deciles are compared to their respective medians. Looking at the median[49] and mean of Total Assets within deciles, we observe additional evidence that the majority of organizations are of small or moderate size. For instance, the mean of Total Assets within the 1st decile is only $9,342, while the median within the 1st decile is only $11,147. The mean and median Total Assets within the 2nd decile is less than $50,000, and the 3rd decile has a mean and median Total Assets of less than $100,000. The 5th decile has within it both a mean and median Total Assets of about $320,000, and all of the first seven deciles have within them mean and median Total Assets of less than $1 million. The 8th through 10th deciles have within them means and medians of over $1 million. Lastly, I look at the distribution of Total Assets and NTEE categories. The 71 NTEE codes listed above fall within 25 overall categories, as shown in

[49] The median within deciles provides the 5th, 15th, 25th, 35th, etc, percentiles.

Parts H and I of Table 3. Parts H and I provide the mean and median, respectively, of organizational Total Assets for each of these 25 NTEE categories.[50] It appears that the means in part H of Table 3 are skewed upwards by the right-tail observations, so I look mainly at the medians in part I. In part I, there are seventeen NTEE categories obtaining at least N = 10, while the other eight categories each only contain a few organizations. The median Total Assets in these seventeen categories range from $275,739.50 to $948,459.50. Nine of the seventeen NTEE categories have median Total Assets of less than $500,000, and these nine categories comprise 951 of the 1471 organizations. All of the other eight NTEE categories have within them median Total Assets of less than $1 million, and five of those have median Total Assets less than $700,000.

In summary, the purpose of this analysis is to utilize Guidestar data to validate the measures I use as indicators of NMOs. To reiterate, NMOs are defined as informalized, anti-hierarchical, ad hoc movement organizations. I suggest that these informalized, ad hoc organizations should generally possess modest resources. As such, if the Guidestar data show that a majority of organizations possess modest financial resources, I can more effectively argue for using the current dependent variables as measures of NMOs. The results described above suggest that there is a diversity of organizational sizes, at least as measured by Total Assets. However, among the fifty ZCTAs for which I downloaded Guidestar data, a majority of organizations are small to moderately-sized. Therefore, I contend that these results do not disqualify the use of ZBP data as measures of NMOs. Although there are shortcomings to the ZBP as a data source, these Guidestar data suggest that there is sufficient overlap between the theoretical construct of NMOs and the operationalization provided by the ZBP. Based partly on the findings from the

[50] Adding up the N over the 25 categories gives the 1471 downloaded organizations.

Guidestar analysis, I argue that there is not prohibitive error introduced by the use of the ZBP data. Therefore, I will continue to use ZBP data as measures of NMOs while also pointing out the shortcomings of doing so.

3.1.2 Independent Variables

There are two categories of independent variables to describe: (i) urban contextual variables, and (ii) other demographic and socio-economic controls.

3.1.2.1 Urban contextual variables

As described above in section 2.2.1, I have three categories of urban context – density, connectivity, and land use mix. As such, I also have variables for each of these three categories, described below. I also measure pedestrian activity, the importance of which was described in section 2.2.2. Unless otherwise indicated, the data for these various measures are taken from the U.S. Census. The variables are measured at the ZCTA level of analysis.

3.1.2.1.1 Density Measures

I calculate four different density measures: Population density, Housing Density, Retail Density, and Employment Density. These are described below.

Population Density: Population Density is calculated as the quotient of population divided by land area. The Census 2000 Gazetteer ZCTA file[51] provides land area per square mile for all ZCTAs in the U.S., as well as 2000 ZCTA population[52]. I calculate 2000 population density by

[51] See www.census.gov/geo/gazetteer/places2k.html.

dividing 2000 ZCTA population by land area per square mile for ZCTAs. I also calculate population density for 1990. ZCTAs were only introduced by the Census Bureau for the 2000 Census, and thus variables are not available at the ZCTA level for the 1990 Census. Geolytics, Inc. provides 1990 Long Form Census data normalized to 2000 Census geographical boundaries, including ZCTAs[53]. From Geolytics, I access 1990 100% Count of the Population[54]. 1990 Population Density is the quotient calculated by dividing 1990 100% Count of the Population by land area per square mile for ZCTAs.

Housing Density: Housing density is calculated as the quotient of housing counts in a ZCTA divided by land area per square mile. Along with population and land area, the Census 2000 Gazetteer ZCTA file provides housing units[55] at the ZCTA level. I calculate 2000 housing density by dividing ZCTA housing units by land area in square miles. I also calculate 1990 housing density. From Geolytics, I access 1990 100% Count of Housing Units[56]. 1990 Housing Density is the quotient calculated by dividing 1990 100% Count of Housing Units by land area per square mile for ZCTAs.

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[52] The specific Census 2000 population variable provided in the Gazetteer file is 100% Count of the Population, which is table P3 from Census 2000 Summary File 3.

[53]I used the Geolytics database "CensusCD 1990 Long Form in 2000 Boundaries". This was accessed at the University of Pittsburgh in July 2008 and Georgetown University in June 2009. As described on the Geolytics webpage (www.geolytics.com/USCensus,Census-1990-Long-Form-2000-Boundaries,Products.asp; accessed 7/28/2009), "CensusCD 1990 Long Form in 2000 Boundaries allows users to access US Census data from 1990 and easily compare it with the 2000 Census data. It is the finest source of Census data from 1990 expressed at all of the 2000 geographies. The CensusCD Long Form in 2000 Boundaries is based upon the long form (STF3) questions answered by one in six households in the 1990 Census." I utilize this same Geolytics database for all subsequent 1990 variables. A technical discussion of Geolytics' procedure for converting 1990 Census data to 2000 boundaries is available here: www.geolytics.com/Pages/CensusCD708090/WeightingMethodology.htm.

[54] Table P003, from Summary Tape File 3.

[55]The specific variable provided in the Gazetter is 100% Count of the Housing Units, table H3 from Summary File 3.

[56] Table H003, from Summary Tape File 3.

Retail Density: Retail Density is the quotient calculated by dividing total retail establishments in a ZIP Code by land area in square miles[57]. The data to calculate retail establishments per square mile come from ZBP. I download the "Complete ZIP Code Industry Detail File" for 1998, 1999, and 2000[58], which contains the establishment data for those years. Therefore, I am able to calculate Retail Density for 1998, 1999, and 2000. Retail establishments by ZIP Code are not available prior to 1994.

[57] I calculate total retail establishments in ZIP Codes by adding together the number of establishments in each ZIP Code in the following NAICS categories: Retail bakeries (NAICS code 311811), Furniture stores (NAICS code 442110), Floor covering stores (NAICS code 442210), Window treatment stores (NAICS code 442291), All other home furnishing stores (NAICS code 442299), Household appliance stores (NAICS code 443111), Computer and software stores (NAICS code 443120), Camera and Photographic Supplies Stores (NAICS code 443130), Home centers (NAICS code 444110), Paint and wallpaper stores (NAICS code 444120), Hardware stores (NAICS code 444130) , Other building material dealers (NAICS code 444190), Outdoor power equipment dealers (NAICS code 444210), Nursery and garden centers (NAICS code 444220), Grocery (except convenience) stores (NAICS code 445110), Convenience stores (NAICS code 445120), Meat markets (NAICS code 445210), Fish and seafood markets (NAICS code 445220), Fruit and vegetable markets (NAICS code 445230), Baked goods stores (NAICS code 445291), All other specialty food stores (NAICS code 445299), Beer, wine and liquor stores (NAICS code 445310), Pharmacies and drug stores (NAICS code 446110), Cosmetics, beauty supplies, and perfume stores (NAICS code 446120), Optical goods stores (NAICS code 446130), Food (health) supplement stores (NAICS code 446191), All other health and personal care stores (NAICS code 446199), Men's clothing stores (NAICS code 448110), Women's clothing stores (NAICS code 448120), Children's and infant's clothing stores (NAICS code 448130), Family clothing stores (NAICS code 448140), Clothing accessories stores (NAICS code 448150), Other clothing stores (NAICS code 448190), Shoe stores (NAICS code 448210), Jewelry stores (NAICS code 448310), Luggage and leather goods stores (NAICS code 448320), Sporting goods stores (NAICS code 451110), Hobby, toy, and game stores (NAICS code 451120), Sewing, needlework, and piece good stores (NAICS code 451130), Musical instrument and supplies stores (NAICS code 451140), Book stores (NAICS code 451211), News dealers and newsstands (NAICS code 451212), Prerecorded tape, CD, and record stores (NAICS code 451220), Department stores (NAICS code 452110), Warehouse clubs and superstores (NAICS code 452910), All other general merchandise stores (NAICS code 452990), Florists (NAICS code 453110), Office supplies and stationary stores (NAICS code 453210), Gift, novelty, and souvenir stores (NAICS code 453220), Used merchandise stores (NAICS code 453310), Pet and pet supply stores (NAICS code 453910), Art dealers (NAICS code 453920), Tobacco stores (NAICS code 453991), All other miscellaneous store retailers (NAICS code 453998).

[58] I did not download the 1994, 1995, 1996, or 1997 Complete ZIP Code Industry Detail File, because in those years industry categories were classified using the old Standard Industrial Classification (SIC), and not the current North American Industrial Classification System (NAICS).

Employment Density:

Employment density is calculated as total mid-March employment[59] in a ZIP Code divided by land area per square mile. The data to calculate employment density come from ZBP. I download the "Complete ZIP Code Totals File" for 1994-2000, which contains the employment data for those seven years. Therefore, I calculate Employment Density for 1994-2000.

3.1.2.1.2 Connectivity Measures

As explained in section 2.2, connectivity refers to the ease of moving between origins and destinations in the existing street structure, and is typically considered to be enhanced when streets follow a grid pattern with short blocks. Short blocks enable connectivity by providing direct and alternative routes, making movement easier and more convenient, especially on foot. Short city blocks imply a high density of city blocks – there will be more blocks per land area than in a location with longer city blocks. I therefore seek a measure of connectivity that reflects the density of city blocks in an area. My measure of connectivity is the quotient calculated by dividing the number of Census blocks in a ZCTA by the land area in square miles of the ZCTA. Therefore, I calculate the density of Census blocks in a ZCTA[60]. The evident assumption with this measure is that a Census block can be used to approximate a city block. Census blocks are the smallest geography for which the Census Bureau tabulates data. The Census Bureau's

[59] Mid-March employment is defined as follows (www.census.gov/econ/cbp/definitions.htm): "Paid employment consists of full- and part-time employees, including salaried officers and executives of corporations, who are on the payroll in the pay period including March 12. Included are employees on paid sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses."

[60] I thank Marlon Boarnet for suggesting this measure. Handy et al (2002) suggest a similar measure for street connectivity – the number of street intersections per square mile. Places with short city blocks and high block density will also likely have high intersection density.

geographic glossary[61] explains that "Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries, such as city, town, township, and county limits, property lines, and short, imaginary extensions of streets and roads. Generally, census blocks are small in area; for example, a block bounded by city streets." In cities, Census blocks are small geographical units typically bounded by city streets. As such, I utilize Census blocks as approximations of square city blocks. This approximation enables us to use the density of Census blocks as a measure for the density of city blocks, such that parcels of land exhibiting high Census block density are considered parcels with high connectivity. To calculate Census blocks per land area in square miles, I obtained from the Census Bureau[62] the number of Census blocks contained in each ZCTA in the U.S. I divide the number of Census blocks per ZCTA by the ZCTA land area in square miles to calculate the measure of urban connectivity, Census block density.

3.1.2.1.3 Land Use Mix Measures

Land Use Mix Entropy

As described in section 2.2, land use mix – the simultaneous presence of numerous land uses (such as residential, employment, recreational, commercial) in a place – is an important aspect of urban context. As such, I need to construct a measure of land use mix for ZCTAs, the primary unit of analysis. A frequently used measure of land use mix – as well as other varieties of regional diversity – is the "entropy" measure. Entropy is one of several metrics available to measure diversity for a categorical scale variable. In a study of industrial employment, Attaran

[61] See www.census.gov/geo/www/tiger/glossry2.pdf.

[62] I obtained the number of Census blocks per ZCTA from Andrew H. Flora, a geographer in the Linear Features Branch of the Geography Division in the U.S. Census Bureau. This was from the 2000 Census.

(1986, p.45) provides an excellent introduction to entropy as a measure of regional diversification: "In the academic literature, the subject of diversification has been hindered by the problem of defining regional diversity in a theoretically meaningful way and then of measuring and expressing relative diversity quantitatively. Diversity has been defined as 'the presence in an area of a great number of different types of industries', or as 'the extent to which the economic activity of a region is distributed among a number of categories'. This study [i.e. Attaran's] has approached industrial diversification in terms of balanced employment across industry classes. In the present study [i.e. Attaran's] Shannon's entropy is used as a measure of industrial diversity…. The entropy method measures diversity of a region against a uniform distribution of employment where the norm is equiproportional employment in all industrial sectors.[63]" Whereas Attaran uses entropy to capture regional industrial employment diversity, I use it to measure land use diversity in ZCTAs. Building from Attaran, my use of entropy follows Frank et al (2004), who use it to assess the "evenness of distribution of square footage" across a number of land use categories. As with Attaran, an even distribution of square footage between different uses in a geographic region – as compared to a concentration of square footage in one or two uses – is indicative of land use diversity. Land use mix entropy is calculated by Mobley[64], and is downloaded from the GeoDa Center for Geospatial Analysis and Computation website[65]. Mobley (following Frank et al) computes entropy as follows: $\frac{-\sum_{i=1}^{n} p_i \ln p_i}{\ln n}$, where

[63] Attaran (1986, p.45) also writes that "Entropy as a measure of disorder, uncertainty, or homogeneity has been used to measure many different phenomena. In the physical sciences, it has been used to measure the irreversible increase of 'unavailable energy'. In the biological and behavioral sciences, entropy has been used as a measure of organization. In communication theory, it quantifies the degree of uncertainty in a system."

[64] Lee Mobley. RTI Spatial Impact Factor Data – beta version 2.

[65] See geodacenter.asu.edu/node/134.

n is the number of land use categories, and p_i is the proportion of square footage in the ZCTA devoted to land use i. The resulting land use mix entropy measure ranges from 0 to 1, with 0 representing a homogeneous, single land-use environment such as a purely residential environment, and 1 representing maximal land use diversity (as in a diverse city center) where there is a (Frank et al 2004, p. 90) "perfectly even distribution of square footage across all…land uses". To calculate land use mix entropy, Mobley uses the 2001 National Land Cover Data (NLCD), which is produced by the EPA[66]. She explains that "The NLCD classifies all areas in 50 states plus Puerto Rico into 16 categories….Although most of the categories give detailed information on the natural environment, four categories classify developed land.[67]" The developed land categories are: developed open space, developed low intensity, developed medium intensity, and developed high intensity. Mobley further explains that "Developed areas fall into one of the four categories based on the percent of the area covered by impervious surfaces. The open space areas generally include large-lot single-family housing, parks, and golf courses. The low and medium intensity developed areas are generally made up of single-family housing units, and the high intensity developed areas include apartment complexes and commercial/industrial developments[68]. We used GIS software to calculate the amount of land in

[66] See www.epa.gov/mrlc/nlcd-2001.html.

[67] See geodacenter.asu.edu/node/134.

[68] For specific definitions of the four developed land categories used to calculate land use mix entropy, see www.epa.gov/mrlc/definitions.html. Developed land refers to areas "characterized by a high percentage (30 percent or greater) of constructed materials (e.g. asphalt, concrete, buildings, etc)." Developed open space includes "areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20 percent of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes." Developed low intensity includes "areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49 percent of total cover. These areas most commonly include single-family housing units." Developed medium intensity includes "areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79 percent of the total cover. These areas most commonly include single-family housing units." Developed high intensity includes "highly developed areas where people reside or work in high

each use category for counties, PCSAs, and ZCTAs. We subtracted the open water/perennial ice and snow areas from the total amount of land in the county to generate the area we would use in our land-use-mix index. From this area we then subtracted the land used in the four developed categories to obtain the measurement of non-developed land. This non-developed land area and the four developed areas were the five land use types for the land mix calculation. The land use mix [entropy index] has been calculated for all continental United States at the ZCTA, PCSA, and county levels of geography."

Housing Age Diversity

As explained in section 2.2, mixed building ages is a variant of land use mix, and I measure it by using Census data to compute housing age diversity. I calculate housing age diversity in two different ways: (1) housing age entropy, and (2) Simpson's reciprocal diversity index. I calculate both measures for 1990 and 2000 Census data. Census 2000 table H34 from Summary File 3 provides the number of housing units built in nine different year ranges[69]. Census 1990 table H025 from Summary Tape File 3 – which I downloaded from Geolytics – provides the number of housing units built in 8 different year ranges[70]. As with land use mix entropy, housing age entropy ranges from 0 to 1, where 0 represents housing age homogeneity in a ZCTA, with all housing units built in a single year range, and 1 represents maximal diversity, with a perfectly even distribution of housing units built across the various age ranges. Simpson's reciprocal

numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to100 percent of the total cover."

[69] The nine year categories are: 1999-2000; 1995-1998; 1990-1994; 1980-1989; 1970-1979; 1960-1969; 1950-1959; 1940-1949; 1939 and before.

[70] The eight year categories are: 1989-1990; 1985-1988; 1980-1984; 1970-1979; 1960-1969; 1950-1959; 1940-1949; 1939 and before.

diversity index is constructed from the following formula: $D = 1 - \sum_{i=1}^{n} p_i^2$, where i denotes the year categories in which housing units can be built, and p_i denotes the proportion of housing units built in a year range. The index measures the probability that two randomly chosen housing units in a ZCTA were built in different year ranges. Higher values of the index thus represent greater housing age mix[71].

3.1.2.1.4 Walking measures

I measure walking in a ZCTA by using the Census measure "Percentage of workers 16 years and older who walked to work". I calculate this measure for both 2000 Census data and 1990 Census data[72]. Although not all walking trips are to and from work, ZCTAs where residents can walk to work are likely places where they can also walk for other purposes (Freeman 2001, p.72). As such, I use this as the measure of walkability.

3.1.2.2 Demographic and socioeconomic control variables

In addition to urban context variables, there are a number of other factors that potentially predict the dependent variables, and that therefore need to be included in analyses. I describe these variables in turn.

[71] In 2000, the entropy measure correlates with Simpson's reciprocal diversity index at r=0.961. In 1990, the entropy measure correlates with Simpons's reciprocal diversity index at r=0.967. In my analyses, I use the Simpson's reciprocal diversity index.

[72] For Census 2000, this measure can be calculated by downloading table P30 from Summary File 3, and dividing the total workers 16 years and older who walk to work by the total workers 16 and older. For 1990, I download table P049 of Summary Tape File 3 from Geolytics. Again, divide total workers 16 years and older who walk to work by the total workers 16 and older.

Population

I employ measures of ZCTA population as independent variables. For 2000, I obtain the Census variable "100% Count of the Population"[73] from the Census 2000 ZCTA Gazetteer file. For 1990, I obtain the Census variable "100% Count of the Population"[74] from Geolytics. From Fischer (1975), one might hypothesize a threshold effect whereby populous places would achieve sufficient numbers of people to support greater and more varied political participation.

Age

From Census 2000, I obtain the variable "Median Age"[75] for ZCTAs. There is no "median age" variable available from Census 1990. One might hypothesize a negative relationship between age and participation in political activity like NMOs. Individuals may possess less physical energy to participate as they age. Also, older people may have more responsibilities (such as children) that may prevent them from participating, or may have more invested in preserving status quo societal relationships.

Marital Status

From Census 2000, I compute the variable "Percent of ZCTA population 15 years and older that is married"[76]. From Geolytics, I compute the Census 1990 variable "Percent of ZCTA population 15 years and older that is married"[77]. One might hypothesize a negative relationship

[73] Census 2000 table P3 from Summary File 3.

[74] Census 1990 table P003 from Summary Tape File 3.

[75] Census 2000 table P13 from Summary File 1.

[76] Census 2000 table P18 from Summary File 3.

[77] Census 1990 table P027 from Summary Tape File 3.

between the percentage of the population that is married and participation in NMOs. Additional marital obligations and responsibilities may constrain participation in political action.

Children in Household

From Census 2000, I compute the variable "Percent of ZCTA households with children under 18"[78]. From Geolytics, I compute the Census 1990 variable "Percent of ZCTA households with children under 18"[79]. One might hypothesize a negative relationship between the presence of children and participation in NMOs. Time and attention that could be devoted to political action must instead be expended on one's children.

Travel Time to Work

From Census 2000, I compute the variable "Mean ZCTA travel time to work in minutes for workers 16 years and older.[80]" From Geolytics, I compute the Census 1990 variable "Mean ZCTA travel time to work in minutes for workers 16 years and older.[81]" I anticipate that participation in political action like NMOs will relate negatively to mean travel time to work. Brady, Verba, and Schlozman (1995) conceive of a "resource" model of political participation, suggesting that possession of key "resources" explains engagement in political action. One

[78] Census 2000 table P10 from Summary File 3.

[79] Census 1990 table P019 from Summary Tape File 3.

[80] Census 2000 tables P31 and P33. From P31 I retain the total number of workers 16 years and older who did not work at home. From P33 I retain aggregate ZCTA travel time to work in minutes for workers 16 years and older who did not work at home. I calculate "2000 mean travel time to work in minutes for workers 16 years and older" by dividing aggregate travel time by total number of workers.

[81] Census 1990 tables P050 and P051. From P050 I retain the total number of workers 16 and over who did not work at home. From P051 I retain the aggregate travel time to work in minutes for workers 16 years and older who did not work at home. I calculate "1990 mean travel time to work in minutes for workers 16 years and older" by dividing aggregate travel time by total number of workers.

primary resource necessary for political participation is time. They note that (p.273) individuals "use time in the service of political action in many ways (e.g. working in a campaign, writing a letter to a public official, attending a community meeting)", or participating in a movement organization. In a number of empirical specifications, they find a positive relationship between "free time" and participation in politics. Therefore, to the extent that travel decreases available "free time", time spent in travel should relate negatively to participation in NMOs.

Educational Attainment

From Census 2000, I calculate the variable "Percent of ZCTA population 25 years and older with a bachelor's degree or above.[82]" From Geolytics, I calculate the Census 1990 variable "Percent of ZCTA population 25 years and older with a bachelor's degree or above.[83]" I anticipate that education and participation in NMOs should positively relate. Recent research links education both to democratization and to political participation more generally. For instance, recent work by Glaeser, Ponzetto, and Shleifer (2007) describes how education leads to democratization at the national level. They find a positive empirical relationship between the Jaggers and Marshall democracy score in 1960 and years of education in 1960, as well as finding a positive correlation between the 1960-2000 change in the democracy score and years of schooling in 1960. They conclude that higher initial national rates of schooling predict later transitions from dictatorship to democracy. Brady, Verba, and Schlozman (1995, p.284-5) suggest two reasons that education is conducive to political participation: (1) "it instills political interest and participatory motivations, and (2) it "leads to [civic] skills that facilitate [political] activity." Civic skills are (p.273) "those communications and organizational capacities that are so essential to political

[82] Census 2000 table P37 from Summary File 3.

[83] Census 1990 table P057 from Summary Tape File 3.

activity", possessed by citizens "who can speak or write well or who are comfortable organizing and taking part in meetings" and who thus "are likely to be more effective when they get involved in politics." Education enhances these important "communications and organizational capacities." Similarly, Glaeser, Ponzetto, and Shleifer (2007, p.82) contend that education facilitates political participation by "teaching people how to interact successfully and productively with others." They note that education "raises the benefit from social participation because it facilitates seamless information exchange. Educated people are better able to express what they know, to inform, and to persuade. They are also better able to acquire new information, to understand, and to learn. Schooling also teaches rules of behavior that make a discussion between educated people both more informative and less likely to degenerate into a quarrel." In short, education enables political participation through the improvement of social interactions. In empirical analyses, both authors find positive relationships between education and civic and political activity.

Percentage in Same House

From Census 2000, I compute the variable "Percent of ZCTA population 5 years and older living in the same house for five or more years"[84]. From Geolytics, I compute the Census 1990 variable "Percent of ZCTA population 5 years and older living in the same house for five or more years"[85]. One might hypothesize a positive relationship between the ZCTA percentage living in the same house for five or more years and political participation. Social and political connections can be built when a high percentage of a location's residents have lived there for an

[84] Census 2000 table P24, from Summary File 3.

[85] Census 1990 table P043, from Summary Tape File 3.

extended period. Also, one becomes committed to a place the longer they live there, and as such may feel more compelled to participate politically.

Renter Occupied

From Census 2000, I compute the variable "Percent of ZCTA housing units that are renter occupied"[86]. From Geolytics, I compute the Census 1990 variable "Percent of ZCTA housing units that are renter occupied"[87]. One might hypothesize a negative relationship between renting and political participation. High percentages of renters could indicate a transient population and less political participation. Conversely, if there is a class basis to participation in NMOs, we might observe a positive relationship between participation and renting. Also, renters may be less socially attached, and thus more ready to join NMOs.

Income

From Census 2000, I obtain the variable "Median household income in 1999 for ZCTAs"[88]. From Geolytics, I obtain the Census 1990 variable "Median household income in 1989 for ZCTAs"[89]. One might hypothesize a positive relationship between household income and political participation. Brady, Verba, and Schlozman (1995) consider income to be another "resource" for political participation. They point out that (p.273) money "can be donated to candidates, parties, or innumerable political organizations or causes." They contend that higher income people are typically more likely to participate in politics than lower income people.

[86] Census 2000 table H7, from Summary File 3.

[87] Census 1990 table H008, from Summary Tape File 3.

[88] Census 2000 table P53, from Summary File 3.

[89] Census 1990 table P080A, from Summary Tape File 3.

Conversely, to the extent that NMOs concern themselves with issues of equality, liberty, and solidarity, one could hypothesize that higher income individuals would prefer to maintain status quo social arrangements, and would therefore be less likely to participate in this specific form of political action. Therefore, we could observe a negative relationship between income and NMOs. Finally, there also could be a curvilinear relationship, with participation increasing with income, but with the most affluent less participatory.

Median Gross Rent

From Census 2000, I obtain the variable "Median gross rent for specified renter-occupied housing units, in ZCTAs"[90]. From Geolytics, I obtain the Census 1990 variable "Median gross rent for specified renter-occupied housing units, in ZCTAs"[91]. One might hypothesize a negative relationship between median gross rent and participation in NMOs. Living in a low-rent ZCTA might predispose one towards participating in groups that concern themselves primarily with equality, liberty, and solidarity. Therefore, as median ZCTA rent increases, participation in such organizations would decrease. Conversely, if money is a resource for political participation generally, then the ability to pay high rents would indicate possession of this resource. If true, then median ZCTA rent would relate positively to political participation.

[90] Census 2000 table H63, from Summary File 3. Gross rent "is the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid by the renter (or paid for the renter by someone else). Gross rent is intended to eliminate differentials that result from varying practices with respect to the inclusion of utilities and fuels as part of the rental payment." See www.census.gov/prod/cen2000/doc/sf3.pdf.

[91] Census 1990 table H043A, from Summary Tape File 3.

Racial Diversity

I calculate racial diversity for ZCTAs in two ways: (1) a racial entropy measure, and (2) using Simpson's reciprocal diversity index (both previously defined). I calculate both measures for 2000 and 1990 Census data. Census 2000 table P7 from Summary File 3 provides the population in 14 different racial categories[92]. Census 1990 table P012 from Summary Tape File 3 provides the population in 10 different racial categories[93]. Racial entropy ranges from 0 to 1, where 0 represents complete racial homogeneity in a ZCTA, with the entire ZCTA population of a single race, and 1 represents maximal diversity, with a perfectly even distribution of individuals across the various racial categories. The Simpson's reciprocal diversity index in constructed from the following formula: $D = 1 - \sum_{i=1}^{n} p_i^2$, where i denotes the racial categories, and p_i denotes the proportion of ZCTA population in racial category i. The index measures the probability that two randomly chosen individuals are from different races. Higher values of the index thus represent greater racial diversity[94]. One might hypothesize a positive relationship between racial diversity and participation in NMOs. Matters of equality, liberty and solidarity could be more salient in places characterized by racial heterogeneity. Groups concerned with such issues thus may concentrate in racially diverse places. Conversely, if racial diversity makes cooperation on political matters more difficult, it may relate negatively to political participation.

[92] The 14 racial categories are: White, Black, Native American, Asian, Hawaiian, Other, Mixed, Hispanic White, Hispanic Black, Hispanic Native American, Hispanic Asian, Hispanic Hawaiian, Hispanic Other, Hispanic Mixed.

[93] The 10 racial categories are: White, Black, Native American, Asian or Pacific Islander, Other, Hispanic White, Hispanic Black, Hispanic Native American, Hispanic Asian or Pacific Islander, Hispanic Other.

[94] For 2000, the Racial entropy measure and the Simpson's reciprocal diversity index correlate to r=0.981. For 1990, the Racial entropy measure and the Simpson's reciprocal diversity index correlate to r=0.979. In my analyses, I use the Simpson's reciprocal diversity index.

Foreign Born Diversity

I calculate diversity of the places of birth for the foreign born population for ZCTAs in two ways: (1) a foreign born entropy measure, and (2) using Simpson's reciprocal diversity index (both previously defined). I do this for 2000 Census data[95]. I utilize Census 2000 table PCT19 from Summary File 3 to calculate the percent of the foreign born population born in six categories[96]. I use these percentages to calculate the two measures. As above, Foreign born entropy ranges from 0 to 1, where 0 represents complete foreign born homogeneity in a ZCTA, with the entire ZCTA foreign born population from a single foreign category, and 1 represents maximal diversity, with a perfectly even distribution of the foreign born from the various foreign categories. The Simpson's reciprocal diversity index in constructed from the following formula: $D = 1 - \sum_{i=1}^{n} p_i^2$, where i denotes the foreign categories, and p_i denotes the proportion of ZCTA foreign born population in foreign category i. The index measures the probability that two randomly chosen foreign born individuals are from different foreign categories. Higher values of the index represent greater foreign born diversity.[97] As above, if foreign born diversity in a place makes issues of equality, liberty, and solidarity more salient, then one may hypothesize a positive relationship between foreign born diversity and participation in NMOs. Conversely, if such diversity makes political cooperation more difficult, then it may relate negatively to political participation.

[95] Census 1990 does not give place of birth for the foreign born population, so I cannot calculate these measures for 1990.

[96] The six categories are: Europe, Asia, Africa, Oceania, Americas, and Born at Sea.

[97] For 2000, the Foreign Born entropy measure and the Simpson's reciprocal diversity index correlate to r=0.987. In my analyses, I use the Simpson's reciprocal diversity index.

3.2 Methods and results

The analytical plan has several aspects. In 3.2.1, I test hypotheses 1-5 using linear regression. In 3.2.2, I assess mediation – hypothesis 6 – by employing Sobel tests. In the remaining sections, I account for potential problems stemming from shortcomings of the data and the main analyses. Specifically, in 3.2.3 I explore additional explanations and attempt to further validate the use of the current NMO dependent variable. In section 3.2.4 I examine counterfactual scenarios by estimating regressions with alternative dependent variables and then contrasting the results to regressions using NMOs as the dependent variable. These analyses and results from them are described below.

3.2.1 Regressions

To test hypotheses 1-5, I employ the variables described above to estimate a number of regressions. Specifically, I examine the direct effects of density, connectivity, land-use mix, and walking on NMO activity, controlling for relevant demographic and socio-economic factors. I do this by estimating regressions with an NMO index as the dependent variable, urban context and walking as independent variables and ZCTAs as the unit of observation.

As noted above, I have three different NMO measures for the dependent variables: (1) Human Rights groups, (2) Environmental, Conservation, and Wildlife groups, and (3) Other Social Advocacy groups. First, I use factor analysis[98] to combine these three measures into a single NMO index, and then use this index as the dependent variable in OLS regressions. Table 4 gives the results of this factor analysis. As evident from the factor matrix, these three measures load

[98] Factor analysis was carried out in SPSS, using principal axis factoring with varimax rotation. Since only one factor was extracted, the solution was not rotated.

highly on a single factor, thus suggesting the presence of an underlying NMO dimension accounting for the correlation between the three measures. I compute the factor scores and use them as values for the dependent variable in subsequent regressions.[99]

I report standardized slope coefficients from these regressions, because as Gelman (2007, p.2871) suggests, they enable "more understandable inferences than the current default, which is typically to include [in the regression estimation] variables however they happen to have been coded in the data file." I also have tables for the default, unstandardized coefficients which I can provide if desired, and which have t-statistics identical to standardized coefficients. Standardization is common in applied regression, but Gelman suggests a slight modification which I employ. Commonly, standardization is carried out in applied regression by taking one's independent variables and subtracting the mean and dividing by the standard deviation. Regression estimations are performed on these rescaled variables. Then, (Gelman 2007, p.2865) each "coefficient in this standardized model is the expected difference in the outcome, comparing units that differ by one standard deviation in an input variable with all other inputs fixed at their average values." [100] In lieu of this typical standardization routine, Gelman offers a slight modification which I utilize. For all independent variables (except binary variables), Gelman suggests mean centering and dividing by two standard deviations. He suggests that since binary variables (i.e. variables taking 0, 1 values) with equal probabilities have a mean and standard deviation equal to 0.5, rescaling in this way gives continuous independent variables a

[99] I also estimated regressions with a dependent variable that is the summation of the ZCTA counts of human rights groups, environmental groups, and other social advocacy groups. The results from analyses using the summation index as the dependent variable are very similar to results [reported below in full] from analyses using the NMO index constructed from factor analysis.

[100] Gelman (2007, p.2865) notes that "subtracting the mean typically improves the interpretation of main effects in the presence of interactions, and dividing by the standard deviation puts all predictions on a common scale."

standard deviation of 0.5 as well, putting binary and continuous variables on a comparable scale. Coefficients will give the expected change in the outcome for a change of two standard deviations in an input variable, which happens to be approximately the same as a change from 0 to 1 for a binary predictor. Overall, (Gelman 2007, p.2871) "rescaling numeric regression inputs by dividing by two standard deviations is a reasonable automatic procedure that avoids conventional standardization's incompatibility with binary inputs…[and that] usefully contributes to the goal of understanding a model whose predictors are on different scales." The regression coefficients reported below are these Gelman standardized coefficients.

3.2.1.1 Regression results

Table 5 reports Gelman standardized coefficients for regressions relating the NMO index to independent variables described above: (a) social and economic controls, (b) urban contextual factors, and (c) walking. Again, ZCTAs are the unit of geography. Across the 16 estimations, the adjusted R^2 ranges from 0.180 to 0.246.

Among the social and economic factors, several appear relatively important. Education consistently is a strong positive predictor of NMO activity, showing the largest standardized coefficient among all of the social and economic variables. The presence of children in households also consistently predicts NMO activity, but in this case in a strong negative and significant direction. The median age in a ZCTA is also a negative predictor of NMO activity. The standardized coefficients suggest that ZCTAs with older median residents have lower incidence of NMOs. There are consistently strong positive standardized coefficients on the population variable, suggesting that ZCTAs with larger populations exhibit higher levels of

NMO activity. Finally, two variables – the percent living in the same house for five years and the percent married – also negatively predict NMOs, but with smaller standardized coefficients than the previously mentioned socio-economic variables. Overall, education and population positively predict NMO activity, while presence of children, median age, percent living in the same house for five years, and percent married all negatively predict the dependent variable.

The population density, housing density, retail density, and employment density variables provide tests for H1. To reiterate, H1 claims that in urban locales with higher density, there is a higher incidence of NMOs. Looking at estimations 1 – 4 of Table 5, population density is consistently a positive and significant predictor of NMO activity, with standardized coefficients ranging from 0.094 to 0.177 across the various specifications. From estimations 5 – 8, we similarly observe that housing density also positively and significantly relates to the NMO index. The housing density standardized coefficients range from 0.250 to 0.319, close to the largest magnitudes – and possible importance – of the variables in columns 5 – 8. The retail density estimates in columns 9 – 12 show a similar pattern, with strong positive and significant coefficients. The retail density standardized coefficients obtain the largest magnitudes of all variables in these four estimations (0.553 to .610), thus suggestive of the relative importance of this variable. Finally, in columns 13 – 16, employment density obtains consistently positive and significant coefficients. Ranging from 0.226 to 0.291, these too are relatively large in magnitude across the final four estimations, also suggesting the importance of this variable in accounting for NMO activity. As such, the consistently strong positive and significant coefficients on these four density measures provide substantial evidence in support of H1.[101]

[101] Coefficients on log-transformed density measures are generally similar to the above, with some minor differences.

The coefficients on the land use entropy variable provide tests of H2, which concerns the relationship of mixed land uses and NMOs. H2 posits that in urban locales with more mixed land uses, there is a higher incidence of NMOs. If these data support the hypothesis, coefficients on the land use entropy variable should be positive and significant. However, the consistent negative and significant coefficients (in columns 3, 4, 7, 8, 11, 12, 15, and 16 of Table 5) are contradictory to what I hypothesized. H2 is therefore not supported by these data. However, these results may in part be a reflection of entropy's inadequacy as an indicator of mixed land use. Brown et al (2009) describe six ways in which entropy measures may depict situations other than mixed use. For instance, they show that entropy measures can achieve high scores (supposedly suggestive of high mixed use) even in the absence of a wide range of land uses. In general, the authors reveal the sensitivity of entropy scores to changes in the breadth and definitions of the land use categories, such that the indicator's scores may or may not actually correspond to mixed land uses. Therefore, if the entropy measure I use does not adequately measure the land use mix construct, then the contrary results may be more of a reflection of this inadequacy than an actual rejection of H2. As discussed in Part 4 of this dissertation, it likely remains for future research to identify, construct, and utilize better measures of mixed land uses at the ZCTA level.

H3 posits that in urban locales with more mixed building ages, there is a higher incidence of NMOs. Once again, if these data support this hypothesis, we should observe positive and significant regression coefficients on the housing age diversity variable. In all cases, I observe positive and significant standardized coefficients on the housing age diversity variable (in columns 1, 2, 5, 6, 9, 10, 13, and 14 of Table 5), consistent with the hypothesized direction of

effect. Although the magnitude of effect is smaller than for the other urban contextual variables, the consistency of the positive and significant observed relationships provides evidence in support of H3.

The coefficients on "Census blocks / sq. mi" provide tests of H4, which explores the relationship between urban connectivity and NMOs. H4 claims that in urban locales with higher connectivity (in the form of short city blocks), there is a higher incidence of NMOs. If H4 is supported by these data, there should be positive and significant coefficients on the "Census blocks / sq. mi" variable. In all estimations in Table 5, I observe positive and significant relationships between Census blocks / sq. mi and the NMO index, consistent with the hypothesized direction of effect. The magnitudes of the standardized coefficients on Census blocks / sq. mi are large in comparison to the other variables, suggesting the relative importance of connectivity in predicting NMOs. Therefore, there is substantial evidence in support of H4.

Finally, the coefficients on the "walked to work" variable provide tests of H5, which considers the relationship between walking and NMOs. Specifically, H5 states that in urban locales with more walking, there is a higher incidence of NMOs. If H5 is supported by the data, I should observe positive and significant coefficients on the walked to work variable. In all estimations (columns 1, 3, 5, 7, 9, 11, 13, and 15 of Table 5), there are strong positive and significant relationships between walking to work and the incidence of NMOs. The magnitudes of the standardized coefficients on walking are large in comparison to the other variables, suggesting

the relative importance of walking in predicting NMOs. Therefore, there is substantial evidence in support of H5.[102]

Before moving on to the empirical examination of H6, several regression diagnostics and robustness tests are discussed here. First, spatial autocorrelation may occur due to geographic adjacency of the ZCTA observational units, complicating causal inference and potentially leading to mistakes in hypothesis testing if not accounted for. If left unaddressed, the potential spatial dependence of ZCTAs in close geographic proximity can artificially deflate standard errors of regression slope coefficients, leading to inflation of t-statistics and possible inferential errors. As such, I conduct several analyses to account for such possibilities: (1) I construct and estimate a spatial lag model, and (2) I compute cluster-robust standard errors. Spatial econometrics (Anselin and Bera 1998, p.237) is a field of applied econometrics that creates models to deal with specification and estimation problems arising from spatial dependence and autocorrelation in cross-sectional data. As such, it is a comprehensive and formal means for dealing with the spatial nature of social scientific data. I estimate a spatial lag autoregressive model to account for this potential geographic dependence. A spatial lag model accounts for spatial autocorrelation by constructing and including a spatially lagged dependent variable on the

[102] Several other tests provide additional evidence in support of H5. First, regression coefficients on an "alternative" measure of walking agree with the coefficients on the walking variable in Table 5. This alternative measure is constructed as the percentage of all workers who walk, bike, ride the bus, or ride the train to work. This alternative walking measure has a correlation of 0.834 with the main walking variable (i.e. the percent of all workers who walk to work). Underlying this alternative measure is the idea that walking, biking, and public transportation are complementary to and reinforce one another, since places conducive to biking and public transport are also likely to be conducive to walking. All of these forms of transportation are characterized by people interacting with their locale in a direct way, as opposed to merely passing through it in a car. Results from regressions using this "alternative" walking measure are very similar to those using the basic walking measure. The regression coefficients on the alternative walking variable are actually greater in magnitude than the coefficients on the basic walking variable given in Table 5. By contrast, I find a strong and consistent negative statistically significant relationship between NMOs and the percentage of workers who drive to work. If the posited mechanisms linking walking and NMOs are correct, they would seem to imply the opposite relationship between driving and NMOs. Thus, the observed negative relationship between driving and the incidence of NMOs points to the robustness of the evidence in favor of H5.

right-hand side of the regression equation. The spatially lagged dependent variable is constructed by using ZCTA centroid latitudes and longitudes to compute distances between ZCTAs, and is essentially a weighted average of the dependent variable for ZCTAs within a threshold distance of one another. When included in the regression model, this distance-based weighted average depicts the spatial relationship between values in a neighborhood set, and implies that a particular ZCTA's NMO activity is influenced by the neighboring (as defined by the weights matrix) ZCTA's NMO activity.

I estimate several spatial lag models using Anselin's GeoDa software. I find that inclusion of the spatially lagged dependent variable does not substantially change the regression coefficients of interest. For instance, when the threshold distance is 35 miles, the coefficients on density, connectivity, housing age diversity, and walking are close to identical to the values in Table 5. I also observe similar results as the threshold distance is increased, such as to 45 or 55 miles. Overall, the regression coefficients of interest barely change when the spatially lagged dependent variable is included in the regression model, providing substantial evidence that spatial autocorrelation is not a major issue.

The second way that I address potential autocorrelation is by computing cluster-robust standard errors (CRSE). Cluster-robust standard errors are typically computed to correct for intraclass correlation, which occurs when observations within classes or groups are correlated, but observations across groups are not. For instance, there would be intraclass correlation if ZCTAs from the same city are correlated on levels of the dependent variable. There may be attributes of the cities in which ZCTAs are located that are the same for all ZCTAs in a city. Those ZCTAs

will likely be correlated in terms of their values on key variables. This kind of spatial dependence is a violation of the Classical Linear Regression assumption that errors are independent and identically distributed (Primo, Jacobsmeier, and Milyo 2007, p.447). Incorrectly assuming independence of errors can lead to underestimation of regression standard errors and "exaggerated levels of statistical significance to coefficient estimates".[103] Calculating CRSE is a method commonly used to adjust standard errors for the possibility of such intraclass correlation and non-independence of errors. CRSE leaves OLS point estimates unchanged, and computes robust standard errors by permitting observations within clusters to be correlated, but assumes no correlation for observations across clusters.[104] One shortcoming of CRSE is that the procedure has been shown to work as long as the number of clusters is large enough. Recent simulations (Kezdi 2003) suggest that at least 50 clusters are typically needed to ensure improvements in inference.[105] I estimate an OLS regression with cluster corrected standard errors for the subset of ZCTAs from central cities with populations of 250,000 and above.[106] The "cluster" is central cities, and there are 67 clusters. I was unable to cluster correct the standard errors for a regression using the full dataset because not all ZCTAs in the U.S. are located in a central city. The conclusions from the cluster corrected regressions mirror those from the spatial lag models above. Most of the coefficients of interest remain significant after cluster corrections are conducted, with only a few becoming insignificant. Because the spatial lag models allow for

[103] As Primo, Jacobsmeier, and Milyo (2007, p.453) explain: "The intuition is that OLS, by treating every observation as independent, calculates standard errors as if there is more data than actually exists once the dependence of observations is accounted for."

[104] Specifically, CRSE calculate a variant on Huber-White variance estimates.

[105] Nichols and Schaffer (2007) write that the "CRSE is asymptotic in the number of clusters M. If M is small, there is no guarantee that the cluster-robust estimator will improve your inference – the cluster-robust estimator may make matters worse. Kezdi (2003) shows that 50 clusters is often close enough to infinity for accurate inference…."

[106] This is about 9% of the total number of national ZCTAs.

utilization of the entire sample, they seem to be a somewhat preferable method for evaluating spatial autocorrelation. Still, both sets of results lead to a similar conclusion that autocorrelation is not a major issue.[107] Finally, a number of common diagnostic tests suggest that the assumptions of the Classical Regression Model are met[108], while several additional analyses[109] point to the robustness of the above results.

In summary, I find evidence in support of H1, H3, H4, and H5, and evidence in contradiction to H2. Furthermore, the large magnitudes on the housing, retail, and employment density variables, as well as on the connectivity and walking variables suggest the relative importance of these factors in predicting NMOs when compared to the other variables included in the regression.

[107] Results for the spatial lag models and the cluster corrected regressions are available upon request.

[108] For instance, multicollinearity is not an issue. The variance inflation factors do not point to many collinear variables, and coefficients do not change when potentially collinear variables are omitted. Heteroskedasticity is also not a major concern. Residual plots suggest the possible presence of heteroskedasticity, but almost all coefficients of interest remain significant when regressions are estimated with heteroskedasticity-robust standard errors. There is also no evidence of nonlinear relationships between the dependent and independent variables. Partial regression plots and residual vs. predicted plots do not suggest issues with non-linearity. There are several potential outliers on the dependent variable, but the results do not change when those outliers are deleted and the regression estimated. Finally, if the raw count data is used as the dependent variable (instead of the factor scores from the factor analysis) it may be worthwhile as a robustness check to also estimate using negative binomial regression. Most of the coefficients of interest remain significant when estimated this way. As such, given these diagnostics and additional tests, I feel that these data meet the assumptions of the classical regression model.

[109] First, regressions using independent variables from 1990 instead of 2000 return almost identical results to those reported in Table 5. Second, to account for overall city size, I estimate regressions including a dummy variable for city size. This dummy variable takes the value of 1 if a ZCTA is in a central city with at least 250,000 people. By "city", I am here referring to Census Defined Places (CDP). The CDP is the city municipality. The New York city CDP has a population of 8 million. By contrast, the New York City – Northern New Jersey – Long Island Metropolitan Statistical Area (of which the New York city CDP is a part) has a population of over 21 million. The results from these regressions are also almost identical to Table 5. Third, I filter out those ZCTAs from central cities with populations of at least 250,000 and estimate regressions on that subset of data. I identify the ZCTAs within CDPs by using the "Geo in Geo" feature on the U.S. Census Bureau's American Factfinder (see factfinder.census.gov). I rank the CDPs by population to determine which CDPs have populations over 250,000. I can then use Geo in Geo to select the ZCTAs that are contained in those CDPs. Again, results were similar to Table 5. Finally, I also estimate regressions in which the urban variables are included in the regressions one at a time, as opposed to all together, again achieving similar results. These results are not reported here, but are available if desired.

3.2.2 Mediation

H6 suggests a specific conceptual relationship between a third variable (walking), the independent variable (urban context), and the dependent variable (NMOs), specifically that walking mediates between urban context and NMOs. As such, I conduct empirical analyses to assess the magnitude and statistical significance of this mediation. Mediation implies a causal path (Judd and Kenny 1981, Baron and Kenny 1986, MacKinnon, Krull, and Lockwood 2000, MacKinnon, Lockwood, Hoffman, West, and Sheets 2002) running from the independent variable, through a mediating third variable, to the dependent variable.[110] The mediating variable intervenes between the independent and dependent variables, with the causal effect transmitted through walking.[111] OLS regression can be used to estimate the magnitude of the mediated effects, and recently developed procedures enable statistical significance tests of these estimates. Following the literature, one way of measuring the mediation effect is to calculate the reduction of the effect of the independent variable on the outcome that results from controlling for the mediator. This is defined as a difference of coefficients, $\tau - \tau'$, where τ is the slope coefficient on urban context in a regression estimation that excludes walking, and τ' is the slope coefficient on urban context in a regression estimation including walking. Paraphrasing MacKinnon, Krull, and Lockwood (2000, p.176), the difference $\tau - \tau'$ represents the mediated effect that urban

[110] MacKinnon, Krull, and Lockwood (2000, p.173) write that an "indirect or mediated effect implies that the independent variable causes the mediator, which, in turn causes the dependent variable."

[111] Mediation effects differ from other third variable effects. As MacKinnon, Krull, and Lockwood (2000) note, whereas mediating variables are considered as part of the causal system between independent and dependent variables, confounding variables typically are not. Instead, confounding variables are included in a regression estimation to remove distortion from the relationship between independent and dependent variables. They write that (2000, p.179) the "confounding hypothesis…focuses on adjustment of observed effects to examine undistorted estimates of effects." MacKinnon, Krull, and Lockwood (2000, p.174) provide a hypothetical example, whereby an excluded third variable ("age") confounds the relationship between an independent variable ("income") and dependent variable ("cancer rates"). By including "age" in a regression of "cancer rates" on "income", one removes this potential source of distortion and gains a better depiction of the true relationship between "income" and "cancer rates". However, income does not cause age, which then causes cancer. Although these conceptual differences distinguish mediating and confounding variables, in practice statistical tests for mediation and confounding are often identical.

context has on NMOs by causing changes in walking, which then causes NMOs. Assuming a positive relationship between urban context and NMOs, if walking mediates the relationship between urban context and NMOs, τ will be greater than τ', such that $\tau - \tau' > 0$.

We can see potential evidence of mediation from the regression output in Table 5.[112] Comparing column (1) to (2), when walking is inserted into the regression the standardized coefficient on population density decreases from 0.177 to 0.134. Similarly, comparing (3) to (4), the coefficient on population density again declines from 0.120 to 0.094. Such declines are suggestive of mediation effects, the magnitude of which is calculated as 0.177 - 0.134 = 0.043. We also see possible evidence of mediation when looking at the other three density measures. Comparing columns (5) and (6) and columns (7) and (8), controlling for walking decreases the coefficient on housing density from 0.319 to 0.281 and 0.273 to 0.250 respectively, thus also indicative of mediation. Comparing columns (9) and (10) and columns (11) and (12), controlling for walking decreases the coefficient on retail density from 0.610 to 0.568 and 0.589 to 0.553 respectively. Finally, comparing columns (13) and (14) and columns (15) and (16), the insertion of walking decreases the coefficient of employment density from 0.291 to 0.245 and 0.265 to 0.226 respectively, thus also indicative of mediation. These coefficient differences suggest that walking consistently mediates the relationship between density and NMOs.

Turning to connectivity (Census blocks / sq. mi), there appears to be mediation in about half of the possible comparisons. Comparing columns (3) and (4), controlling for walking decreases the coefficient on "Census blocks / sq. mi" from 0.415 to 0.360, suggestive of an indirect effect. Similarly, comparing columns (7) and (8), columns (11) and (12), and columns (15) and (16),

[112] I will conduct formal significance tests below using the Sobel test.

inserting walking into the estimation decreases the coefficient on "Census blocks / sq. mi" from 0.340 to 0.285, from 0.190 to 0.165, and from 0.386 to 0.338, respectively. By contrast, the walking variable does not appear to substantially decrease the coefficient of "Census blocks / sq. mi" for columns (1) and (2), columns (5) and (6), columns (9) and (10), and columns (13) and (14).

For housing age diversity, mediation does not appear to be present. In all circumstances, including walking in the regression actually increases the magnitude of the coefficient on the housing age diversity variable. For instance, comparing columns (1) and (2), controlling for walking increases the coefficient on housing age diversity from 0.073 to 0.102. This is suggestive of a "suppression" effect and not a mediation effect, and is also apparent between columns (5) and (6), columns (9) and (10), and columns (13) and (14).

Finally, the mediation scenario is complicated for mixed land uses. As noted previously, the data did not provide evidence in support of H2, and instead appeared to show a negative and significant direct effect between land use entropy and the dependent variable, contrary to the hypothesized positive direct effect. Since H6b assumes a positive direct effect between land use entropy and NMOs, the observed negative coefficient on land use entropy would conceptually seem to rule out a mediation effect of walking on the relationship between land use mix and NMOs. However, if one looks at Table 5, the inclusion of walking technically appears to mediate the relationship between land use mix and the NMO index. For instance, comparing columns (3) and (4), we can see that the coefficient on land use entropy is made less negative upon the inclusion of walking (the coefficient moves from -0.312 to -0.214). This decrease in

magnitude is also present for columns (7) and (8), columns (11) and (12), and columns (15) and (16), suggesting that mediation is technically present. Overall, Table 5 suggests that there are mediation effects for density and connectivity, suppression effects for housing age diversity, and technically (if not conceptually) mediation for land use mix.

I need to conduct significance tests for these apparent mediation effects since they may arise due to sampling variability. By far, the most common test for mediation is the Sobel test, which takes the following form: $z = \frac{\alpha\beta}{\sqrt{\alpha^2\sigma_\beta^2 + \beta^2\sigma_\alpha^2}}$, with the mediated effect calculated as a product of coefficients, αβ, where α is the slope coefficient in a regression of the mediator on the independent variable, and β is the slope coefficient on the mediator in a regression of the dependent variable on the mediator and independent variable. The denominator is the standard error, where σ_α^2 is the variance of α and σ_β^2 is the variance of β. The standard error is derived using a first order Taylor series approximation and assumes that α and β are independent. MacKinnon, Krull, and Lockwood (2000, p.176) point out that αβ and $\tau - \tau'$ are equivalent ways to calculate the mediated effect. Since it is the most commonly used, I employ the Sobel test to examine the statistical significance of mediation effects posited in H6a – H6d. This necessitates calculating both α and β.[113] β is the coefficient on the walking variable in Table 5, whereas α is the coefficient on density, connectivity, housing age diversity, or land use mix in a regression with walking as the dependent variable.[114] As such, α depicts the "path" from the independent variable to walking, while β depicts the "path" from walking to the NMO index. Since I am

[113] One can use either the standardized or unstandardized coefficients and their appropriate variances to compute the Sobel test statistic. The z-value will be the same either way.

[114] The regressions in which I calculate α are not shown here, but can be provided.

assuming positive relationships between variables, α and β must take on positive values. Below are some results from Sobel tests of mediation. There are 8 columns from Table 5 that contain walking and therefore are of interest for these Sobel tests. In each of these 8 columns, there are three other urban variables included alongside walking. Since I am interested in whether walking mediates between the urban variables of interest and the NMO index, there are 8 x 3 = 24 possible Sobel tests. I have performed all 24 of these tests, but for concision do not report them all here.[115] The column numbers in the examples below refer to Table 5.

H6a:
(i) Column 1: Population density
$\alpha = 1.46357$
$S_\alpha = 0.0830127$
$\beta = 0.289366$
$S_\beta = 0.0133389$
Sobel test: $z = (1.46357 * 0.289366) / (\sqrt{((1.46357^2 * 0.0133389^2) + (0.289366^2 * 0.0830127^2)})$
$z = 13.6819$, p-value = 0.00

(ii) Column 5: Housing density
$\alpha = 1.36617$
$S_\alpha = 0.0783296$
$\beta = 0.275542$
$S_\beta = 0.0132773$
Sobel test: $z = (1.36617 * 0.275542) / (\sqrt{((1.36617^2 * 0.0132773^2) + (0.275542^2 * 0.0783296^2)})$
$z = 13.3521$, p-value = 0.00

The above are Sobel tests for density (H6a). Both of these Sobel tests indicate statistically significant mediation effects. The other six Sobel tests (2 for retail and employment density, and 1 more for population and housing density, not here reported) are also highly significant, all with $z > 9$. As such, I conclude that there is substantial evidence to conclusively support H6a.

[115] These are available upon request.

H6b:
(i) Column 3: Land use entropy
$\alpha = -3.145054$
$S_\alpha = 0.0838989$
$\beta = 0.297429$
$S_\beta = 0.0148832$
Sobel test: $z = (-3.145054 * 0.297429) / (\sqrt{((-3.145054^2 * 0.0148832^2) + (0.297429^2 * 0.0838989^2)})$
$z = -17.6348$, p-value = 0.00

(ii) Column 7: Land use entropy
$\alpha = -3.152855$
$S_\alpha = 0.0839553$
$\beta = 0.287691$
$S_\beta = 0.0148238$
Sobel test: $z = (-3.152855 * 0.287691) / (\sqrt{((-3.152855^2 * 0.0148238^2) + (0.287691^2 * 0.0839553^2)})$
$z = -17.2412$, p-value = 0.00

The above are mediation results for the land use entropy variable (H6b), and there are two other specifications that give the same outcome. As previously discussed, the hypothesis positing a positive direct effect between land use mix and NMOs (H2) was not supported by the data. Since H6b assumes this positive direct effect, the observed negative coefficient on land use entropy in Table 5 would conceptually seem to rule out a mediation effect of walking on the relationship between land use mix and NMOs. However, the above mediation results are statistically consistent with a situation in which mediation is occurring. As described in MacKinnon, Krull, and Lockwood (2000), mediation is present in scenarios in which one observes both a negative direct effect (τ', i.e. the coefficient on land use entropy in a regression when walking is controlled) and a negative mediation effect (i.e., $\tau - \tau'$ or $\alpha\beta$). This is the scenario we observe above. As noted there is a negative direct effect, and thus H2 is not supported. We also observe a negative mediation effect, as we can see either from the product of α and β above, or from comparisons of τ and τ' in Table 5. For instance, comparing the

coefficients on land use entropy from columns (3) and (4) in Table 5, we can see that the mediation effect ($\tau - \tau'$) is calculated as -0.312 – (-0.214) = -0.098. Yet, we also see that the coefficient on land use entropy is made less negative upon the inclusion of walking (the coefficient moves from -0.312 to -0.214). Thus, the decreasing negative coefficient on land use entropy as walking is included is statistically consistent with the occurrence of mediation, where the causal effect of mixed land use on the dependent variable goes through walking. By contrast, if suppression had occurred, the negative coefficient on land use entropy would have become more negative when walking was included in the regression. The large z-values from the above Sobel tests show that the mediation effect is not likely due to sampling variability. Technically, H6b is supported by the data.

H6c:
(i) Column 9: Housing age diversity
$\alpha = -1.0135825$
$S_\alpha = 0.0575167$
$\beta = 0.176653$
$S_\beta = 0.0135193$
Sobel test: $z = (-1.0135825 * 0.176653) / (\sqrt{((-1.0135825^2 * 0.0135193^2) + (0.176653^2 * 0.0575167^2)})$
$z = -10.4961$, p-value = 0.00

(ii) Column 13: Housing age diversity
$\alpha = -0.996876$
$S_\alpha = 0.0561203$
$\beta = 0.258058$
$S_\beta = 0.0134611$
Sobel test: $z = (-0.996876 * 0.258058) / (\sqrt{((-0.996876^2 * 0.0134611^2) + (0.258058^2 * 0.0561203^2)})$
$z = -13.0297$, p-value = 0.00

The above results for H6c are indicative of suppression, as are the other two scenarios not shown (columns 1 and 5 of Table 5). Specifically, there is a suppression effect when τ' (the direct effect

of housing age diversity on the NMO index when the walking mediator is included in the regression) has a different sign than the mediation effect, αβ. As we saw in the results to H3, there is a positive direct effect. However, the above results show a negative sign for αβ, thus suggestive of suppression.[116] Overall for housing age diversity, the data supports the hypothesis for the direct effect (H3) but does not support mediation (H6c).

H6d:
(i) Column 3: Census blocks per sq. mi
$\alpha = 1.68306$
$S_\alpha = 0.0804222$
$\beta = 0.297429$
$S_\beta = 0.0148832$
Sobel test: $z = (1.68306 * 0.297429) / (\sqrt{((1.68306^2 * 0.0148832^2) + (0.297429^2 * 0.0804222^2)))}$
$z = 14.4530$, p-value = 0.00

(ii) Column 9: Census blocks per sq. mi
$\alpha = -0.405034$
$S_\alpha = 0.0779558$
$\beta = 0.176653$
$S_\beta = 0.0135193$
Sobel test: $z = (-0.405034 * 0.176653) / (\sqrt{((-0.405034^2 * 0.0135193^2) + (0.176653^2 * 0.0779558^2)))}$
$z = -4.8281$, p-value = 0.00

There are eight Sobel tests for H6d, two of which are shown above. Four of the tests provide evidence in support of H6d. For example, in (i) above, the positive mediation effect (αβ) and large z-value enables us to conclude in favor of the hypothesis that walking mediates the relationship between the connectivity measure (Census blocks per sq mi) and the NMO index. The other four Sobel tests do not provide evidence in support of H6d. Two of the tests (not shown here) are insignificant. The other two tests, as in (ii) above, do not indicate mediation

[116] MacKinnon, Krull, Lockwood (2000). This suppression effect was also evident from the fact that for housing age diversity, τ' is greater than τ, as noted earlier.

since the sign on αβ is negative. Therefore, in half of the specifications there is strong evidence in support of H6d.

To summarize, there is strong support for H6a and some support for H6d. The results for H6b are technically consistent with a scenario in which mediation is occurring, but since H2 is not supported the results may less adequately reflect the mechanism of the hypotheses. Finally, the data do not support H6c, and instead are indicative of suppression.

Sections 3.2.1 and 3.2.2 presented the main analyses and results. In 3.2.3 and 3.2.4 I anticipate, describe, and submit to empirical evaluation several possible critiques of the main analyses presented above, as well as the data and variables employed in these analyses. I organize these critiques into two broad categories. In 3.2.3, I discuss and evaluate a number of alternative explanations for the observed effects which also pertain to the validity of the current dependent variables as measures of NMOs. In 3.2.4, I evaluate counterfactual cases. Specifically, I examine whether urban locales are differentially conducive to NMOs as compared to other types of organizations. In most cases, my discussion and empirical examination of these potential critiques supports the analyses and results of sections 3.2.1 and 3.2.2, while also elaborating and shedding further light on them. Elsewhere, these additional analyses point to areas of inquiry which remain unexamined, and that should subsequently be taken up in future research.

3.2.3 Alternative explanations

The analyses described in this section address anticipated alternative explanations for the effects presented in 3.2.1 and 3.2.2. These analyses explore whether: (i) relationships between urban

context and NMOs are confounded by ideology; and (ii) the direction of effect may be contrary or opposite to what I hypothesize. I examine each of these in turn. Results described here also pertain to validating the dependent variable, an issue initially addressed in 3.1.1.1.

3.2.3.1 Liberal-Conservative Politics

In section 2.1, I suggest that NMOs adopt less ideological postures than past movement organizations so as to avoid the hierarchical organizational forms that "old" organizations used to enforce their ideological positions. This claim needs to be empirically examined. For instance, there could be a third variable problem whereby being "liberal" leads one to both participate in NMOs and live in dense, mixed-use, high-connectivity urban neighborhoods, thus leading to spurious correlation between urban form and NMO activity. I try to rule out such spuriousness by including in the regressions a proxy measure for liberalism. If the coefficient on "liberal" is insignificant and/or if the coefficients on the urban variables are not reduced to zero, spuriousness is not a problem. Specifically, I employ election data from the Congressional Quarterly Voting and Election Collection as a proxy variable for liberal ideology. For all U.S. counties, the Congressional Quarterly collection gives the percentage voting Republican, Democratic, or Third Party in all Presidential elections from 1980-2000. I use the percentage in a county voting Democratic as a proxy for "liberal". This election data is summarized to the county-level, and so I have reconstructed the entire dataset at the county-level, making use of the same data sources I used to construct the primary ZCTA-level dataset. County-level NMO variables come from the County Business Patterns (CBP), and county-level independent variables are all readily available from Census and other sources.

The results of these county-level regressions are shown in Table 6. The first important result to observe is that "liberalism" rarely enters the regression significantly. If "liberalism" confounds the relationship between urban variables and NMOs, I would expect a positive and significant regression coefficient on "liberalism" when NMOs is the dependent variable. The "liberalism" variable – percent in the county voting Democratic in the 2000 Presidential election – is only significantly different from zero in 2 of 16 specifications in Table 6. If Democratic voting is a valid measure of "liberalism", then "liberalism" does not seem to predict the incidence of NMOs at the county level. Secondly, when "liberalism" is included in the regression, the urban variables of interest remain positive and significant in almost all of the specifications. The inclusion of the "voting Democratic" variable does not influence the directionality, magnitude, or significance of the hypothesized coefficients of interest at the county level.[117] Therefore, when a "liberalism" variable is included in county-level regressions otherwise identical to those in Table 5, I find that "liberalism" does not confound the main results. "Liberalism" neither predicts NMOs nor alters the relationships between urban context and NMOs.

The DDB Lifestyle survey is another dataset that I use to test for this potential confounding effect. This survey, conducted yearly from 1975-1998 on a representative national sample of about 3000 subjects, asks respondents their views on a variety of social issues as well as gauging their participation in social, community, and political activities. Importantly, the survey asks

[117] The only exception is that between columns 17 and 18, walking becomes insignificant upon inclusion of liberalism. It is of note that there is quite a bit of similarity, with some differences, between the ZCTA-level regression results and the county level results. In Table 6 we see that at the county level, all four of the density variables are positive and significant in all of the specifications, which is the same as the results at the ZCTA level. Connectivity (i.e. Census blocks per sq mi) is also positive and significant in almost all of the specifications at the county level, also matching the results at the ZCTA level. However, whereas the walking variable enters positively and significantly in all specifications at the ZCTA level, it is only significant about a quarter of the time at the county level. Housing age diversity is not significant in any of the county-level regressions, whereas it is significant in all ZCTA-level regressions. Mediation results are only meaningful for about half of the density measures.

respondents to characterize their ideological beliefs as liberal or conservative. Also, the survey asks about participation in community projects and contributions made to environmental organizations, either of which could be used as approximate measures of the NMO dependent variables. Finally, the survey inquires into the size of the place in which the participant lives and the frequency that the respondent walks for exercise or rides a bicycle. Therefore, the survey has several specific questions on ideology, as well as questions mirroring the dependent and independent variables of interest. As such, I use DDB to assess the relationships between ideology, urban context, and political engagement. Analyses using DDB data differ from those reported above in that the unit of observation is the individual as opposed to a geographic unit like the county or ZCTA.

The DDB survey asks respondents to assess their ideological disposition, by stating whether they are conservative or liberal. Answers are given on a five point scale from very conservative to very liberal. Higher values on this variable indicate higher degrees of "liberalism". To assess the validity of this "ideology" survey item, I computed the Pearson correlation coefficients of a number of other survey items with the ideology variable. These correlations are given in Table 7. These correlations seem to make intuitive sense, thus suggesting that the ideology variable can be used as a measure of "liberalism". For instance, we see from Table 7 that higher degrees of "liberalism" accompany higher support for legalized abortion, higher support for the distribution of condoms in public high schools, higher support for premarital cohabitation, higher support for the legalization of marijuana, higher support for the women's liberation movement, lower belief in God, lower importance of religion in one's life, lower belief that "things are changing too fast", lower support for the death penalty, lower belief that government should

control TV content, lower support for gun ownership, and a lower support for the use of force by police. These correlations would seem to correspond to common notions of "liberalism", validating the use of the ideology measure in regression analyses.

These regression analyses are given in Table 8. DDB has three variables which I use as dependent variables: (i) worked on a community project (frequency in last 12 months), (ii) contributed to an environmental or conservation organization (frequency in last 12 months), and (iii) did volunteer work (frequency in last 12 months). These survey items depict a generalized civic or community participation, and are the closest that the DDB comes to any approximation of NMOs. Although they are imperfect measures of NMOs, they still permit a secondary examination of the relationship between ideology, urban context, and community participation. Also, I use DDB items to replicate as many of the independent variables from earlier regressions as I can. For instance, DDB has measures of age, education, race, commuting time in the respondent's home county, marital status, household income, presence of children at home, and population in the respondent's home city. To depict urban context, I use two DDB items – the frequency of riding a bicycle and the frequency of walking for exercise. Walking (even for exercise) and bicycle riding should be higher in cities, given higher urban density, proximity of destinations, availability of sidewalks, connectivity, and urban design conducive to modes of transportation alternative to the car.

With "working on a community project" as the dependent variable, both urban variables (i.e. biking and walking) enter as positive and significant predictors. Ideology is also a positive and significant predictor, implying that the frequency of participation in community projects

increases as an individual's ideology becomes more liberal. However, "liberalism" does not appear to confound the relationship between the urban variables and participation in community projects: the coefficients on biking and walking are unchanged upon inclusion of ideology in the regression. When "contributing to environmental and conservation organizations" is used as the dependent variable, we see similar results. The urban variables are both positive and significant predictors of the dependent variable, as is ideology. However, ideology does not influence the coefficients on the urban variables when it is included in the regression. Finally, when "volunteering" is used as the dependent variable, biking and walking again both positively and significantly relate to it. However, ideology is not significant, and does not affect the coefficients on the two urban variables.

In summary, the analyses conducted here indicate that "liberalism" is not a confounding factor in relationships between urban contextual variables and NMOs. In county-level regressions, "liberalism" neither predicts NMO activity nor affects the relationships between urban contextual variables and NMOs. In regressions using DDB survey data, an "ideology" variable is a significant predictor of community engagement, but does not alter the coefficients on the urban variables. This evidence against spuriousness also serves to validate the dependent variable conceptually and empirically. First, these analyses support my contention that NMOs are less ideological than old movement organizations. Second, the regressions serve as a validation of the current NMO measures, such that I can confidently use them as dependent variables. These results may change if other measures are used to measure ideology, but these tests are about as robust as are possible with current data.

3.2.3.2 Direction of Effect

A third anticipated "validation" criticism concerns the direction of effect. Contrary to the directionality posited in the six hypotheses that I offer in sections 2.2.1 and 2.2.2, one might argue that the effects run in the opposite way. In one alternative account, urban contextual factors do not directly and independently undergird the formation of NMOs. Instead, organizations form independent of the influence of place, and then the leaders or founders locate an organization in specific urban locales based on costs and amenities. In the terminology of economics, this is an example of "compensating differentials". Organizational location decisions are based either on the relative low-cost of an urban neighborhood, or on the perceived desirability of mixed-use, dense, high-connectivity urban neighborhoods for persons who are likely to devote their lives to relatively low-paying NMOs and be employed by them. If these organizations depend on people working for wages below what they could earn in the private sector, they need to offer quality of life amenities. As such, subsequent to its founding an organization locates in the kind of urban locale that talented people predisposed to work on these causes appreciate as part of their lifestyle choice to devote their professional career to social advocacy instead of corporate America.[118] Here, the direction of effect is reversed from my hypotheses: there is still an association between NMOs and urban contexts, but it runs from the independent creation of NMOs to their subsequent location in dense, mixed-use, high-connectivity urban locales due to the desirable traits of these locales. The number of NMOs in a ZCTA is due to the location decisions made by an organization's founders.

This is an important consideration in general and with regards to the "validation" of my dissertations' measures. For instance, one possible way in which this critique may be related to

[118] Jon Caulkins suggested this possibility.

validation is the following: location decisions are more likely to be made by formalized, centralized, and hierarchical organizations with founding and managing leaders who decide where to locate it. By contrast, informal groups without a centralized and hierarchical leadership structure which form ad hoc around particular issues would be less likely to make a rationalized "location decision". Instead, such groups would organically form in a certain place in response to emergent issues. If the currently employed NMO measures are capturing these ad hoc and less formalized types of organizations, then this directionality issue may be less of a concern. However, if this study's measures are more reflective of the former type of organization – i.e. formalized groups with centralized leadership structures – then the measures do not match the conceptualized constructs, and the location decision critique is an issue. As such, a validation study would be appropriate to determine whether the majority of groups in the dataset are closer to the formalized, centralized organizations with leaders making location decisions or closer to informalized, ad hoc organizations.

One such validation study would again make use of the Guidestar database. As noted in section 3.1.1.1, the majority of organizations downloaded from Guidestar possess small or moderate financial resources. As before, if the majority of organizations had possessed substantial financial resources then we could conclude that the dependent variable more closely reflects formalized, centralized organizations, making the location decision critique a valid concern. By contrast, since the majority of organizations possess modest resources, and because organizations with smaller resources may be less likely to be highly formalized, hierarchical organizations, I can more legitimately employ the current dependent variables as measures of informalized, decentralized NMOs, potentially making the location decision critique less of a concern.

Specifically, since various literatures suggest that these informalized organizations emerge locationally in an ad hoc manner in response to specific issues, there may be viable arguments against the directionality critique.

Another possible method for addressing this directionality critique is cross-lagged analysis. Analysts have employed two types of cross-lagged techniques – cross-lagged correlation and cross-lagged regression – and both methods have been offered as ways of evaluating competing causal directional hypotheses. Below are results of cross-lagged analyses I have performed. To contextualize these results, I first briefly discuss the strengths and weaknesses of both cross-lagged correlation and regression. Both methods require that the dependent variable (Y) and the independent variable of interest (X) are both measured at two points in time (times 1 and 2), resulting in both Y_1 and Y_2 and X_1 and X_2. Traditionally, the purpose of cross-lagged methods has been to evaluate temporal precedence by comparing the "cross-lagged" relationship of Y_1 to X_2 with the "cross-lagged" relationship of Y_2 to X_1. For instance, cross-lagged correlation involves the computation of two correlation coefficients, ρ_{x1y2} and ρ_{x2y1} which are used to calculate a cross-lagged correlation differential, $\rho_{x1y2} - \rho_{x2y1}$. Kenny (1975, p.887) writes that "Campbell's original suggestion was that if X caused Y, then the cross-lagged differential would be positive, and that if Y caused X, the differential would be negative." However, cross-lagged correlation seems to have been largely discredited as a technique of identifying causal precedence. At most, it is now offered as a test for evaluating spuriousness.[119]

[119] For instance, in a highly cited and widely influential paper, Rogosa (1980, p.245) writes that "Cross-lagged correlation [CLC] is not a useful procedure for the analysis of longitudinal panel data. In particular, the difference between the cross-lagged correlations is not a sound basis for causal inference." He goes on to add (p.246) that "CLC does not provide sound information about causal effects. CLC may indicate the absence of direct causal influence when important causal influences…are present. Also CLC may indicate a causal predominance when no causal effects are present. Moreover, CLC may indicate a causal predominance opposite to that of the actual structure of the data; that is, CLC may indicate that X causes Y when the reverse is true."

Given the perceived shortcomings of cross-lagged correlation, a different method to explore temporal precedence is cross-lagged regression. Rogosa (1980, 246) describes cross-lagged regression in the following manner: "For two variables X and Y, the causal influences are represented by the regression parameters of the path from a prior X to a later Y and from a prior Y to a later X…. This configuration can also be represented by the structural regression equations: $X_2 = \beta_0 + \beta_1 X_1 + \gamma_2 Y_1 + u$, and $Y_2 = \gamma_0 + \beta_2 X_1 + \gamma_1 Y_1 + v$. The parameters β_1 and γ_1 represent the influence of a variable on itself over time. The parameters β_2 and γ_2 represent the lagged reciprocal effects between X and Y. Thus, β_2 and γ_2 are key quantities in the investigation of reciprocal causal effects in [two wave, two variable] panels." Rogosa goes on to say (p. 247) that the "absence of a causal effect between variables is represented by a zero value of the relevant model parameter. In particular…the absence of any direct causal effects between X and Y is represented by $\beta_2 = \gamma_2 = 0$…. Also, a causal predominance of X over Y would be represented by a zero (or negligible) value of γ_2 and a large value of β_2. A causal predominance of Y over X would be represented in the same manner."[120] Given this discussion, I estimate cross-lagged regressions and report the results below.

There are two competing hypotheses: (1) the location decision hypothesis whereby directionality runs from the independent founding of NMOs to their subsequent location in urban neighborhoods; and (2) the hypotheses I offer whereby direction of effect runs from urban

[120] A similar account of cross-lagged regression is given in earlier articles like Snyder and Hudis (1976). In a somewhat more recent account, Campbell and Kenny (1999, p.151) compare cross-lagged correlation to cross-lagged regression, writing that "the major advantage of the [cross-lagged] multiple regression model is that it directly measures the causal effects from X to Y and from Y to X. Unlike [cross-lagged correlation], it measures the absolute causal effects in both directions." They continue by adding (p.154) that the "choice of which model to estimate largely depends on the purpose of the researcher. If the goal is exploratory and the expectation is that there are few, if any causal effects, then a [cross-lagged correlation] analysis is preferable…. If, however, there are expected causal effects, then a [cross-lagged] multiple regression analysis is a reasonable way to estimate causal paths."

contextual traits to higher incidence of NMOs. Cross-lagged regression assesses the relative importance of the two hypotheses by comparing lagged "cross-effects". To compute these lagged cross-effects I regress the NMO Index at time (t) on urban contextual traits at time (t-1), and then regress the urban contextual traits at time (t) on the NMO Index at time (t-1). As such, I need to measure the NMO index and urban context variables at two points in time. ZIP Code Business Patterns (ZBP) provides data to calculate the NMO index for both 2007 and 2000 at the ZCTA-level. However, I also need to calculate the urban context variables at the ZCTA-level for 2007 and 2000, and Census does not provide ZCTA-level data for 2007. Therefore, ZCTA-level cross-lagged analyses are not possible for these years. Taking a look at other years, Census data is available at the ZCTA-level for both 2000 and 1990, but ZBP only begins providing ZCTA-level data in 1994. As a result, cross-lagged regression is also not possible at the ZCTA-level for the years 2000 and 1990. Therefore, given the data limitations at the ZCTA-level, I estimate cross-lagged regressions for county-level data for the years 2007 and 2000. County Business Patterns provides data which permit the calculation of the NMO index at the county-level for both 2007 and 2000. In addition, I am able to calculate the urban context variables for 2000 at the county-level by downloading data from the 2000 decennial Census. I am able to calculate most of the urban context variables at the county level for the year 2007.[121] First, retail and employment densities can be calculated using data drawn from the 2007 County Business Patterns. Second, I calculate three-year county estimates (2006-2008) of population density, housing density, percent walked to work, and housing age diversity using data drawn from the Census Bureau's American Community Survey (ACS). As described on the Census Factfinder

[121] The connectivity measure (Census blocks per square mile) and the land use mix measure are not available for two points in time. As a result, I cannot estimate cross-lagged regression for these two urban context variables.

website[122], ACS is a nationwide survey carried out every year by the Census Bureau to collect and produce population and housing information. Many of the same tables and variables available from the decennial Census are also available from the ACS. Since the ACS is a survey, all ACS data are survey estimates. The ACS produces 1-, 3-, and 5-year estimates, called period estimates. Census explains[123] that period estimates "represent the characteristics of the population and housing over a specific data collection period." I utilize the ACS 3-year county-level estimates for 2006-2008. As described on the Census website[124], the 3-year estimates pool 36 months of collected data from areas with populations of 20,000+, therefore giving a larger sample size than the 1-year estimates which only collect data from areas with populations of 65,000+. The 3-year county estimates provide data for about 1800 of the over 3200 US counties, as compared to only 800 counties for the 1-year county estimates. In addition, 3-year estimates are more reliable than 1-year estimates and more current than 5-year estimates.

Cross-lagged regression results are reported in Table 9. There are coefficient estimates for regressions utilizing seven different dependent variables: (i) 2007 NMO Index; (ii) 2006-2008 Population Density; (iii) 2006-2008 Housing Density; (iv) 2007 Employment Density; (v) 2007 Retail Density; (vi) 2006-2008 Percent Walked to Work; and (vii) 2006-2008 Housing Age Diversity. The cross-lagged equations given above suggest that an earlier temporal measure of the dependent variable should be included as an independent variable. For instance, in column 1 of Table 9, the 2000 NMO Index is included as an independent variable for a regression using the 2007 NMO Index as the dependent variable. Likewise, in column 3, the 2000 version of

[122] Navigate to "About the Data" on factfinder.census.gov. Accessed 1/5/11 at 4:20pm.

[123] www.census.gov/acs/www/guidance_for_data_users/guidance_main. Accessed 1/5/11 at 2:25pm.

[124] www.census.gov/acs/www/guidance_for_data_users/estimates. Accessed 1/5/11 at 2:27pm.

Population Density is included as an independent variable in a regression for which 2006-2008 Population Density is the dependent variable. All of the odd-numbered columns of Table 9 have the earlier measure of the dependent variable included as an independent variable. However, an examination of the R^2 in these columns reveals that most are over 0.9, with one R^2 actually equal to 1.0. These large R^2 occur because there are almost perfect correlations between the early and later versions of these dependent variables, such that it is essentially as though each dependent variable is being regressed on itself. For instance, the 2007 NMO Index has a correlation with the 2000 NMO Index of r = 0.973. The 2006-2008 Population Density has a correlation of r = 0.999 with 2000 Population Density. The 2006-2008 Housing Density has a correlation of r = 1.000 with the 2000 Housing Density. The 2007 Retail Density has a correlation with the 2000 Retail Density of r = 0.999. The 2007 Employment Density correlates with the 2000 Employment Density to r = 1.000. In addition, 2006-2008 Percent Walked to Work has a correlation with 2000 Percent Walked to Work of r = 0.865. Finally, 2006-2008 Housing Age Diversity has a correlation with 2000 Housing Age Diversity of r = 0.837. Since these correlations and R^2 are so large, I focus primarily on the regression results that exclude the earlier measure of the dependent variables. These coefficients are given in the even numbered columns of Table 9.

We observe in column 2 of Table 9 that there is a positive and significant coefficient on 2000 Population Density in a regression with 2007 NMO Index as the dependent variable. By contrast, column 4 gives results from a regression of 2006-2008 Population Density on the 2000 NMO Index. There is also a positive and significant coefficient on the 2000 NMO Index. Likewise, we can compare columns 6 and 8. In column 6, there is a positive and significant

coefficient on 2000 Housing Density when the 2007 NMO Index is the dependent variable. Then, in column 8, there is also a positive and significant coefficient on the 2000 NMO Index in a regression where 2006-2008 Housing Density is the dependent variable. There are similar results for both Retail Density and Employment Density. In column 10, there is a positive and significant coefficient on 2000 Employment Density, with the 2007 NMO Index as the dependent variable. Column 12 shows a positive and significant coefficient on the 2000 NMO Index, with 2007 Employment Density as the dependent variable. Closing out the density measures, in column 14 there is a positive and significant coefficient on 2000 Retail Density, in a regression with the 2007 NMO Index as the dependent variable. In column 16, we observe a positive and significant coefficient on the 2000 NMO Index, with 2007 Retail Density as the dependent variable. There are also cross-lagged regressions for Percent Walked to Work and Housing Age Diversity. In columns 2, 6, 10, and 14, the 2007 NMO Index is regressed on 2000 Percent Walked to Work, among other variables. There is a positive coefficient on Percent Walked to Work in all four estimations, and a statistically significant coefficient in two estimations, for columns 2 and 14. In column 18, we observe a positive and significant coefficient on the 2000 NMO Index in a regression with 2006-2008 Percent Walk to Work as the dependent variable. Finally, in columns 2, 6, 10, and 14, there are insignificant coefficients on 2000 Housing Age Diversity, with 2007 NMO Index as the dependent variable. In Column 20, there is also an insignificant coefficient on the 2000 NMO Index in a regression with 2006-2008 Housing Age Diversity as the dependent variable.

The results in Table 9 provide empirical evidence in support of the hypotheses I offer in this dissertation as well as the opposing view that directionality is reversed. Therefore, there may be

evidence in favor of my hypotheses and the alternative view that the incidence of NMOs in urban locales results from the location decisions of organizational leaders to take advantage of low costs or perceived amenities. Overall, the analyses in this section point to the need for additional future analysis on this issue, some possibilities for which are proposed below in Part 4 of this dissertation. In addition, although the directionality critique is an important issue to which I have here devoted substantial attention, I contend that it need not pose prohibitive problems for this study. It is likely that self-selection of the kind described here is going on, but my hypotheses and results are not undermined by that fact. As stated in section 2.2.1, the theories offered in this thesis are not deterministic and should not be viewed as precluding the possibility of other effects. Finally, self-selection may not make conceptual sense in the context of our hypotheses regarding mediation. For self-selection to be present, the mediator (i.e. walking) would have to work in both directions. However, there is not an available conceptual argument for why walking should mediate relationships where the direction of effect runs from NMO participation to organizational location in certain urban locales.[125]

3.2.4 Counterfactual Cases

This section addresses potential counterfactual cases. Specifically, it examines how walkable, dense, high connectivity, mixed-use urban locales relate to other kinds of organizations beyond NMOs. Whereas my primary hypotheses posit that these kinds of urban locales are contexts for NMOs, it is possible that such locales are also conducive to other kinds of organizations or even for-profit companies. As such, it is necessary to explore whether these locales are differentially conducive to NMOs relative to other types of organizations. This entails estimating regressions

[125] By contrast, in section 2.2.2, I present a conceptual argument for why walking mediates relationships running from urban context to NMOs.

with other kinds of organizational entities as the dependent variable, and comparing these effects to regressions with NMOs as the dependent variable. ZIP Code Business Patterns (ZBP) makes data available to construct these additional organizational variables. Specifically, ZBP provides access to ZCTA counts of a wide variety of business, retail, and commercial entities – from construction companies and contractors, to manufacturing firms, to hundreds of types of diverse retail establishments, to legal, medical, architectural, and design services, and others. There are also counts of labor unions, religious organizations, and many other types of organizations.

I use ZBP to construct a total of thirteen alternative dependent variables. These variables are the factor scores from factor analyses of the ZCTA counts of entities in several NAICS categories. For instance, to create an "Artistic Industry" composite index, I save the factor scores from a factor analysis of the ZCTA counts in the following NAICS categories: Theatre companies and dinner theatres (NAICS 711110), Dance companies (NAICS 711120), Musical groups and artists (NAICS 711130), and Independent artists, writers, and performers (NAICS 711510). From the financial, insurance, and real estate (FIRE) industries, I calculate the following ten composite indices: (i) Depository Credit Intermediation composite index[126]; (ii) Non-depository Credit Intermediation composite index[127]; (iii) Activities related to Credit Intermediation composite index[128]; (iv) Commodity Contracts Dealing and Brokerage composite index; (v) Securities

[126] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Commercial Banking (NAICS 522110), Savings Institutions (NAICS 522120), and Credit Unions (522130).

[127] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Credit Card Issuing (NAICS 5222100), Sales Financing (NAICS 522220), International Trade Financing (NAICS 522293), and Secondary Market Financing (NAICS 522294).

[128] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Mortgage and Nonmortgage Loan Brokers (NAICS 522310), Financial Transactions Processing, Reserve, and Clearinghouse Activities (NAICS 522320), and Other Activities Related to Credit Intermediation (NAICS 522390).

Dealing and Brokerage composite index[129]; (vi) Other Financial Investment Activities composite index[130]; (vii) Insurance Carriers composite index[131]; (viii) Insurance Agencies, Brokerages, and Other Insurance Related Activities composite index[132]; (ix) Real Estate composite index[133]; and (x) Holding Company composite index[134]. Finally, I compute two composite indices using the ZBP variables for "Religious, Grantmaking, Civic, Professional, and Similar Organizations" (NAICS 813). Specifically, I perform a factor analysis on the ZCTA counts for the following: Religious Organizations (NAICS 813110), Civic and Social Organizations (NAICS 813410), Business Organizations (NAICS 813910), Professional Organizations (NAICS 813920), Labor Unions and Similar Organizations (NAICS 813930), and Political Organizations (NAICS 813940)[135]. The factor analysis extracts two factors, with business, professional, and political organizations loading on the first factor, and religious, civic/social, and labor organizations

[129] The Commodity Contracts Dealing and Brokerage composite index and the Securities Dealing and Brokerage composite index are created by running factor analyses on the ZCTA counts of the following: Investment Banking and Securities Dealing (NAICS 523110), Securities Brokerage (NAICS 523120), Commodity Contracts Dealing (NAICS 523130), and Commodity Contracts Brokerage (NAICS 523140). The factor analysis extracts two factors, and the scores from the first factor are used as the Commodity Contracts Dealing and Brokerage composite index, and the factor scores from the second factor are used as the Securities Dealing and Brokerage composite index.

[130] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Miscellaneous Intermediation (NAICS 523910), Portfolio Management (NAICS 523920), Investment Advice (NAICS 523930), Trust, Fiduciary, and Custody Activities (NAICS 523991), Miscellaneous Financial Investment Activities (NAICS 523999).

[131] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Direct Life Insurance Carriers (NAICS 524113), Direct Health and Medical Insurance Carriers (NAICS 524114), Direct Property and Casualty Insurance Carriers (NAICS 524126), and Direct Title Insurance Carriers (NAICS 524127).

[132] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Insurance Agencies and Brokerages (NAICS 524210), Claims Adjusting (NAICS 524291), Third Party Administration of Insurance and Pension Funds (NAICS 524292), All Other Insurance Related Activities (NAICS 524298).

[133] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Offices of Real Estate Agents and Brokers (NAICS 531210), Offices of Real Estate Appraisers (NAICS 531320), and Other Activities Related to Real Estate (NAICS 531390).

[134] The index is the factor scores from a factor analysis of the ZCTA counts of the following: Offices of Bank Holding Companies (NAICS 551111), and Offices of Other Holding Companies (NAICS 551112).

[135] Entities in NAICS category 813940 are political parties and other electoral political organizations.

loading on the second factor. The composite indices are the factor scores of the two factors, and I refer to the indices as "813 composite index 1" and 813 composite index 2", since the six constituent categories come from NAICS grouping 813.

Using these thirteen measures as dependent variables, I estimate regressions using the same independent variables given in Table 5. The independent variables again use data from 2000, while the alternative dependent variables use 2007 data. In general, after estimating these additional regressions I conclude that the NMO variable – as compared to most of the thirteen other possible dependent variables – is most consistently and strongly related in the predicted direction to the urban contextual variables of interest. The standardized regression coefficients on the variables of interest are in the correct direction more often and are bigger in magnitude when the NMO index is used as the dependent variable[136]. Specifically, out of the thirteen alternative dependent variables examined, only for several (Securities Dealing and Brokerage and "813 composite index 1") are the regression coefficients on the variables of interest comparable in magnitude, direction, and significance to the regression coefficients when the NMO index is the dependent variable. As discussed below, these results shed additional light on the main findings by showing that urban context is related to a diversity of outcomes, and these outcomes possess specific characteristics and qualities.

The regression results for the Securities Dealing and Brokerage Composite Index are shown in Table 10. As we can see from Table 10, when the Securities Dealing and Brokerage Composite

[136] The dependent variables from these different regressions all have means equal to zero and very similar standard deviations (around 0.90). As described, the dependent variables are factor scores from factor analyses on variables drawn from the 2007 ZIP Code Business Patterns. As such, I think that the magnitudes of the regression coefficients from these different regressions are generally comparable to each other.

Index is used as the dependent variable, the housing, retail, and employment density measures are all positive and significant predictors. Also, when compared to those in Table 5, the magnitudes of the standardized coefficients on these three density measures are of comparable size. In fact, the coefficients on retail and employment density are larger in the Securities Dealing and Brokerage regressions. Looking at the Connectivity variable, we observe in Table 10 that this measure is positive and significant for columns 1-8 and 13-16, with magnitudes comparable to those in Table 5. Similarly, all coefficients on housing age diversity are positive, significant, and of comparable magnitude to those in Table 5. Finally, all coefficients on the walking variable are positive, significant, and of comparable magnitude to those in Table 5. The mediation results are also the same as when the NMO is the dependent variable. However, as noted above, Securities Dealing and Brokerage is one of only two alternative dependent variables that have similar results to the NMO index in this way. The other alternative dependent variables are less consistently related to the independent variables of interest in the hypothesized direction, are less consistently significantly predicted by those independent variables, and/or the magnitudes of the coefficients on the independent variables of interest are smaller than when the NMO index is the dependent variable.

For example, Table 11 has regression results when the Artistic Composite Index is employed as the dependent variable. As is evident from Table 11, the density variables (population, housing, retail, and employment density) are the only measures that have positive and significant coefficients and are comparable in terms of magnitude to those in Table 5. By contrast, the coefficients on Connectivity, Housing Age Diversity, and Walking in Table 11 are either negative or of much smaller magnitude than the same coefficients when the NMO index is the

dependent variable in Table 5. Table 12 has regression results when the Depository Credit Intermediation Composite Index is used as the dependent variable. For this dependent variable, population density and housing density have negative coefficients, the opposite of the hypothesized direction. Retail density has positive coefficients, but the magnitudes are smaller than in Table 5. Employment density has positive coefficients of comparable magnitude to those in Table 5. We also observe in Table 12 that the Connectivity variable has coefficients either smaller in magnitude than in Table 5 or negative coefficients. The walking variable also has coefficients either smaller in magnitude or negative in direction. Housing Age Diversity has coefficients in Table 12 with coefficients that are positive, significant, and comparable in magnitude to Table 5. Table 13 has results when the Real Estate Composite Index is used as the dependent variable. From this table we see that Connectivity, Housing Age Diversity, and Walking all have negative coefficients and are opposite to the hypothesized direction. Population density has negative coefficients, while housing density, retail density, and employment density have positive coefficients that are smaller in magnitude than those in Table 5.

Tables 14 and 15 give regression results for the "813" composite indices. Table 14 gives the results for regressions with "813 composite index 1" as the dependent variable. As noted above, "813 composite index 1" is comprised of the scores of a factor that loads highly on business organizations, professional organizations, and political parties. The coefficients on Population density are negative when this index is employed as the dependent variable, while the coefficients on Housing density, Retail density, and Employment density are positive and significant. The coefficients on Connectivity, Housing Age Diversity, and Walking are positive

and mostly significant. As such, by employing the "813 Composite Index 1" as the dependent variable, I obtain coefficients on the variables of interest similar to those obtained when the NMO Index is employed. Mediation results are also similar.

Table 15 gives the results from regressions with "813 composite index 2" as the dependent variable. Also as noted above, "813 composite index 2" is comprised of the scores of a factor that loads highly on religious organizations, civic/social organizations, and labor organizations. As observed in Table 15, the coefficients on population density and housing density are negative, and as such are the opposite from the hypothesized direction. Coefficients on retail density and employment density are positive but smaller in magnitude than in Table 5. Coefficients on Connectivity are only positive and significant for about half of the specifications, and in those specifications the magnitudes are smaller than in Table 5. Coefficients on the walking variable are small and sometimes negative. The coefficients on Housing Age Diversity are positive, significant, and similar in magnitude to Table 5.[137]

Taken as a whole, these results support the contention that urban locales are differentially conducive to NMOs as compared to most other kinds of organizations or industrial categories. Coefficients on the urban contextual variables of interest are either less frequently in the hypothesized direction or are relatively smaller in magnitude when the (i) Artistic composite index, (ii) nine out of ten of the FIRE industry indices, and (iii) one of the "813" indices are used as dependent variables. Of the thirteen alternative dependent variables, only the Securities Dealing and Brokerage index and "813 composite index 1" are comparable to the NMO index. However, the results for these two alternative dependent variables shed some additional light on

[137] Regression results for the other seven alternative dependent variables are available, but are not shown here.

the main results, by showing that cities and urban contexts have relationships with social outcomes obtaining specific characteristics. For instance, cities are social settings for phenomena – like NMOs – for which encounter with diversity is important. In addition, cities may also be contexts for phenomena – like Securities Trading and Business and Professional Organizations – that are information intensive, that rely on knowledge transfer and spillovers, and that depend on face-to-face contact and deal-making. The proximity afforded by dense, connected, and walkable cities enables this kind of efficient information transfer and face-to-face contact. As noted in the introduction, cities are locations for economic and political outcomes. These additional results are a demonstration of this, while also suggesting that cities are differentially conducive to certain kinds of political and economic activity.

4. Discussion and Conclusions

4.1 Discussion

This dissertation explores the ways in which urban contexts relate to an emergent form of political activity – NMOs. Viewed as spaces of diversity, cities are understood throughout extant social science research as social settings for new ideas and innovative enterprises. While most theoretical and empirical attention focuses on the economic importance of urban areas, this thesis posits that cities also act as important locales for innovative political outcomes. As explicated throughout the text, encounter with diverse influences, perspectives, ideas and issues is fundamental to the orientation of NMOs. Although permitted by their decentralized organizational form, I contend that the social diversity needed by NMOs requires a social setting to develop and flourish. Given their capacity to generate and facilitate encounter with diversity, this dissertation argues that dense, mixed-use, high-connectivity urban contexts serve as this

social setting and therefore undergird the formation of NMOs. I furthermore contend that walking mediates between these urban contextual traits and the encounters with social diversity central to NMOs. Especially enabled by urban environments, walking is responsible for fully enacting the value inhering in the social diversity generated by cities.

Empirical results discussed in Part 3 are consistent with these general concepts and are supportive of most of the hypotheses I develop from them. In regression analyses, I find support for all but one of my hypotheses positing direct effects of urban contextual traits on the incidence of NMOs. These hypotheses reflect my contention that density, mixed urban use, connectivity, and mixed housing ages are key urban characteristics responsible for generating and enabling interaction with the diverse social forms of importance to NMOs. I find strong and consistent empirical evidence linking population density, housing density, retail density, employment density, connectivity, and mixed housing ages to higher incidence of NMOs in ZCTAs. Based on these results, I conclude that these urban qualities comprise a social setting for NMOs. Furthermore, I also find strong and consistent support for hypotheses linking pedestrian activity to NMOs. First, regression estimations provide substantial evidence for my hypothesis positing a direct effect of walking on the incidence of NMOs. "Walkability" may therefore be considered a separate dimension of urban life responsible for undergirding NMOs. Second, I find support for my proposition that walking bridges between urban context and encounters with social diversity. Sobel tests provide considerable evidence that walking mediates between density and NMOs. There is also some support for the hypothesis that the effect of connectivity on NMOs is mediated by walking. Finally, the Sobel results are consistent with the view that walking mediates between mixed land uses and the incidence of NMOs, even though I do not find that

mixed land use directly affects NMOs. As a result, I conclude that walking plays an important part in the processes connecting urban environments and innovative social outcomes. Evidence supports the view that it is primarily through walking that an individual interacts with and makes use of urban spaces, as well as confirms that walking is the means by which the social diversity inhering in these spaces is realized and utilized. These results take on additional significance since they hold even when the regressions incorporate alternative explanations. For example, extant literature would suggest that democratic engagement and political participation is dependent upon the possession of "resources" like income, time, and education. However, the hypotheses are supported even when a variety of socio-economic variables are included in the regressions alongside the urban variables of interest. I also find that the main results are not simply a reflection of ideology. By including a measure of "liberalism" as an independent variable, I consider the possibility that the relationships between urban context and NMOs are confounded by ideology. Notably, "liberalism" is generally an insignificant predictor, and my hypotheses are supported even after controlling for it. Finally, I consider counterfactual cases. Comparing the NMO Index to several alternative dependent variables, I find that coefficients on independent variables of interest obtain larger magnitudes and are more often in predicted directions when NMOs are the outcome.

This dissertation is important for a variety of reasons. First, I draw and combine various elements from extant literatures to create the New Movement Organization construct. Second, I establish the first conceptual and empirical linkages between NMOs and dimensions of urban context. Third, the study also marks the first conceptual and empirical linkages between walking and NMOs. In addition, by examining mediating effects along with direct effects, the findings

are novel in that they consider the relationships between urban context, walking, and NMOs in a uniquely nuanced way. Lastly, this research involves the first known use of the Zip Code Business Patterns data in an examination of NMOs, as well as the first attempt to use ZBP data alongside measures of walking and urban context. These novel findings are broadly relevant to scholarship in a variety of ways. First, little research – especially empirical – has devoted itself to exploring how current-day social movement organizations relate to and are fostered by city environments. Therefore, by empirically linking NMOs to walking and several components of urban context, I help to (Nicholls 2008, p.841) open up the "urban 'black box' to identify the processes and mechanisms that allow cities to play specific roles in broad social movements." Relatedly, by opening up this "urban black box", I broaden the (McCright and Clark 2006) boundaries of "the structure and dynamics of the political environment" that causes "variation in the mobilization of social movements across U.S. communities." Whereas the boundaries of this external political environment have heretofore primarily only included institutional variables, this dissertation expands these boundaries to include urban and place-based factors. In addition, this thesis contributes to the creation of a social science of walking. Very little research exists that examines the social scientific effects of walking. In other words, there is currently an absence of conceptual and empirical scholarship investigating economic, sociological, political, and/or psychological outcomes of pedestrian activity. By contrast, there are nascent historical and philosophical accounts of walking (Solnit 2000; Amato 2004; Nicholson 2008; and Middleton 2011) as well as growing empirical research in the medical and public health fields exploring the impacts of urban spatial form and walking on outcomes like obesity and heart disease. In this thesis, I begin the process of making conceptual and empirical connections between cities, walking, and social outcomes. Specifically, through the focus on NMOs, I

explore the political consequences of walking in cities. The further development of a social science of walking is undoubtedly an important current task across all social scientific disciplines.

Finally, as noted above, this study takes a novel conceptual and empirical look at the kinds of social outcomes that cities enable. Others have explored the ways that cities have consequences for conventional forms of politics like voting. However, as just described, the core of this thesis is that cities are places of participation in the experimental and innovative because (Merrifield 2002, p.72) "differentiated practice [is] only possible through a differentiated space". By showing the empirical linkages between urban space and an innovative form of political outcomes, this research makes an important addition and extension to scholarship portraying how cities are environments for social change.

4.2 Limitations and Future Research

This dissertation has various limitations which deserve mention and that suggest directions for future research. First, this research deals with context-based explanations of NMOs. However, there may be other relevant factors related to political participation in general and NMOs in particular. Brady et al (1995, p.271) suggest that some persons may have greater individual motivation to be engaged. They may have a greater interest in politics, more concern with public issues, or a greater sense that participation can make a difference. This set of explanations is at the individual-level, and is an issue of agency. Brady et al further suggest that there may be network-based explanations of engagement, whereby some persons are more incorporated into recruitment networks through which individuals are mobilized into politics. Therefore, future

research should investigate these individual- and network-based explanations alongside the macro-level factors considered in this dissertation.

Furthermore, as described in section 3.2.3.2, an anticipated critique of the dissertation's concepts and analyses concerns the direction of effect. In this alternative account, urban contextual factors do not directly and independently undergird the formation of NMOs. Instead, organizations form independent of the influence of place, and then the leaders or founders locate an organization in specific urban locales based on costs and amenities. As noted above, the direction of effect is reversed from my hypotheses: there is still an association between NMOs and urban contexts, but it runs from the independent creation of NMOs to their subsequent location in dense, mixed-use, high-connectivity urban locales due to the desirable traits of these locales. It remains for future research to further explore this critique. For example, one could conduct a survey of several organizations to determine whether most participants were already living in an urban neighborhood prior to the founding of the group in that neighborhood, or by contrast whether most of the employees and participants moved to the urban locale after the group's founding and subsequent location in the area. If we are able to establish this ordering it would go at least part of the way towards determining if the "location decision" critique has merit or not. Participants living in a neighborhood prior to a group's founding is consistent with my hypotheses, with informalized NMOs arising in part due to urban place-based characteristics. On the other hand, a scenario more consistent with the alternative account would entail participants moving into an area after a group's founding. Separately, economists often suggest using instrumental variables (IV) regression to deal with questions of directionality. However,

IV crucially depends on a theoretically defensible selection of an instrument, which I have not seen discussed in the social movement and urban studies literatures.

Another possibility for future research would build upon the analyses conducted in section 3.2.3.1. Those analyses attempted to determine whether "liberalism" confounded relationships between the urban variables of interest and NMOs. Regression estimations did not indicate spuriousness. One could further explore this issue by conducting a survey for a select number of organizations to determine the political sensibilities of their participants. The survey could ask participants about their political party affiliation, their self-assessed ideological label, and their opinions on a variety of social and economic issues. Responses may reveal a uniformity of ideology among participants, which would suggest a relationship between NMO participation and opinion. On the other hand, a diversity of ideologies would correspond to my position that NMOs are less ideologically oriented than old movement organizations. A final possibility would be that survey respondents do not obtain coherent ideological profiles, potentially indicated by disagreement among responses to survey items. Inability to measure a single ideological dimension would complicate the contention that NMOs are by their nature "liberal".

Another potential avenue for future research reflects the fact that my measure of walking – the ZCTA percentage of workers 16 years of age and older who walk to work – is an imperfect measure in that it only considers walking for a singular purpose. Persons walking to work may not take the same time to observe and experience the local social diversity as when walking for recreation and leisure. As such, I would prefer measures of walking that included additional destinations and purposes. However, since the Census Bureau currently only provides measures

of walking to work[138], this remains a limitation of my data. It may not be a prohibitive limitation, since places in which people walk to work may also be places in which people walk for other purposes. Also, my current walking measure has the added strength of being available for all ZCTAs in the U.S. Nevertheless, in future research I will seek measures of walking that better reflect the numerous reasons individuals walk. One such measure may be "walkability" from the website Walkscore.com. The creators of Walkscore.com use Google Maps to calculate straight-line distances from a specific street address to a variety of possible destinations such as schools, restaurants, bars, theatres, and parks. The website calculates a "walkscore" for an address based on the number of destinations nearby and the distance to them. As such, this measure better reflects the multiple destinations to which persons may walk. With the assistance of Walkscore.com programmers, one could calculate the "walkscore" for random samples of addresses from all U.S. ZCTAs, and then calculate estimated average ZCTA "walkscores". These average "walkscores" could be used as the walking variable in regressions similar to those performed for this thesis. However, one shortcoming is that the walkscore data only reflects the opportunity to walk, whereas my Census measure captures actual walking behavior.

I note in section 3.2.1.1 that (Brown et al 2009) land use entropy measures have shortcomings as indicators of mixed land uses. Entropy measures may depict land use scenarios other than the mixed-uses they are intended to capture. As such, the negative regression results I obtain may be more a reflection of these measurement limitations than a rejection of my mixed land use hypothesis. Therefore, it remains for future research to identify, construct, and utilize better measures of mixed land uses at the ZCTA level. Brown et al (2009) suggest using the

[138] The U.S. Census counts the number of people in a geographical area taking a variety of modes of transportation to work, including walking.

components of the entropy measures as separate measures of mixed land uses. Entropy is calculated as a combination of the percentages of ZCTA square feet in different land use categories. As an alternative, one could utilize these separate percentages as their own measures of mixed land uses. For instance, a researcher could employ the percentage of ZCTA square footage devoted to single family housing as measure of land use mix. The analysts who calculated the entropy measure that I use in this dissertation were unable to provide me with these separated percentages. Therefore, it remains for future research to calculate and employ them (or other alternative land use mix measures) in regressions for U.S. ZCTAs.

Another task for future research involves investigating whether internet connectivity and social media technologies relate to NMOs. Computer mediated communication is increasingly posited to play a central role in new forms of activism. For instance, Cumbers et al (2008, p.187-8) write that the "internet is seen as radical and democratic because it enables equal access to information, compared with traditional forms of communication that would have been channeled through key gatekeepers within movements. The implication is that everybody is involved as equals in decision-making and that the priority given to communication results in a more participatory politics." It remains for future research to empirically demonstrate the nature of the relationships – if any – between internet connectivity and NMOs. One could attempt to locate variables measuring internet access or wireless usage at the ZCTA-level, county-level, or city-level, and explore how this factor enters regression estimations alongside urban variables of interest. One might hypothesize that the internet has direct effects on the incidence of NMOs in ZCTAs, and that these effects are relatively more important than the urban contextual effects posited here. In such a case, the positive coefficients on urban variables would dissipate in the

presence of internet variables. By contrast, an alternative hypothesis would be that new communication technologies do not replace urban effects but enhance them, such that there would be interaction effects in regression analyses. Indeed, most scholars continue to stress the primacy of face-to-face interactions for engendering political activism, and suggest that at most the internet will serve to supplement these face-to-face relations.[139] Internet-enabled communication technologies are adept at spreading information, but are not as good as face-to-face interactions at building the trust and commitment with diverse social forms needed for novel forms of political organizing and activism. These face-to-face interactions are enabled by cities. Cumbers et al (2008, p.191) suggest that although the internet provides an important forum for communications, "place-based events or 'real space' remains critical in developing trust, understanding and deeper affinities, as well as organizational coherence for more sustained translocal interactions between activists." Future research should uncover whether the internet substitutes for or enhances the urban-enabled face-to-face interactions that I contend are of primary importance to NMOs.

4.3 Implications

Cities are locales that give rise to a variety of behavioral and social processes. They are places in which individuals learn from one another (Glaeser and Maré 2001) and that facilitate the

[139] For instance, Calhoun (1998, p.382) writes that "The fantasies of net enthusiasts often focus on 'virtual communities' and social movements organized entirely on the web. The reality, however, seems to be that the Internet matters much more as a supplement to face-to-face community organization and movement activity than as a substitute for it. Local community activists worried about environmental depredations by polluting manufacturers, for example, can gain technical information, can contact others in similar situations, and can wage publicity campaigns designed to hit corporations financially. Neighborhood advocates worried about the placement of a highway can find out about other communities with similar fears and join together to lobby the state highway department or the governor's office. The Internet is thus a very useful tool, but the strength of these movements still lies largely in their local roots; the Internet is most empowering when it adds to the capacities of people organized outside it, not when an attempt is made to substitute 'virtual community' for the real thing."

accumulation of skills and human capital (Glaeser 1999). Cities enable economic and technological innovation, are a primary setting for economic accumulation and market exchange, and act as a force behind economic growth. Changes to ethical norms and standards happen most easily in cities. Creativity flourishes in urban contexts, as do artistic, musical, and other intellectual subcultures. As such, considerable extant theoretical and empirical research establishes that cities are environments conducive to a wide variety of outcomes which serve to improve individual and societal welfare. By focusing on NMOs, this dissertation adds to and extends this previous work by showing that cities are social settings for innovative and novel forms of political activity. Beneficial welfare implications also arise from participation in decentralized democratic organizations like NMOs, for both individuals and societies as a whole. At an individual level, Sen (1999, p.10) notes that "political freedom is a part of human freedom in general, and exercising civil and political rights is a crucial part of good lives of individuals as social beings. Political and social participation has intrinsic value for human life and well-being." Political engagement of this kind also has instrumental value, to the extent that it communicates information about social and political preferences and needs (Schlozman et al 1999, p.428) and (Sen 1999, p.10) "enhances the hearing that people get in expressing and supporting their claims to political attention". Furthermore, Putnam (2000) connects civic and political participation to important societal outcomes such as educational achievement, child development, lower crime rates, economic prosperity, positive public health outcomes, and improved governmental performance. For instance, Putnam (2000, p.346) suggests that political participation enhances government performance in that it provides "a model and a moral foundation upon which to base further cooperative activities." By contrast, "[w]hen community

involvement is lacking, the burdens on government employees – bureaucrats, social workers, teachers, and so forth – are that much greater and success that much more elusive."

Therefore, as a result of the diverse social forms that they generate and with which they enable interactions, cities are milieus favorable to a broad array of outcomes – from economic, to artistic, ethical, and political. These outcomes result in positive improvements to social welfare. That is not to imply that cities have uniformly positive effects on society. For instance, Fischer (1975) explains that dense cities are contexts for all kinds of subcultures, including organized crime. Also, not all would attach a positive valence to the progressive ethical change that Glaeser (2000) shows is a product of urban contextual factors. However, innovativeness, democratic self-management, social advancement, and social change are all conditions that generally obtain positive normative evaluations in our society. To the extent that cities play a key role in enabling these positive conditions, we can rightly view cities as a constructive force in human life. This has important implications for both theory and practice. Scholarship should continue attempting to identify the ways in which cities enable these conditions as well as searching for additional domains of social life in which cities have effects. Governments, activists, and residents should: (i) protect those urban qualities that enable positive social impacts, (ii) do nothing to undermine those urban qualities, and (iii) undertake efforts to confront potential or existing threats to these urban qualities. For instance, "urban renewal" programs common in mid-twentieth-century American cities are now generally regarded as catastrophic failures. Through their wholesale demolition of complex urban ecosystems, these schemes unjustly displaced many from their homes while disrupting and uprooting intact and functioning neighborhoods and communities. In addition, these policies damaged the valuable resources

inhering in the dense, connected, walkable urban fabric, and thus also interfered with the ability of cities to contribute to positive social change. The combined efforts of residents, non-profits, and activists have today made this form of urban destruction very rare, at least in the U.S. Similar efforts should resist contemporary attacks on walkability, urban mixed uses, density, and connectivity where and when they arise. Nevertheless, other threats persist which may constrain the possibility for welfare improvements by either attenuating the diversity generated in dense and walkable cities or limiting the possibilities for encounter with these diverse social forms. For instance, the percentage of middle-income residents and neighborhoods in many U.S. cities has dropped substantially over the past few decades, leaving urban areas increasingly populated by the very rich on one extreme and the very poor on the other (Scott 2006; Booza et al 2006). In New York City, Scott (2006) points out that the supply of apartments affordable to starting firefighters or policemen declined by 205,000 from 2002 to 2005. No matter the causes, this loss in income diversity has important consequences, such as limiting possibilities for upward mobility among the poor and drawing resources away from public schools. Crucially for this thesis, this income polarization in cities also likely leads to increased social polarization between classes, with the loss of the middle income "social glue" (Berube 2006) that mediates between the extremes. I argue that homogenization and balkanization of this kind will limit the innovative and democratic capacities of cities, and therefore should be a concern for urban governments, activists, and residents. Along these lines, in order to nurture an urban middle class cities could (Berube 2006) create and preserve affordable middle class housing options, emphasize improved provision of basic services like public schools and safety, and provide job training for less-skilled workers in areas like construction, health care, and technology occupations. Describing a long-standing urban phenomenon that precedes but is exacerbated by

the loss of middle classes, Bickford (2000) and King (2004) discuss the difficulty of maintaining an urban democratic public space in cities characterized by racial and class-based spatial concentration, residential separation, and accompanying social and economic inequalities. Both authors discuss the extent to which these kinds of ghettoes arise in part from racial prejudice, but also from specific institutional practices and policies. King (2004, p.101) points to exclusionary zoning policies and land use restrictions as well as unequal access among the poor to credit for home purchases as arrangements which have served to reinforce urban ghettoes and inequalities. Along with measures to provide for more inclusionary zoning and ensure enforcement of existing housing law, efforts to create a presence of moderate to middle-income residents in cities may also help to bridge the divergent interests of the affluent and poor. In general, those concerned about cities should seek to mitigate circumstances like these that serve to hinder the relationships between urban characteristics, diversity, and welfare enhancing social outcomes. Such circumstances may indeed provide an impetus for a new generation of NMOs like the nascent "Right to the City" organizations, and thus also present another intriguing avenue for future research.

Finally, this dissertation has important implications in light of recent world events. The dramatic 2011 revolutions in Northern Africa and the Middle East demand from scholarship a more generalized appraisal of the power of cities in civil society and the role of urban contexts in fostering democratic engagement. These uprisings should lead social scientists to explore the relationships between cities and contemporary revolutions, as historians (Hobsbawm 1973) have done for past upheavals. More importantly, whereas this thesis has a limited American focus, the international nature of the current political events suggest a more universal relationship between

cities and innovative forms of political activity. The relationships that I establish between cities and NMOs in an American context point to the need for scholars to internationally explore the urban basis for transformational political change.

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Appendix – Results Tables

Variable	N	Mean	Standard Deviation
2007 Human rights orgs.	35546	0.0798	0.5734
2007 Environmental, wildlife, and conservation orgs.	35546	0.1732	0.6900
2007 Other social advocacy orgs.	35546	0.1811	1.0151
2007 New Movement Index	35546	0.0000	0.9429
2007 Securities Dealing and Brokerage Index	39646	0.0000	0.9385
2007 Artistic Index	39646	0.0000	0.8738
2007 Depository Credit Intermediation Index	39646	0.0000	0.8920
2007 Real Estate Index	39646	0.0000	0.9980
2007 “813” Index #1	39646	0.0000	0.9337
2007 “813” Index #2	39646	0.0000	0.8729
2000 Population (in 1000s)	33167	8.5998	12.9790
2000 Median Age	33178	36.7458	8.4464
2000 Pct. Bachelor’s Degree and Above	32153	18.0551	13.7868
2000 Racial Diversity Index	32165	0.2194	0.2112
2000 Median Gross Rent (in 100s)	33178	4.7461	2.4141
1999 Median Household Income (in 1000s)	32096	39.5375	16.2628
2000 Travel Time to Work (in minutes)	32064	26.3212	8.3308
2000 Pct. living in same house in 1995	32105	60.8963	12.7621
2000 Pct. of population 15 years and older, Married	32165	60.5220	10.3676
2000 Pct. of households with children 0-17 years old	32096	33.0553	10.3351
2000 Foreign Born Diversity Index	27164	0.4039	0.2452
2000 Pct. of occupied housing units, renter occupied	32097	24.8328	15.9334
2000 Population Density (in 1000s)	32406	1.1329	4.3362
2000 Housing Density (in 1000s)	32406	0.4783	2.0117
2000 Retail Density	31821	6.1275	126.0909
2000 Employment Density (in 1000s)	34072	1.5501	30.7211
2000 Census blocks per square mile	32406	161.8039	14588.1392
2000 Housing Age Diversity	32140	0.7886	0.0974
2001 Land Use Mix Entropy	32698	0.3156	0.2746
2000 Pct. walked to work	32072	3.8075	7.0796

Table 1 – Descriptive Statistics, ZCTAs

Variable	N	Mean	Standard Deviation
2007 Human rights orgs.	3188	0.8899	5.6941
2007 Environmental, wildlife, and conservation orgs.	3188	1.9310	5.7748
2007 Other social advocacy orgs.	3188	2.0194	10.5243
2007 New Movement Index	3188	0.0000	0.9953
2006-2008 Population Density (in 100s)	1886	4.4482	22.4666
2006-2008 Housing Density (in 100s)	1886	1.8815	10.4487
2007 Employment Density	3138	96.3549	1600.4338
2007 Retail Density	3184	0.8162	9.0059
2006-2008 Pct. walked to work	1877	2.7307	1.9802
2006-2008 Housing Age Diversity	1877	0.8409	0.0272
2000 Population (in 1000s)	3219	8.8608	28.9108
2000 Median Age	3219	37.2010	4.0803
2000 Pct. Bachelor's Degree and Above	3219	16.4818	7.7349
2000 Racial Diversity Index	3219	0.2598	0.1956
2000 Median Gross Rent (in 100s)	3219	4.3923	1.2595
1999 Median Household Income (in 1000s)	3219	34.8322	9.4566
2000 Travel Time to Work (in minutes)	3219	23.5695	5.7297
2000 Pct. living in same house in 1995	3219	59.2667	7.7738
2000 Pct. of population 15 years and older, Married	3219	60.2562	5.4272
2000 Pct. of households with children 0-17 years old	3219	33.0164	5.0540
2000 Foreign Born Diversity Index	3219	0.5108	0.1853
2000 Pct. of occupied housing units, renter occupied	3219	26.0124	7.7429
2000 Population Density (in 1000s)	3219	2.6780	16.6889
2000 Housing Density (in 1000s)	3219	1.1152	7.6854
2000 Retail Density	3180	0.8361	8.8763
2000 Employment Density (in 1000s)	3139	83.1818	1463.3594
2000 Census blocks per square mile	3219	5.1628	10.2186
2000 Housing Age Diversity	3219	0.8349	0.0358
2001 Land Use Mix Entropy	3109	0.1987	0.1685
2000 Pct. walked to work	3219	3.5678	3.5343
2000 Pct. Democratic Presidential Votes	3125	39.8327	11.8099

Table 1, cont. – Descriptive Statistics, counties

ZCTA	City	2007 Social Movement Index
20036	DC	84.42299
20005	DC	68.78537
20006	DC	42.56721
20009	DC	29.53342
10001	NYC	23.21069
20002	DC	21.27737
95814	Sacramento, CA	21.06011
10017	NYC	20.99103
20001	DC	19.50792
10022	NYC	17.59116
94612	Oakland, CA	17.40898
43215	Columbus, OH	17.14314
53703	Madison, WI	15.93001
02108	Boston, MA	14.05030
55104	St. Paul, MN	13.03156
20003	DC	12.90299
94103	San Francisco, CA	12.88446
60601	Chicago, IL	12.60009
03301	Concord, NH	12.56522
19107	Philadelphia, PA	12.31376
10003	NYC	12.00693
78701	Austin, TX	12.00082
10016	NYC	11.70621
22314	Alexandria, VA	11.43840
20007	DC	10.96771
11201	NYC	10.69989
29201	Columbia, SC	10.69989
06106	Hartford, CT	10.68747
10004	NYC	10.56086
15219	Pittsburgh, PA	10.38261
10010	NYC	10.26014
20004	DC	10.26014
30303	Atlanta, GA	10.26014
80203	Denver, CO	10.12525
97204	Portland, OR	10.06554
10018	NYC	9.95311
60604	Chicago, IL	9.95114
10038	NYC	9.51336
94102	San Francisco, CA	9.06337
59601	Helena, MT	8.89143
50309	Des Moines, IA	8.79773
20910	Silver Spring, MD	8.78531
36104	Montgomery, AL	8.63386
10036	NYC	8.49483
45202	Cincinnati, OH	8.35166
46204	Indianapolis, IN	8.34339
05602	Montpelier, VT	8.32704
20037	DC	8.18387
98104	Seattle, WA	8.00976
99501	Anchorage, AK	7.99951

Table 2, ZCTAs for which Guidestar data is downloaded

A.

Basic descriptive statistics – "Total Assets"

	Variable: "Total Assets"
N	1471
Mean	$6,960,533.04
Median	$414,363.00
Minimum	-$359,818.00
Maximum	$644,339,000.00
Skewness	10.237
Std. Error Skewness	0.064
Test stat. Skewness	(10.237 / 0.064) = 159.953

B.

Quartiles – "Total Assets"

Percentile	
Minimum	-$359,818.00
25%	$92,973.00
50%	$414,363.00
75%	$1,939,854.00
Maximum	$644,339,000.00

C.

Deciles – "Total Assets"

Percentile	
Minimum	-$359,818.00
10%	$25,811.00
20%	$64,016.60
30%	$122,919.60
40%	$243,451.80
50%	$414,363.00
60%	$749,443.80
70%	$1,309,240.40
80%	$2,888,589.59
90%	$8,985,637.39
Maximum	$644,339,000.00

Table 3, Guidestar data results

D.

Mean of "Total Assets" within quartiles

Quartile*	N	Mean
1	368	$37,064.17
2	368	$221,298.90
3	368	$947,312.59
4	367	$26,690,069.37

*Quartile 1 is from 0% to 25%, quartile 2 from 25% to 50%, quartile 3 from 50% to 75%, quartile 4 from 75% to 100%

E.

Median of "Total Assets" within quartiles

Quartile*	N	Median
1	368	$35,214.00
2	368	$205,562.00
3	368	$870,743.00
4	367	$6,751,054.00

*Quartile 1 is from 0% to 25%, quartile 2 from 25% to 50%, quartile 3 from 50% to 75%, quartile 4 from 75% to 100%

F.

Mean of "Total Assets" within deciles

Decile*	N	Mean
1	147	$9,342.07
2	147	$43,462.06
3	147	$94,009.86
4	147	$179,216.07
5	148	$318,589.13
6	147	$566,308.41
7	147	$997,986.92
8	147	$1,973,664.36
9	147	$5,143,115.25
10	147	$60,324,819.56

*Decile 1 is from 0% to 10%, decile 2 is from 10% to 20%, decile 3 is from 20% to 30%, decile 4 is from 30% to 40%, decile 5 is from 40% to 50%, decile 6 is from 50% to 60%, decile 7 is from 60% to 70%, decile 8 is from 80% to 90%, decile 10 is from 90% to 100%

Table 3 cont., Guidestar data results

G.

Median of "Total Assets" within deciles

Decile*	N	Median
1	147	$11,147.00
2	147	$42,935.00
3	147	$92,973.00
4	147	$177,887.00
5	148	$314,403.00
6	147	$548,665.00
7	147	$985,848.00
8	147	$1,939,854.00
9	147	$4,590,336.00
10	147	$24,670,220.00

*Decile 1 is from 0% to 10%, decile 2 is from 10% to 20%, decile 3 is from 20% to 30%, decile 4 is from 30% to 40%, decile 5 is from 40% to 50%, decile 6 is from 50% to 60%, decile 7 is from 60% to 70%, decile 8 is from 80% to 90%, decile 10 is from 90% to 100%

Table 3 cont., Guidestar data results

H.

Mean of "Total Assets" by Organizational Type

NTEE category*	N	Mean (Total Assets)
Arts, Culture, and Humanities	24	$8,616,547.79
Education	50	$2,231,265.68
Environment	309	$7,259,958.14
Animal-Related	46	$9,736,592.07
Health Care	37	$6,375,381.89
Mental Health and Crisis Intervention	19	$499,352.42
Voluntary Health Associations & Medical Disciplines	11	$1,923,917.64
Medical Research	6	$4,479,436.33
Crime and Legal-Related	56	$1,712,727.25
Employment	11	$4,631,388.82
Food, Agriculture, and Nutrition	13	$2,950,916.62
Housing and Shelter	23	$5,031,084.13
Public Safety, Disaster Preparedness and Relief	1	$332,239.00
Recreation and Sports	1	$2,881,118.00
Youth Development	19	$4,482,303.26
Human Services	25	$1,616,321.64
International, Foreign Affairs, and National Security	411	$12,085,571.04
Civil Rights, Social Action and Advocacy	338	$3,770,359.83
Community Building and Capacity Building	17	$680,105.71
Philanthropy, Voluntarism, and Grantmaking Foundations	3	$3,014,566.67
Science and Technology	2	$622,455.50
Social Science	1	$108,655.00
Public and Societal Benefit	41	$5,865,788.19
Religion Related	5	$235,691.60
Mutual and Membership Benefit	2	$525,330.50

*National Taxonomy of Exempt Entities

Table 3 cont., Guidestar data results

I.

Median of "Total Assets" by Organizational Type

NTEE category*	N	Median (Total Assets)
Arts, Culture, and Humanities	24	$275,739.50
Education	50	$351,091.50
Environment	309	$523,092.00
Animal-Related	46	$948,459.50
Health Care	37	$539,079.00
Mental Health and Crisis Intervention	19	$313,535.00
Voluntary Health Associations & Medical Disciplines	11	$535,167.00
Medical Research	6	$4,902,385.5
Crime and Legal-Related	56	$348,580.00
Employment	11	$930,048.00
Food, Agriculture, and Nutrition	13	$469,837.00
Housing and Shelter	23	$320,476.00
Public Safety, Disaster Preparedness and Relief	1	$332,239.00
Recreation and Sports	1	$2,881,118.00
Youth Development	19	$784,243.00
Human Services	25	$602,560.00
International, Foreign Affairs, and National Security	411	$324,831.00
Civil Rights, Social Action and Advocacy	338	$327,569.00
Community Building and Capacity Building	17	$381,127.00
Philanthropy, Voluntarism, and Grantmaking Foundations	3	$1,975,351.00
Science and Technology	2	$622,455.50
Social Science	1	$108,655.00
Public and Societal Benefit	41	$677,757.00
Religion Related	5	$180,247.00
Mutual and Membership Benefit	2	$525,330.50

*National Taxonomy of Exempt Entities

Table 3 cont., Guidestar data results

Eigenvalues

Factor	Total	% of Variance	Cumulative %
1	2.214	73.791	73.791
2	0.562	18.748	92.539
3	0.224	7.461	100.000

Factor Matrix

	Factor 1
Human rights organizations	0.850
Environmental, wildlife, and conservation orgs.	0.586
Other social advocacy organizations	0.911

Table 4 – Factor Analysis of 2007 New Movement Organization Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	0.168**	0.081**	0.245**	0.193**	0.150**	0.070**	0.214**	0.165**
Median Age	-0.192**	-0.202**	-0.200**	-0.203**	-0.187**	-0.195**	-0.197**	-0.199**
Education	0.344**	0.409**	0.325**	0.396**	0.327**	0.387**	0.309**	0.378**
Racial Diversity	-0.004	-0.024	0.011	-0.015	0.001	-0.018	0.016	-0.010
Median Rent (100s)	-0.062**	-0.083**	-0.028	-0.043*	-0.070**	-0.090**	-0.041	-0.056*
Median Income (1000s)	-0.087**	-0.107**	-0.041	-0.044	-0.079**	-0.098**	-0.042	-0.045
Travel Time to Work	0.033*	-0.017	0.015	-0.034*	0.016	-0.031*	0.000	-0.047**
Same House, 5 Years	-0.076**	-0.091**	-0.073**	-0.098**	-0.094**	-0.107**	-0.091**	-0.115**
Percent Married	-0.059**	-0.102**	-0.093**	-0.142**	-0.070**	-0.111**	-0.100**	-0.146**
Percent with Children	-0.309**	-0.312**	-0.314**	-0.319**	-0.292**	-0.293**	-0.299**	-0.303**
Foreign Born Diversity	0.030*	0.009	0.049**	0.030*	0.031*	0.010	0.049**	0.030*
Percent Renters	0.048*	0.128**	0.052*	0.143**	0.017	0.096**	0.014	0.104**
Density								
Population Density (1000s)	0.134**	0.177**	0.094**	0.120**				
Housing Density (1000s)					0.281**	0.319**	0.250**	0.273**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	0.314**	0.314**	0.360**	0.415**	0.255**	0.256**	0.285**	0.340**
Land-use Mix								
Housing Age Diversity	0.102**	0.073**			0.102**	0.074**		
Land Use Entropy			-0.214**	-0.312**			-0.179**	-0.274**
Walking								
Walked to Work	0.289**		0.297**		0.276**		0.288**	
n	25789	25789	25578	25578	25789	25789	25578	25578
R-squared (adj)	0.195	0.180	0.199	0.186	0.202	0.189	0.205	0.193

Dependent Variable: New Movement Organization Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 5 – Regression Results, ZCTA level

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (1000s)	0.197**	0.152**	0.238**	0.209**	0.219**	0.155**	0.280**	0.243**
Median Age	-0.190**	-0.197**	-0.202**	-0.204**	-0.191**	-0.200**	-0.199**	-0.202**
Education	0.328**	0.365**	0.317**	0.358**	0.356**	0.417**	0.338**	0.402**
Racial Diversity	-0.015	-0.029	-0.003	-0.021	-0.010	-0.029	0.005	-0.019
Median Rent (100s)	-0.083**	-0.094**	-0.065**	-0.074**	-0.069**	-0.088**	-0.040	-0.054*
Median Income (1000s)	-0.083**	-0.095**	-0.061*	-0.064*	-0.102**	-0.123**	-0.057*	-0.063*
Travel Time to Work	0.018	-0.011	0.008	-0.020	0.052**	0.014	0.031*	-0.008
Same House, 5 Years	-0.075**	-0.081**	-0.075**	-0.089**	-0.042*	-0.048**	-0.048**	-0.064**
Percent Married	-0.111**	-0.140**	-0.130**	-0.162**	-0.057**	-0.094**	-0.092**	-0.133**
Percent with Children	-0.276**	-0.275**	-0.285**	-0.286**	-0.296**	-0.296**	-0.303**	-0.305**
Foreign Born Diversity	0.028*	0.014	0.043**	0.031*	0.029*	0.009	0.048**	0.031*
Percent Renters	0.036	0.085**	0.027	0.080**	0.092**	0.173**	0.086**	0.171**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.568**	0.610**	0.553**	0.589**				
Employment Density (1000s)					0.245**	0.291**	0.226**	0.265**
Connectivity								
Census blocks / sq. mi	0.156**	0.150**	0.165**	0.190**	0.306**	0.310**	0.338**	0.386**
Land-use Mix								
Housing Age Diversity	0.096**	0.077**			0.099**	0.073**		
Land Use Entropy			-0.123**	-0.176**			-0.202**	-0.285**
Walking								
Walked to Work	0.177**		0.181**		0.258**		0.262**	
n	25368	25368	25162	25162	25763	25763	25555	25555
R-squared (adj)	0.245	0.240	0.246	0.241	0.204	0.193	0.207	0.198

Dependent Variable: New Movement Organization Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 5, cont. – Regression Results, ZCTA level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (10,000s)	0.957**	0.954**	0.951**	0.951**	0.978**	0.975**	0.978**	0.976**
Median Age	0.009	0.004	0.011	0.006	-0.013	-0.018	-0.013	-0.017
Education	0.198**	0.207**	0.206**	0.220**	0.219**	0.225**	0.221**	0.231**
Racial Diversity	0.003	-0.001	-0.009	-0.012	-0.008	-0.012	-0.010	-0.015
Median Rent (100s)	-0.223**	-0.238**	-0.199**	-0.221**	-0.248**	-0.257**	-0.248**	-0.257**
Median Income (1000s)	0.093	0.094	0.073	0.076	0.132*	0.133*	0.131*	0.130*
Travel Time to Work	0.021	0.017	0.004	0.005	0.019	0.012	0.018	0.009
Same House, 5 Years	-0.056	-0.068	-0.042	-0.053	-0.055	-0.067	-0.054	-0.064
Percent Married	-0.153**	-0.124**	-0.161**	-0.137**	-0.161**	-0.125**	-0.161**	-0.127**
Percent with Children	-0.101*	-0.103*	-0.095	-0.101*	-0.124*	-0.123*	-0.124*	-0.124*
Foreign Born Diversity	-0.046	-0.051	-0.050	-0.054	-0.039	-0.043	-0.039	-0.044
Percent Renters	-0.051	-0.051	-0.035	-0.036	-0.045	-0.045	-0.043	-0.040
Density								
Population Density (100s)	0.718**	0.715**	0.730**	0.727**	0.657**	0.652****	0.657**	0.653**
Housing Density (100s)								
Retail Density								
Employment Density								
Connectivity								
Census blocks / sq. mi	0.112**	0.113*	0.097*	0.101*	0.266**	0.270**	0.267**	0.274**
Land-use Mix								
Housing Age Diversity	0.004	0.003	-0.007	-0.007				
Land Use Entropy					-0.172**	-0.178**	-0.175**	-0.185**
Walking								
Walked to Work	0.049*	0.054*			0.006	0.016		
Liberalism								
Percent vote Democratic		0.048		0.034		0.059		0.056
n	3137	3120	3137	3120	3106	3104	3106	3104
R-squared (adj)	0.562	0.562	0.562	0.562	0.564	0.564	0.564	0.565

Dependent Variable: New Movement Organization Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 6, Regression results, county level

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (10,000s)	0.972**	0.970**	0.968**	0.967**	0.986**	0.983**	0.986**	0.983**
Median Age	0.012	0.008	0.014	0.009	-0.004	-0.008	-0.004	-0.008
Education	0.190**	0.200**	0.197**	0.210**	0.211**	0.217**	0.213**	0.222**
Racial Diversity	-0.001	-0.004	-0.010	-0.013	-0.010	-0.013	-0.011	-0.017
Median Rent (100s)	-0.209**	-0.223**	-0.189**	-0.210**	-0.233**	-0.241**	-0.233**	-0.241**
Median Income (1000s)	0.089	0.090	0.074	0.075	0.113	0.113	0.112	0.111
Travel Time to Work	0.019	0.016	0.006	0.006	0.018	0.011	0.017	0.009
Same House, 5 Years	-0.054	-0.065	-0.042	-0.053	-0.054	-0.066	-0.053	-0.063
Percent Married	-0.157**	-0.128**	-0.163**	-0.138**	-0.162**	-0.129**	-0.162**	-0.131**
Percent with Children	-0.089	-0.091	-0.084	-0.089	-0.106*	-0.106*	-0.106*	-0.106*
Foreign Born Diversity	-0.043	-0.048	-0.046	-0.051	-0.040	-0.044	-0.040	-0.044
Percent Renters	-0.047	-0.048	-0.035	-0.035	-0.047	-0.047	-0.046	-0.043
Density								
Population Density (100s)								
Housing Density (100s)	0.813**	0.811**	0.821**	0.819**	0.780**	0.776**	0.780**	0.776**
Retail Density								
Employment Density								
Connectivity								
Census blocks / sq. mi	0.064	0.064	0.054	0.056	0.160**	0.162**	0.161**	0.166**
Land-use Mix								
Housing Age Diversity	0.002	0.001	-0.007	-0.007				
Land Use Entropy					-0.109*	-0.114*	-0.112*	-0.120**
Walking								
Walked to Work	0.039	0.043			0.005	0.014		
Liberalism								
Percent vote Democratic		0.047		0.036		0.055		0.052
n	3137	3120	3137	3120	3106	3104	3106	3104
R-squared (adj)	0.587	0.587	0.586	0.587	0.588	0.588	0.588	0.588

Dependent Variable: New Movement Organization Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 6 cont., Regression results, county level

	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Social and Economic								
Population (10,000s)	0.994**	0.990**	0.990**	0.987**	1.017**	1.012**	1.017**	1.013**
Median Age	0.047	0.039	0.050	0.041	0.022	0.015	0.022	0.015
Education	0.188**	0.197**	0.196**	0.209**	0.213**	0.218**	0.209**	0.218**
Racial Diversity	-0.003	-0.008	-0.014	-0.018	-0.018	-0.023	-0.016	-0.023
Median Rent (100s)	-0.216**	-0.230**	-0.194**	-0.215**	-0.241**	-0.250**	-0.241**	-0.250**
Median Income (1000s)	0.066	0.068	0.048	0.050	0.116	0.117	0.118	0.117
Travel Time to Work	0.049	0.046	0.035	0.036	0.039	0.033	0.041	0.033
Same House, 5 Years	-0.048	-0.060	-0.034	-0.046	-0.045	-0.059	-0.047	-0.058
Percent Married	-0.143**	-0.111*	-0.149**	-0.122**	-0.157**	-0.118*	-0.156**	-0.118*
Percent with Children	-0.047	-0.052	-0.041	-0.050	-0.076	-0.078	-0.075	-0.078
Foreign Born Diversity	-0.043	-0.049	-0.046	-0.052	-0.034	-0.039	-0.033	-0.040
Percent Renters	-0.010	-0.007	0.005	0.008	-0.005	-0.003	-0.008	-0.002
Density								
Population Density (100s)								
Housing Density (100s)								
Retail Density	0.697**	0.699**	0.704**	0.706**	0.658**	0.658**	0.657**	0.659**
Employment Density								
Connectivity								
Census blocks / sq. mi	0.234**	0.232**	0.224**	0.225**	0.387**	0.384**	0.384**	0.384**
Land-use Mix								
Housing Age Diversity	-0.006	-0.007	-0.016	-0.017				
Land Use Entropy					-0.206**	-0.207**	-0.202**	-0.208**
Walking								
Walked to Work	0.044*	0.049			-0.010	0.001		
Liberalism								
Percent vote Democratic		0.052		0.040		0.064*		0.064**
n	3137	3120	3137	3120	3106	3104	3106	3104
R-squared (adj)	0.589	0.590	0.588	0.590	0.592	0.593	0.592	0.595

Dependent Variable: New Movement Organization Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 6 cont., Regression results, county level

	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
Social and Economic								
Population (10,000s)	0.983**	0.981**	0.979**	0.977**	1.003**	1.000**	1.003**	1.000**
Median Age	0.052	0.047	0.055	0.049	0.031	0.025	0.031	0.025
Education	0.187**	0.196**	0.194**	0.207**	0.209**	0.215**	0.206**	0.216**
Racial Diversity	-0.009	-0.013	-0.019	-0.023	-0.023	-0.026	-0.021	-0.027
Median Rent (100s)	-0.199**	-0.214**	-0.179**	-0.199**	-0.223**	-0.233**	-0.223**	-0.232**
Median Income (1000s)	0.052	0.053	0.035	0.036	0.093	0.093	0.094	0.093
Travel Time to Work	0.055	0.051	0.042	0.042	0.047	0.040	0.048	0.039
Same House, 5 Years	-0.043	-0.055	-0.030	-0.042	-0.042	-0.054	-0.043	-0.054
Percent Married	-0.137**	-0.107**	-0.142**	-0.116**	-0.149**	-0.113*	-0.148**	-0.113*
Percent with Children	-0.037	-0.040	-0.032	-0.038	-0.062	-0.063	-0.062	-0.063
Foreign Born Diversity	-0.042	-0.048	-0.046	-0.050	-0.035	-0.040	-0.035	-0.040
Percent Renters	0.011	0.011	0.025	0.025	0.012	0.012	0.010	0.013
Density								
Population Density (100s)								
Housing Density (100s)								
Retail Density								
Employment Density	0.747**	0.746**	0.753**	0.752**	0.719**	0.718**	0.719**	0.718**
Connectivity								
Census blocks / sq. mi	0.290**	0.290**	0.283**	0.285**	0.412**	0.412**	0.410**	0.412**
Land-use Mix								
Housing Age Diversity	-0.004	-0.004	-0.013	-0.013				
Land Use Entropy					-0.170**	-0.174**	-0.167**	-0.175**
Walking								
Walked to Work	0.041	0.045			-0.008	0.003		
Liberalism								
Percent vote Democratic		0.049		0.038		0.060		0.059
n	3137	3120	3137	3120	3106	3104	3106	3104
R-squared (adj)	0.618	0.618	0.617	0.618	0.620	0.620	0.620	0.620

Dependent Variable: New Movement Organization Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 6 cont., Regression results, county level

	Ideology[a]
I am in favor of legalized abortions[b]	0.303**
I believe in God	-0.168**
Everything is changing too fast today	-0.196**
Public high schools should distribute condoms	0.325**
I am in favor of the death penalty	-0.064**
I make a strong effort to recycle everything I possibly can	0.002
The government should exercise more control over what is shown on TV	-0.170**
There should be a gun in every home	-0.075**
Couples should live together before getting married	0.231**
The use of marijuana should be legalized	0.258**
Police should use whatever force is necessary to maintain law and order	-0.157**
Religion is an important part of my life	-0.234**
I think the women's liberation movement is a good thing	0.274**
Which is most important: The fight against crime OR progress toward a less impersonal, more humane society? [c]	0.152**
Which is most important: Progress toward a society in which ideas count more than money OR a stable economy? [d]	-0.131**
Which is most important: Fighting rising prices OR protecting freedom of speech? [e]	0.079**
Which is most important: Giving people more say in important government decisions OR maintaining order in the society?[f]	-0.083**

Data from DDB Lifestyle Survey; Table gives Pearson correlations (r); ** $p < 0.01$, *$p < 0.05$

a. Survey question on a 5 point Likert scale: Very conservative (1), Moderately conservative (2), Middle of the road (3), Moderately Liberal (4), Very Liberal (5)
b. Unless otherwise indicated, each row of above table is a 6 point Likert scale: Definitely disagree (1), Generally disagree (2), Moderately disagree (3), Moderately agree (4), Generally agree (5), Definitely agree (6)
c. This is a two point Likert scale: Fight against crime (1), Less impersonal and more humane society (2)
d. This is a two point Likert scale: Society in which ideas count more than money (1), Stable economy (2)
e. This is a two point Likert scale: Fighting rising prices (1), Protecting freedom of speech (2)
f. This is a two point Likert scale: Giving people more say in important government decisions (1), Maintaining order in the society (2)

Table 7, Pearson correlations, DDB data

	(1)	(2)	(3)	(4)
Constant	0.690**	0.543**	0.696**	0.564**
Respondent's age	0.088**	0.092**	0.069**	0.073**
Level of Education[a]	0.134**	0.134**	0.133**	0.133**
Race[b]	-0.076	-0.068	-0.079	-0.072
Mean commuting time[c]	0.001	0.001	0.003	0.004
Marital status[d]	-0.020	-0.006	-0.019	-0.007
Household income[e]	0.015**	0.014*	0.013*	0.011*
Children at home[f]	-0.001	0.003	0.004	0.009
City size[g]	-0.089**	-0.092**	-0.092**	-0.095**
Rode bicycle[h]	0.096**	0.096**		
Walked for exercise[i]			0.073**	0.073**
Ideology[j]		0.049*		0.044*
n	3028	3017	3021	3011
R-squared (adj)	0.058	0.060	0.063	0.064

Data from 1998 DDB Lifestyle Survey; Dependent Variable: Worked on a community project (freq. last 12 months)[k], **p<0.01, *p<0.05

a. Variable takes the value: "1" if elementary school, "2" if attended high school, "3" if graduated from high school, "4" if attended college, "5" if graduated from college, "6" graduate school

b. Variable takes the value: "1" if respondent's race is white, "0" if respondent's race is non-white

c. Mean commuting time in respondent's county

d. Variable takes the value: "1" if respondent is married, "0" if respondent is unmarried

e. Variable takes the value: "1" if income under $10,000, "2" if income $10,000-$14,999, "3" if income $15,000-$19,999, "4" if income $20,000-$24,999, "5" if income $25,000-$29,999, "6" if income $30,000-$34,999, "7" if income $35,000-$39,999, "8" if income $40,000-$44,999, "9" if income $45,000-$49,999, "10" if income $50,000-$59,999, "11" if income $60,000-$69,999, "12" if income $70,000-$79,999, "13" if income "80,000-$89,999, "14" if income $90,000 to $99,999, "15" if income $100,000 or more

f. Variable takes the value: "0" if no children, "1" if one child, "2" if two children, "3" if three children, "4" if four children, "5" if five or more children

g. Variable takes the value: "1" if respondent is from city of less than 50,000, "2" if respondent is from city between 50,000 and 500,000, "3" if respondent is from a city between 500,000 and 2 million, and "4" if city is greater than 2 million

h. Variable is the frequency of riding a bicycle in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

i. Variable is the frequency of walking for exercise in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

j. Variable takes the value:"1" if respondent is very conservative, "2" if respondent is moderately conservative, "3" if respondent is middle of the road, "4" if respondent is moderately liberal, "5" if respondent is very liberal

k. Variable is the frequency of working on a community project in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

Table 8, Regression Results, DDB data

	(1)	(2)	(3)	(4)
Constant	0.899**	0.654**	0.926**	0.687**
Respondent's age	0.025*	0.032**	0.014	0.021*
Level of Education[a]	0.027*	0.027*	0.026	0.026
Race[b]	0.025	0.028	0.029	0.032
Mean commuting time[c]	0.008	0.008	0.008*	0.009*
Marital status[d]	-0.084*	-0.068	-0.087*	-0.071*
Household income[e]	0.019**	0.017**	0.017**	0.015**
Children at home[f]	-0.031*	-0.025	-0.026	-0.020
City size[g]	0.010	0.004	0.010	0.004
Rode bicycle[h]	0.068**	0.068**		
Walked for exercise[i]			0.046**	0.046**
Liberalism[j]		0.087**		0.085**
n	3002	2991	2992	2982
R-squared (adj)	0.036	0.046	0.035	0.045

Data from 1998 DDB Lifestyle Survey; Dependent Variable: Contributed to an environmental or conservation org. (freq. last 12 months)[k], **p<0.01, *p<0.05

a. Variable takes the value: "1" if elementary school, "2" if attended high school, "3" if graduated from high school, "4" if attended college, "5" if graduated from college, "6" graduate school

b. Variable takes the value: "1" if respondent's race is white, "0" if respondent's race is non-white

c. Mean commuting time in respondent's county

d. Variable takes the value: "1" if respondent is married, "0" if respondent is unmarried

e. Variable takes the value: "1" if income under $10,000, "2" if income $10,000-$14,999, "3" if income $15,000-$19,999, "4" if income $20,000-$24,999, "5" if income $25,000-$29,999, "6" if income $30,000-$34,999, "7" if income $35,000-$39,999, "8" if income $40,000-$44,999, "9" if income $45,000-$49,999, "10" if income $50,000-$59,999, "11" if income $60,000-$69,999, "12" if income $70,000-$79,999, "13" if income "80,000-$89,999, "14" if income $90,000 to $99,999, "15" if income $100,000 or more

f. Variable takes the value: "0" if no children, "1" if one child, "2" if two children, "3" if three children, "4" if four children, "5" if five or more children

g. Variable takes the value: "1" if respondent is from city of less than 50,000, "2" if respondent is from city between 50,000 and 500,000, "3" if respondent is from a city between 500,000 and 2 million, and "4" if city is greater than 2 million

h. Variable is the frequency of riding a bicycle in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

i. Variable is the frequency of walking for exercise in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

j. Variable takes the value:"1" if respondent is very conservative, "2" if respondent is moderately conservative, "3" if respondent is middle of the road, "4" if respondent is moderately liberal, "5" if respondent is very liberal

k. Variable is the frequency of contributing to an environmental or conservation organization in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

Table 8, Regression Results, DDB data

	(1)	(2)	(3)	(4)
Constant	0.508*	0.526*	0.432	0.462
Respondent's age	0.209**	0.211**	0.179**	0.182**
Level of Education[a]	0.254**	0.253**	0.243**	0.241**
Race[b]	0.191*	0.195*	0.178*	0.182*
Mean commuting time[c]	-0.004	-0.004	0.000	0.000
Marital status[d]	-0.058	-0.051	-0.055	-0.050
Household income[e]	-0.002	-0.001	-0.009	-0.008
Children at home[f]	0.103**	0.106**	0.116**	0.119**
City size[g]	-0.087*	-0.084*	-0.087*	-0.084*
Rode bicycle[h]	0.143**	0.143**		
Walked for exercise[i]			0.151**	0.152**
Liberalism[j]		-0.012		-0.017
n	3013	3002	3005	2995
R-squared (adj)	0.060	0.060	0.075	0.076

Data from 1998 DDB Lifestyle Survey; Dependent Variable: Did volunteer work (freq. last 12 months)[k], **p<0.01, *p<0.05

a. Variable takes the value: "1" if elementary school, "2" if attended high school, "3" if graduated from high school, "4" if attended college, "5" if graduated from college, "6" graduate school

b. Variable takes the value: "1" if respondent's race is white, "0" if respondent's race is non-white

c. Mean commuting time in respondent's county

d. Variable takes the value: "1" if respondent is married, "0" if respondent is unmarried

e. Variable takes the value: "1" if income under $10,000, "2" if income $10,000-$14,999, "3" if income $15,000-$19,999, "4" if income $20,000-$24,999, "5" if income $25,000-$29,999, "6" if income $30,000-$34,999, "7" if income $35,000-$39,999, "8" if income $40,000-$44,999, "9" if income $45,000-$49,999, "10" if income $50,000-$59,999, "11" if income $60,000-$69,999, "12" if income $70,000-$79,999, "13" if income "80,000-$89,999, "14" if income $90,000 to $99,999, "15" if income $100,000 or more

f. Variable takes the value: "0" if no children, "1" if one child, "2" if two children, "3" if three children, "4" if four children, "5" if five or more children

g. Variable takes the value: "1" if respondent is from city of less than 50,000, "2" if respondent is from city between 50,000 and 500,000, "3" if respondent is from a city between 500,000 and 2 million, and "4" if city is greater than 2 million

h. Variable is the frequency of riding a bicycle in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

i. Variable is the frequency of walking for exercise in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

j. Variable takes the value:"1" if respondent is very conservative, "2" if respondent is moderately conservative, "3" if respondent is middle of the road, "4" if respondent is moderately liberal, "5" if respondent is very liberal

k. Variable is the frequency of doing volunteer work in the past 12 months. It takes the value: "1" if none, "2" if 1-4 times, "3" if 5-8 times, "4" if 9-11 times, "5" if 12-24 times, "6" if 25-51 times, "7" if 52+ times

Table 8, Regression Results, DDB data

Dependent Variable:	2007 NMO Index		Pop. Density (100s), 2006-2008		2007 NMO Index		Housing Density (100s), 2006-2008	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (10,000s)	-0.168**	0.957**	-0.134**	-5.908**	-0.178**	0.972**	0.009	-4.040**
Median Age	0.033	0.009	-0.282**	1.801	0.033	0.012	-0.115**	0.575
Education	0.015	0.198**	0.113*	0.839	0.015	0.190**	0.048*	0.159
Racial Diversity	0.001	0.003	0.056	1.931*	0.002	-0.001	0.046**	1.066*
Median Rent (100s)	-0.018	-0.223**	0.023	-1.685	-0.018	-0.209**	-0.004	-0.698
Median Income (1000s)	0.012	0.093	0.223**	-1.952	0.011	0.089	0.119**	-0.689
Travel Time to Work	0.026*	0.021	0.034	5.884**	0.028**	0.019	0.002	2.251**
Same House, 5 Years	-0.021	-0.056	-0.238**	3.773**	-0.020	-0.054	-0.103**	1.500**
Percent Married	0.005	-0.153**	0.101	11.310**	0.009	-0.157**	0.020	5.135**
Percent with Children	0.036*	-0.101*	-0.260**	2.961*	0.037*	-0.089	-0.135**	0.869
Foreign Born Diversity	-0.005	-0.046	0.013	0.194	-0.005	-0.043	0.018	0.138
Percent Renters	0.008	-0.051	-0.165**	8.807**	0.011	-0.047	-0.068**	3.385**
Density								
Population Density (100s)	-0.022	0.718**	35.563**					
Housing Density (100s)					-0.053**	0.813**	16.477**	
Retail Density								
Employment Density								
Connectivity								
Census blocks / sq. mi	0.060**	0.112*	-0.868**	23.526**	0.077**	0.064	-0.265**	9.925**
Land-use Mix								
Housing Age Diversity	-0.008	0.004	-0.034	0.311	-0.008	0.002	0.006	0.186
Walking								
Walked to Work	0.000	0.049*	-0.367**	10.518**	0.002	0.039	-0.142**	4.818**
NMO								
NMO Index 2000	2.051**		0.176**	10.395**	2.067**		-0.002	6.734**
n	3137	3137	1821	1821	3137	3137	1821	1821
R-squared (adj)	0.949	0.562	0.999	0.678	0.950	0.587	1.000	0.648

**p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients; Independent variables are from 2000

Table 9, Cross-lagged regressions, county-level

Dependent Variable:	**2007 NMO Index**		**Employment Density 2007**		**2007 NMO Index**		**Retail Density, 2007**	
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (10,000s)	-0.209**	0.983**	-3.966	-1363.022**	-0.198**	0.994**	0.272**	-6.263**
Median Age	0.029	0.052	6.207	-94.088	0.030	0.047	0.218**	-0.265
Education	0.013	0.187**	2.494	-59.879	0.015	0.188**	0.029	-0.002
Racial Diversity	0.004	-0.009	0.366	97.840	0.003	-0.003	-0.037	0.430
Median Rent (100s)	-0.018	-0.199**	1.931	-34.830	-0.018	-0.216**	0.018	-0.251
Median Income (1000s)	0.013	0.052	0.809	-1.611	0.012	0.066	-0.114**	-0.411
Travel Time to Work	0.028**	0.055	9.734**	135.975*	0.029**	0.049	0.081**	1.165**
Same House, 5 Years	-0.019	-0.043	1.639	98.311	-0.019	-0.048	0.028	0.763*
Percent Married	0.015	-0.137**	7.517**	402.079**	0.014	-0.143**	0.043	2.515**
Percent with Children	0.034*	-0.037	10.868**	-9.232	0.034*	-0.047	0.235**	0.166
Foreign Born Diversity	-0.005	-0.042	0.623	4.899	-0.005	-0.043	0.008	-0.047
Percent Renters	0.008	0.011	13.347**	122.274	0.011	-0.010	0.128**	1.426**
Density								
Population Density (100s)								
Housing Density (100s)								
Retail Density					-0.092**	0.697**	18.345**	
Employment Density	-0.105**	0.747**	3196.661**					
Connectivity								
Census blocks / sq. mi	0.075**	0.290**	17.269**	908.970**	0.086**	0.234**	-0.088**	8.047**
Land-use Mix								
Housing Age Diversity	-0.008	-0.004	-0.135	-2.921	-0.007	-0.006	-0.007	0.043
Walking								
Walked to Work	0.004	0.041	0.813	179.256**	0.005	0.044*	-0.016	1.196**
NMO								
NMO Index 2000	2.119**		18.475**	2316.926**	2.095**		-0.277**	10.025**
n	3137	3137	3137	3137	3137	3137	3137	3137
R-squared (adj)	0.951	0.618	0.999	0.467	0.950	0.589	0.998	0.493

**p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients; Independent variables are from 2000

Table 9 cont., Cross-lagged regressions, county-level

Dependent Variable:	**Walked to Work, 2006-2008**		**Housing Age Diversity, 2006-2008**	
	(17)	(18)	(19)	(20)
Social and Economic				
Population (10,000s)	-0.100	-0.368**	0.003**	0.002
Median Age	-0.179	-1.410**	0.000	-0.023**
Education	0.234**	0.867**	-0.004**	0.001
Racial Diversity	-0.025	-1.070**	0.004**	0.011**
Median Rent (100s)	0.149	0.633**	-0.002	-0.014**
Median Income (1000s)	-0.153	-0.816**	0.009**	0.011**
Travel Time to Work	-0.033	-0.398**	-0.008**	-0.002
Same House, 5 Years	0.328**	0.542**	0.008**	0.008**
Percent Married	0.245*	-0.310**	0.003	0.013**
Percent with Children	-0.267*	-0.950**	-0.005**	-0.020**
Foreign Born Diversity	0.010	-0.341**	0.003**	0.004*
Percent Renters	0.251**	0.546**	0.010**	0.012**
Density				
Population Density (100s)	0.104	0.781**	-0.004**	-0.004*
Housing Density (100s)				
Retail Density				
Employment Density				
Connectivity				
Census blocks / sq. mi	-0.125	-0.606**	-0.002*	-0.011**
Land-use Mix				
Housing Age Diversity	-0.228**	-1.085**	0.064**	
Walking				
Walked to Work	4.380**		0.002	-0.018**
NMO				
NMO Index 2000	0.095	0.313**	-0.001	0.000
n	1812	1812	1821	1821
R-squared (adj)	0.762	0.437	0.751	0.175

**p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients; Independent variables are from 2000

Table 9 cont., Cross-lagged regressions, county-level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	0.292**	0.213**	0.318**	0.267**	0.249**	0.180**	0.258**	0.212**
Median Age	-0.065**	-0.076**	-0.079**	-0.084**	-0.061**	-0.070**	-0.075**	-0.080**
Education	0.254**	0.314**	0.230**	0.302**	0.231**	0.285**	0.208**	0.276**
Racial Diversity	-0.055**	-0.072**	-0.031*	-0.055**	-0.050**	-0.065**	-0.026	-0.048**
Median Rent (100s)	0.107**	0.088**	0.126**	0.107**	0.094**	0.076**	0.106**	0.088**
Median Income (1000s)	0.124**	0.106**	0.131**	0.128**	0.137**	0.120**	0.131**	0.128**
Travel Time to Work	-0.048**	-0.095**	-0.054**	-0.103**	-0.079**	-0.121**	-0.082**	-0.127**
Same House, 5 Years	-0.071**	-0.082**	-0.063**	-0.086**	-0.105**	-0.113**	-0.096**	-0.117**
Percent Married	0.093**	0.054**	0.090**	0.046*	0.074**	0.039*	0.078**	0.037*
Percent with Children	-0.269**	-0.274**	-0.277**	-0.286**	-0.254**	-0.256**	-0.262**	-0.269**
Foreign Born Diversity	-0.014	-0.033*	0.004	-0.015	-0.012	-0.030*	0.004	-0.013
Percent Renters	0.026	0.096**	0.008	0.097**	-0.030	0.036	-0.057**	0.029
Density								
Population Density (1000s)	0.028	0.068**	0.015	0.043*				
Housing Density (1000s)					0.269**	0.303**	0.268**	0.291**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	0.312**	0.308**	0.277**	0.328**	0.215**	0.213**	0.158**	0.208**
Land-use Mix								
Housing Age Diversity	0.122**	0.095**			0.122**	0.098**		
Land Use Entropy			-0.037	-0.131**			0.017	-0.072**
Walking								
Walked to Work	0.256**		0.291**		0.236**		0.275**	
n	26788	26788	26558	26558	26788	26788	26558	26558
R-squared (adj)	0.181	0.167	0.181	0.167	0.190	0.178	0.190	0.177

Dependent Variable: Securities Dealing and Brokerage Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 10, Contrast regression, Securities Dealing and Brokerage Index

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (10,0s)	0.293**	0.271**	0.269**	0.251**	0.359**	0.332**	0.349**	0.331**
Median Age	-0.071**	-0.074**	-0.092**	-0.093**	-0.063**	-0.067**	-0.079**	-0.081**
Education	0.205**	0.224**	0.197**	0.223**	0.266**	0.291**	0.258**	0.290**
Racial Diversity	-0.073**	-0.079**	-0.054**	-0.065**	-0.073**	-0.081**	-0.054**	-0.065**
Median Rent (100s)	0.080**	0.075**	0.068**	0.061**	0.063**	0.056**	0.059**	0.051**
Median Income (1000s)	0.144**	0.137**	0.106**	0.103**	0.092**	0.083**	0.065**	0.063**
Travel Time to Work	-0.117**	-0.132**	-0.099**	-0.116**	-0.056**	-0.073**	-0.046**	-0.065**
Same House, 5 Years	-0.104**	-0.106**	-0.091**	-0.099**	-0.037**	-0.038**	-0.029*	-0.036**
Percent Married	0.015	0.001	0.044*	0.025	0.051**	0.035*	0.070**	0.051**
Percent with Children	-0.232**	-0.231**	-0.246**	-0.246**	-0.223**	-0.224**	-0.233**	-0.236**
Foreign Born Diversity	-0.013	-0.020	-0.003	-0.011	-0.012	-0.021	0.000	-0.008
Percent Renters	-0.048*	-0.024	-0.078**	-0.044*	0.043*	0.076**	0.019	0.060**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.858**	0.879**	0.874**	0.897**				
Employment Density (1000s)					0.905**	0.924**	0.907**	0.926**
Connectivity								
Census blocks / sq. mi	0.013	0.010	-0.082**	-0.068**	0.096**	0.097**	0.026	0.048**
Land-use Mix								
Housing Age Diversity	0.121**	0.112**			0.116**	0.105**		
Land Use Entropy			0.136**	0.103**			0.080**	0.040*
Walking								
Walked to Work	0.086**		0.113**		0.108**		0.129**	
n	25892	25892	25672	25672	26714	26714	26487	26487
R-squared (adj)	0.313	0.312	0.314	0.312	0.347	0.345	0.346	0.343

Dependent Variable: Securities Dealing and Brokerage Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 10 cont., Contrast regression, Securities Dealing and Brokerage Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	0.087**	0.063**	0.130**	0.117**	0.089**	0.070**	0.117**	0.106**
Median Age	-0.069**	-0.072**	-0.073**	-0.074**	-0.060**	-0.062**	-0.065**	-0.066**
Education	0.259**	0.278**	0.251**	0.269**	0.230**	0.245**	0.222**	0.238**
Racial Diversity	0.006	0.000	0.017	0.011	0.015	0.011	0.025	0.020
Median Rent (100s)	0.073**	0.067**	0.091**	0.086**	0.061**	0.056**	0.074**	0.070**
Median Income (1000s)	0.036	0.031	0.063*	0.062*	0.046	0.041	0.062*	0.062*
Travel Time to Work	-0.017	-0.032*	-0.030*	-0.042**	-0.030*	-0.041**	-0.039**	-0.049**
Same House, 5 Years	0.002	-0.002	0.000	-0.006	-0.009	-0.011	-0.010	-0.015
Percent Married	-0.059**	-0.071**	-0.079**	-0.090**	-0.065**	-0.075**	-0.079**	-0.088**
Percent with Children	-0.232**	-0.233**	-0.238**	-0.240**	-0.197**	-0.197**	-0.203**	-0.204**
Foreign Born Diversity	-0.023	-0.029*	-0.010	-0.014	-0.025	-0.030	-0.013	-0.017
Percent Renters	0.053*	0.075**	0.058*	0.080**	0.031	0.049*	0.030	0.049*
Density								
Population Density (1000s)	0.454**	0.467**	0.433**	0.440**				
Housing Density (1000s)					0.622**	0.631**	0.610**	0.615**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	-0.030	-0.032	-0.003	0.010	-0.094**	-0.094**	-0.083**	-0.072**
Land-use Mix								
Housing Age Diversity	0.064**	0.055**			0.061**	0.055**		
Land Use Entropy			-0.130**	-0.153**			-0.086**	-0.106**
Walking								
Walked to Work	0.081**		0.073**		0.065**		0.062**	
n	26788	26788	26558	26558	26788	26788	26558	26558
R-squared (adj)	0.123	0.122	0.124	0.123	0.148	0.147	0.148	0.147

Dependent Variable: Artistic Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 11, Contrast regression, Artistic Composite Index

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (1000s)	0.198**	0.206**	0.219**	0.227**	0.226**	0.209**	0.273**	0.267**
Median Age	-0.073**	-0.072**	-0.078**	-0.077**	-0.070**	-0.073**	-0.073**	-0.073**
Education	0.253**	0.246**	0.253**	0.240**	0.291**	0.307**	0.283**	0.294**
Racial Diversity	-0.010	-0.008	-0.004	0.001	-0.004	-0.008	0.007	0.003
Median Rent (100s)	0.067**	0.069**	0.072**	0.075**	0.079**	0.074**	0.100**	0.097**
Median Income (1000s)	0.030	0.032	0.043	0.044	0.003	-0.002	0.041	0.040
Travel Time to Work	0.003	0.009	-0.002	0.007	0.048**	0.038**	0.030*	0.023
Same House, 5 Years	0.058**	0.058**	0.052**	0.056**	0.091**	0.090**	0.082**	0.080**
Percent Married	-0.089**	-0.084**	-0.101**	-0.092**	-0.029	-0.038*	-0.057**	-0.064**
Percent with Children	-0.200**	-0.200**	-0.209**	-0.209**	-0.217**	-0.218**	-0.225**	-0.226**
Foreign Born Diversity	-0.030*	-0.028*	-0.021	-0.018	-0.030*	-0.035*	-0.016	-0.019
Percent Renters	0.121**	0.113**	0.125**	0.109**	0.182**	0.203**	0.191**	0.206**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.706**	0.698**	0.704**	0.693**				
Employment Density (1000s)					0.311**	0.323**	0.299**	0.306**
Connectivity								
Census blocks / sq. mi	-0.108**	-0.107**	-0.098**	-0.104**	0.078**	0.078**	0.117**	0.125**
Land-use Mix								
Housing Age Diversity	0.053**	0.056**			0.057**	0.050**		
Land Use Entropy			-0.078**	-0.062**			-0.174**	-0.189**
Walking								
Walked to Work	-0.030*		-0.054**		0.067**		0.046**	
n	25892	25891	25672	25672	26714	26714	26488	26488
R-squared (adj)	0.184	0.184	0.184	0.184	0.120	0.119	0.121	0.121

Dependent Variable: Artistic Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 11 cont., Contrast regression, Artistic Composite Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	1.248**	1.225**	1.211**	1.192**	1.194**	1.176**	1.150**	1.133**
Median Age	-0.035*	-0.038**	-0.051**	-0.053**	-0.036**	-0.039**	-0.053**	-0.055**
Education	0.263**	0.281**	0.253**	0.280**	0.258**	0.273**	0.248**	0.273**
Racial Diversity	-0.096**	-0.101**	-0.081**	-0.090**	-0.097**	-0.101**	-0.082**	-0.090**
Median Rent (100s)	-0.044**	-0.049**	-0.057**	-0.064**	-0.051**	-0.055**	-0.068**	-0.074**
Median Income (1000s)	0.124**	0.118**	0.088**	0.087**	0.132**	0.127**	0.088**	0.087**
Travel Time to Work	-0.140**	-0.154**	-0.128**	-0.146**	-0.168**	-0.179**	-0.154**	-0.170**
Same House, 5 Years	-0.111**	-0.115**	-0.105**	-0.114**	-0.144**	-0.147**	-0.137**	-0.145**
Percent Married	0.092**	0.081**	0.121**	0.105**	0.073**	0.064**	0.107**	0.093**
Percent with Children	-0.316**	-0.317**	-0.323**	-0.326**	-0.325**	-0.325**	-0.331**	-0.333**
Foreign Born Diversity	0.075**	0.070**	0.087**	0.081**	0.079**	0.074**	0.091**	0.084**
Percent Renters	0.227**	0.248**	0.196**	0.229**	0.175**	0.193**	0.139**	0.170**
Density								
Population Density (1000s)	-0.330**	-0.318**	-0.312**	-0.302**				
Housing Density (1000s)					-0.167**	-0.158**	-0.145**	-0.136**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	0.193**	0.192**	0.100**	0.119**	0.124**	0.124**	0.020	0.037**
Land-use Mix								
Housing Age Diversity	0.095**	0.087**			0.098**	0.091**		
Land Use Entropy			0.145**	0.110**			0.175**	0.144**
Walking								
Walked to Work	0.076**		0.108**		0.064**		0.098**	
n	26788	26788	26558	26558	26788	26788	26558	26558
R-squared (adj)	0.532	0.530	0.532	0.530	0.523	0.522	0.524	0.522

Dependent Variable: Depository Credit Intermediation Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 12, Contrast regression, Depository Credit Intermediation Index

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (1000s)	1.161**	1.166**	1.093**	1.091**	1.185**	1.186**	1.125**	1.120**
Median Age	-0.040**	-0.039**	-0.066**	-0.066**	-0.033*	-0.033*	-0.053**	-0.053**
Education	0.213**	0.208**	0.215**	0.218**	0.245**	0.244**	0.245**	0.252**
Racial Diversity	-0.099**	-0.097**	-0.087**	-0.088**	-0.099**	-0.099**	-0.087**	-0.090**
Median Rent (100s)	-0.076**	-0.074**	-0.113**	-0.114*	-0.077**	-0.076**	-0.106**	-0.107**
Median Income (1000s)	0.166**	0.168**	0.091**	0.091**	0.131**	0.131**	0.065**	0.064**
Travel Time to Work	-0.238**	-0.234**	-0.200**	-0.202**	-0.196**	-0.195**	-0.169**	-0.173**
Same House, 5 Years	-0.188**	-0.188**	-0.173**	-0.174**	-0.158**	-0.158**	-0.145**	-0.147**
Percent Married	0.035*	0.038**	0.094**	0.092**	0.045**	0.046**	0.096**	0.092**
Percent with Children	-0.317**	-0.317**	-0.328**	-0.328**	-0.300**	-0.300**	-0.308**	-0.309**
Foreign Born Diversity	0.082**	0.084**	0.089**	0.088**	0.082**	0.082**	0.090**	0.088**
Percent Renters	0.109**		0.070**	0.074**	0.140**	0.138**	0.105**	0.114**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.353**	0.347**	0.379**	0.382**				
Employment Density (1000s)					0.326**	0.326**	0.339**	0.344**
Connectivity								
Census blocks / sq. mi	-0.074**	-0.073**	-0.212**	-0.210**	-0.025*	-0.025*	-0.145**	-0.140**
Land-use Mix								
Housing Age Diversity	0.104**	0.106**			0.097**	0.097**		
Land Use Entropy			0.284**	0.280**			0.251**	0.242**
Walking								
Walked to Work	-0.022*		0.013**		-0.004		0.029**	
n	25892	25892	25672	25672	26714	26714	26488	26488
R-squared (adj)	0.539	0.539	0.544	0.544	0.541	0.514	0.545	0.545

Dependent Variable: Depository Credit Intermediation Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 12 cont., Contrast regression, Depository Credit Intermediation Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	1.015**	1.025**	1.019**	1.028**	0.988**	1.001**	0.984**	0.994**
Median Age	0.082**	0.084**	0.085**	0.086**	0.084**	0.086**	0.086**	0.087**
Education	0.634**	0.626**	0.642**	0.629**	0.623**	0.613**	0.632**	0.617**
Racial Diversity	-0.023	-0.021	-0.030*	-0.025	-0.021	-0.018	-0.028	-0.023
Median Rent (100s)	0.197**	0.200**	0.194**	0.197**	0.190**	0.194**	0.184**	0.188**
Median Income (1000s)	-0.072**	-0.069**	-0.069**	-0.068**	-0.065**	-0.062*	-0.069**	-0.068**
Travel Time to Work	-0.101**	-0.095**	-0.104**	-0.095**	-0.119**	-0.111**	-0.120**	-0.110**
Same House, 5 Years	-0.429**	-0.427**	-0.439**	-0.435**	-0.448**	-0.447**	-0.458**	-0.454**
Percent Married	0.086**	0.091**	0.089**	0.097**	0.074**	0.081**	0.082**	0.091**
Percent with Children	-0.251**	-0.250**	-0.251**	-0.249**	-0.245**	-0.245**	-0.245**	-0.244**
Foreign Born Diversity	-0.075**	-0.073**	-0.078**	-0.074**	-0.074**	-0.070**	-0.077**	-0.073**
Percent Renters	-0.170**	-0.179**	-0.165**	-0.181**	-0.202**	-0.215**	-0.201**	-0.220**
Density								
Population Density (1000s)	-0.037*	-0.043**	-0.037**	-0.042**				
Housing Density (1000s)					0.094**	0.087**	0.096**	0.091**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	0.038*	0.038*	0.053**	0.044*	-0.015	-0.015	-0.010	-0.021
Land-use Mix								
Housing Age Diversity	-0.018	-0.014			-0.017	-0.012		
Land Use Entropy			-0.018	0.000			0.010	0.030
Walking								
Walked to Work	-0.035**		-0.053**		-0.046**		-0.061**	
n	26788	26788	26558	26558	26788	26788	26558	26558
R-squared (adj)	0.425	0.425	0.427	0.426	0.426	0.425	0.427	0.427

Dependent Variable: Real Estate Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 13, Contrast regression, Real Estate Index

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (1000s)	1.003**	1.032**	0.989**	1.010**	1.016**	1.033**	1.012**	1.025**
Median Age	0.085**	0.090**	0.085**	0.087**	0.082**	0.085**	0.084**	0.086**
Education	0.614**	0.590**	0.631**	0.600**	0.634**	0.618**	0.645**	0.623**
Racial Diversity	-0.032*	-0.024	-0.041**	-0.028	-0.026	-0.022	-0.034*	-0.026
Median Rent (100s)	0.192**	0.199**	0.175**	0.183**	0.187**	0.191**	0.177**	0.183**
Median Income (1000s)	-0.067**	-0.059*	-0.085**	-0.083**	-0.076**	-0.070**	-0.081**	-0.079**
Travel Time to Work	-0.143**	-0.124**	-0.133**	-0.112**	-0.109**	-0.098**	-0.108**	-0.095**
Same House, 5 Years	-0.474**	-0.472**	-0.485**	-0.475**	-0.433**	-0.432**	-0.443**	-0.438**
Percent Married	0.052**	0.070**	0.069**	0.091**	0.075**	0.084**	0.083**	0.096**
Percent with Children	-0.243**	-0.244**	-0.245**	-0.244**	-0.244**	-0.244**	-0.245**	-0.243**
Foreign Born Diversity	-0.077**	-0.068**	-0.081**	-0.072**	-0.074**	-0.069**	-0.078**	-0.072**
Percent Renters	-0.223**	-0.254**	-0.221**	-0.261**	-0.180**	-0.201**	-0.176**	-0.204**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.330**	0.303**	0.337**	0.310**				
Employment Density (1000s)					0.172**	0.161**	0.176**	0.163**
Connectivity								
Census blocks / sq. mi	-0.097**	-0.093**	-0.104**	-0.121**	-0.021	-0.021	-0.015	-0.030
Land-use Mix								
Housing Age Diversity	-0.015	-0.003			-0.019	-0.012		
Land Use Entropy			0.050**	0.089**			0.013	0.041*
Walking								
Walked to Work	-0.111**		-0.136**		-0.067**		-0.088**	
n	25892	25892	25672	25672	26714	26714	26488	26488
R-squared (adj)	0.439	0.437	0.441	0.439	0.429	0.429	0.431	0.430

Dependent Variable: Real Estate Composite Index, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 13 cont., Contrast regression, Real Estate Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	-0.040*	-0.098**	-0.013	-0.049*	-0.068**	-0.120**	-0.049**	-0.083**
Median Age	-0.155**	-0.163**	-0.168**	-0.171**	-0.154**	-0.161**	-0.167**	-0.170**
Education	0.391**	0.434**	0.377**	0.428**	0.381**	0.421**	0.368**	0.417**
Racial Diversity	0.041*	0.029	0.061**	0.045*	0.043*	0.032	0.063**	0.047**
Median Rent (100s)	-0.025	-0.039	-0.012	-0.025	-0.032	-0.045*	-0.022	-0.035
Median Income (1000s)	0.000	-0.014	0.007	0.005	0.006	-0.007	0.007	0.005
Travel Time to Work	0.022	-0.012	0.020	-0.014	0.005	-0.027*	0.004	-0.028*
Same House, 5 Years	-0.099**	-0.107**	-0.092**	-0.109**	-0.118**	-0.125**	-0.112**	-0.127**
Percent Married	-0.008	-0.036	-0.014	-0.045*	-0.019	-0.045*	-0.021	-0.051*
Percent with Children	-0.287**	-0.291**	-0.295**	-0.301**	-0.283**	-0.285**	-0.291**	-0.296**
Foreign Born Diversity	-0.027	-0.041**	-0.010	-0.023	-0.025	-0.039*	-0.009	-0.022
Percent Renters	0.071**	0.122**	0.059*	0.122**	0.038	0.088**	0.021	0.083**
Density								
Population Density (1000s)	-0.054**	-0.025	-0.070**	-0.050*				
Housing Density (1000s)					0.073**	0.098**	0.064**	0.080**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	0.227**	0.225**	0.207**	0.243**	0.176**	0.174**	0.144**	0.180**
Land-use Mix								
Housing Age Diversity	0.105**	0.086**			0.106**	0.088**		
Land Use Entropy			-0.053*	-0.120**			-0.026	-0.090**
Walking								
Walked to Work	0.187**		0.207**		0.177**		0.198**	
n	26788	26788	26558	26558	26788	26788	26558	26558
R-squared (adj)	0.094	0.088	0.093	0.087	0.094	0.089	0.093	0.088

Dependent Variable: “813” Composite Index 1, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 14, Contrast regression, “813” Composite Index #1

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (1000s)	-0.057**	-0.088**	-0.055**	-0.077**	-0.041*	-0.079**	-0.028	-0.052**
Median Age	-0.161**	-0.166**	-0.179**	-0.181**	-0.155**	-0.162**	-0.169**	-0.172**
Education	0.369**	0.395**	0.361**	0.394**	0.389**	0.425**	0.379**	0.421**
Racial Diversity	0.041*	0.032	0.059**	0.046*	0.039*	0.028	0.058**	0.044*
Median Rent (100s)	-0.049*	-0.056*	-0.050*	-0.058	-0.039	-0.049*	-0.032	-0.043
Median Income (1000s)	0.019	0.010	0.006	0.003	-0.003	-0.016	-0.007	-0.010
Travel Time to Work	-0.012	-0.033*	-0.003	-0.025	0.012	-0.012	0.013	-0.013
Same House, 5 Years	-0.129**	-0.132**	-0.121**	-0.131**	-0.102**	-0.104**	-0.098**	-0.108**
Percent Married	-0.047*	-0.067**	-0.036	-0.060**	-0.022	-0.043*	-0.020	-0.046*
Percent with Children	-0.282**	-0.282**	-0.295**	-0.296**	-0.279**	-0.280**	-0.288**	-0.291**
Foreign Born Diversity	-0.025	-0.035*	-0.012	-0.021	-0.025	-0.037*	-0.010	-0.021
Percent Renters	0.020	0.053*	-0.001	0.040	0.057*	0.104**	0.038	0.093**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.341**	0.370**	0.339**	0.367**				
Employment Density (1000s)					0.197**	0.224**	0.190**	0.216**
Connectivity								
Census blocks / sq. mi	0.080**	0.075**	0.028	0.046*	0.156**	0.157**	0.120**	0.149**
Land-use Mix								
Housing Age Diversity	0.112**	0.099**			0.106**	0.090**		
Land Use Entropy			0.029	-0.011			-0.013	-0.067**
Walking								
Walked to Work	0.122**		0.141**		0.152**		0.171**	
n	25892	25892	25672	25672	26714	26714	26488	26488
R-squared (adj)	0.112	0.110	0.110	0.108	0.100	0.096	0.099	0.095

Dependent Variable: “813” Composite Index 1, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 14 cont., Contrast regression, “813” Composite Index #1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social and Economic								
Population (1000s)	1.350**	1.339**	1.374**	1.368**	1.304**	1.296**	1.319**	1.315**
Median Age	-0.046**	-0.048**	-0.062**	-0.063**	-0.048**	-0.049**	-0.065**	-0.065**
Education	-0.040**	-0.032*	-0.048**	-0.040**	-0.044**	-0.038*	-0.051**	-0.044**
Racial Diversity	-0.156**	-0.158**	-0.140**	-0.143**	-0.157**	-0.159**	-0.141**	-0.143**
Median Rent (100s)	-0.240**	-0.243**	-0.232**	-0.234**	-0.245**	-0.247**	-0.241**	-0.242**
Median Income (1000s)	0.121**	0.119**	0.121**	0.120**	0.128**	0.126**	0.121**	0.120**
Travel Time to Work	-0.223**	-0.229**	-0.229**	-0.235**	-0.247**	-0.252**	-0.252**	-0.256**
Same House, 5 Years	-0.025*	-0.026*	-0.020	-0.023*	-0.053**	-0.054**	-0.049**	-0.051**
Percent Married	-0.111**	-0.116**	-0.112**	-0.117**	-0.126**	-0.130**	-0.124**	-0.128**
Percent with Children	-0.270**	-0.271**	-0.280**	-0.281**	-0.279**	-0.279**	-0.289**	-0.290**
Foreign Born Diversity	0.203**	0.200**	0.222**	0.220**	0.206**	0.204**	0.225**	0.223**
Percent Renters	0.211**	0.221**	0.199**	0.210**	0.167**	0.174	0.150**	0.159**
Density								
Population Density (1000s)	-0.298**	-0.292**	-0.310**	-0.306**				
Housing Density (1000s)					-0.163**	-0.159**	-0.170**	-0.168**
Retail Density								
Employment Density (1000s)								
Connectivity								
Census blocks / sq. mi	0.224**	0.224**	0.202**	0.208**	0.168**	0.167**	0.134**	0.139**
Land-use Mix								
Housing Age Diversity	0.123**	0.120**			0.126**	0.123**		
Land Use Entropy			-0.047	-0.059			-0.023	-0.032
Walking								
Walked to Work	0.036**		0.035**		0.026**		0.027**	
n	26788	26788	26558	26558	26788	26788	26558	26558
R-squared (adj)	0.562	0.562	0.560	0.560	0.555	0.555	0.553	0.553

Dependent Variable: “813” Composite Index 2, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 15, Contrast regression, “813” Composite Index #2

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Social and Economic								
Population (1000s)	1.271**	1.276**	1.268**	1.270**	1.281**	1.282**	1.282**	1.282**
Median Age	-0.052**	-0.051**	-0.075**	-0.074**	-0.045**	-0.045**	-0.064**	-0.064**
Education	-0.086**	-0.090**	-0.087**	-0.091**	-0.060**	-0.061**	-0.064**	-0.065**
Racial Diversity	-0.155**	-0.153**	-0.140**	-0.139**	-0.155**	-0.154**	-0.139**	-0.139**
Median Rent (100s)	-0.268**	-0.267**	-0.277**	-0.276**	-0.261**	-0.260**	-0.263**	-0.263**
Median Income (1000s)	0.166**	0.167**	0.141**	0.142**	0.135**	0.135**	0.115**	0.115**
Travel Time to Work	-0.308**	-0.304**	-0.296**	-0.294**	-0.273**	-0.272**	-0.273**	-0.272**
Same House, 5 Years	-0.083**	-0.083**	-0.075**	-0.074**	-0.072**	-0.072**	-0.067**	-0.067**
Percent Married	-0.161**	-0.157**	-0.144**	-0.142**	-0.145**	-0.144**	-0.133**	-0.133**
Percent with Children	-0.281**	-0.281**	-0.295**	-0.295**	-0.266**	-0.266**	-0.277**	-0.277**
Foreign Born Diversity	0.207**	0.208**	0.223**	0.224**	0.208**	0.208**	0.225**	0.225**
Percent Renters	0.111**	0.105**	0.089**	0.084**	0.129**	0.128**	0.106**	0.106**
Density								
Population Density (1000s)								
Housing Density (1000s)								
Retail Density	0.164**	0.159**	0.166**	0.162**				
Employment Density (1000s)					0.111**	0.110**	0.111**	0.110**
Connectivity								
Census blocks / sq. mi	0.042**	0.043**	-0.017	-0.019	0.074**	0.074**	0.024*	0.023
Land-use Mix								
Housing Age Diversity	0.131**	0.133**			0.126**	0.127**		
Land Use Entropy			0.045**	0.049**			0.027*	0.028*
Walking								
Walked to Work	-0.021*		-0.015		-0.005		-0.002	
n	25892	25892	25672	25672	26714	26713	26488	26488
R-squared (adj)	0.554	0.554	0.550	0.550	0.554	0.554	0.551	0.551

Dependent Variable: “813” Composite Index 2, 2007, **p<0.01, *p<0.05; Table reports Gelman standardized regression coefficients

Table 15 cont., Contrast regression, “813” Composite Index #2