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Understanding Relational Space: Social Networks and Development in the Nob Hill Neighborhood of Albuquerque

Thomas Scott Maddux

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Understanding Relational Space: Social Networks and Development in the Nob Hill
Neighborhood of Albuquerque

by

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BACHELOR OF ARTS, POLITICAL SCIENCE, 2004

THESIS

Submitted in Partial Fulfillment of the
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ABSTRACT

The purpose of this research is to examine the social networks of the development community in the Nob Hill neighborhood of Albuquerque. The method for examining the social networks is social network analysis carried out using a survey tool as well as UCInet statistical software. The scope of the research covers pre-determined *spheres* of developmental influence in the neighborhood.

The findings from the research are 1. Local government and a local non-profit development organization exert a significant influence over the social network, and 2. The quantity and quality of network connections matter in terms of relative amount of influence exerted on the overall network. The conclusion is that because of the changing nature of work, social network analysis is an appropriate method by which to examine development processes. Implications for planning and policy include using social network analysis to encourage greater community participation in development processes, and using social network analysis to foster greater intra-network connections.

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Introduction

This thesis sought to answer the question:

- *What can we learn from the social networks that result from development processes?*

The ability to balance the demands of varying interested parties while simultaneously creating linkages between them is fundamental to planning and policy-making efforts. Businesses and developers, neighborhood groups and non-profits, city and county governments all compete and collaborate and fight for change in the urban political arena. These groups mix together with their varying motivations and are part of a somewhat confusing milieu in which development processes occur. A social network analysis of the space in which this happens, relational space, can be useful in understanding the ways in which power and influence can be wielded within the space of the social network.

I will also seek to answer through the literature review, “How can social network analysis be an effective tool for examining the social structure of development communities?”

As a result of the wider availability of information afforded by advanced information technology, development processes are becoming more fragmented, complex, and less top-down. Thus it has become necessary to re-think the ways in which these processes are analyzed. Scholars such as Healey (1998), Hajer and Zonneveld (2000) Mossberger and Stoker (2001), Black and Henderson (1999), McCann (2002), Purcell (2000), and Martin (2003) have argued that a way in which to do so is through an analysis of social structure. This often takes the form of a social network analysis.

Using social network analysis as the main analytical tool, this thesis explores the social connections of the development community in the Nob Hill neighborhood of Albuquerque. Development processes are the product of interactions, relationships, and networks: the relational space of planning and policy-making. It is my contention that the structure of a development community's relational space is composed of those who have been brought together under the auspices of development. To build and preserve a neighborhood such as Nob Hill, one would presumably need the collaboration and cooperation of a whole host of community members, city officials, land developers, and real estate agents. Understanding how these differing, complementary, and contentious interests come together and engage with each other is the essence of planning in the relational space.

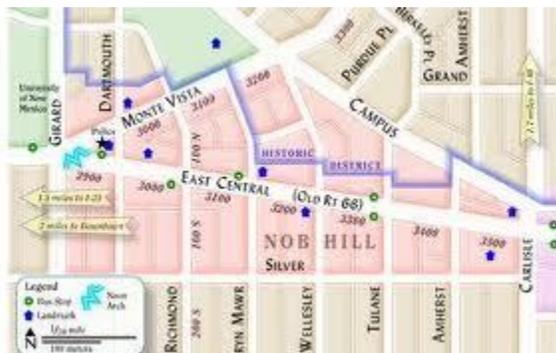
This thesis is organized as follows: First, I will offer a brief history of Nob Hill to attempt to offer some context to the thesis. The second part of the thesis will be an examination of the relevant literature. This will cover the appropriateness of social network analysis as an analytical tool for this thesis as well as a technical examination of social network analysis. Third, will be a brief explanation of methodology, followed by the results of my study. Finally there will be a discussion of my findings, the conclusion, and implications for theory and practice.

Nob Hill: A Brief History

Figure 1- Albuquerque Neighborhoods



Figure 2- Nob Hill Neighborhood



The Nob Hill neighborhood of Albuquerque has often been characterized as the city's first suburb (Price and Gittings 1992). The area was first platted in the early 1900's and the neighborhood's first developer, DBK Sellers christened the area Nob Hill to attract outside investors. The story of Nob Hill cannot be told without reference to Route 66 which fueled the development of the area's commercial corridor. The neighborhood itself

developed pre-Route 66 and pre-dated the rise of auto-oriented travel and development brought to the West by the “Mother Road.” There was a great deal of integration between the area’s commercial and residential environments because of this pre-Route 66 development. In the 1940’s, the Nob Hill Business District, which at the time was centered around Central Avenue and Carlisle Boulevard was considered to be the “height of auto-oriented commercial development in New Mexico (Nob Hill Highland Sector Development Plan 2006).” Despite this, much of the area still maintained its pedestrian-friendly atmosphere. Route 66 did eventually shape the patterns of development in the neighborhood. Nob Hill became home to many gas stations, motor hotels, neon signs, and roadside restaurants that were typical to Route 66 development (Nob Hill Highland Sector Development Plan 2006).

During World War II, Albuquerque became central to national defense efforts with the building of Kirtland Air Force Base and Sandia National Laboratories. These facilities were cited just to the south of the neighborhood which further contributed to the growth of the area and made the area that much more desirable to those who worked at these facilities. Commercial development began to change in the area from an almost exclusively pedestrian-friendly neighborhood to one that was a mix of pedestrian and auto-friendly design. Housing began to change as well. Lots got wider; garages went from being detached from the house, to becoming integrated into the house.

Development also began to happen at a much larger scale. Developers and builders began to develop large sections of the neighborhood with many similar looking houses (Nob Hill Highland Sector Development Plan 2006).

The development in the 1970's of the Coronado and Winrock malls to the north and east of Nob Hill also had the effect of depressing the commercial district in the neighborhood. City residents began to go to the new malls to meet their shopping needs and the prestige of Nob Hill and Central Avenue/Route 66 as a commercial center began to decline (Nob Hill Highland Sector Development Plan 2006).

The recent history of Nob Hill is rosier. Nob Hill today is one of Albuquerque's most vibrant economic centers. Current economic activity is centered along Central Avenue heading west from approximately Washington to Girard. The commercial center is populated by a diverse array of boutique stores, restaurants, bars, and micro-breweries, and low-rise condominiums. National chains are also represented in the area and include Urban Outfitters, Starbucks, and Staples. The neighborhood continues to maintain its pedestrian-friendly, urban feel and has over-time attracted a slightly more affluent resident. As of the 2000 census, the per capita income was approximately \$23,898 which was higher than Albuquerque's per capita rate of \$20,884 (Nob Hill Highland Sector Development Plan 2006).

The road to relative prosperity has not been an easy one. Nob Hill saw a period of disinvestment starting in the 1980's that led to the area having a "seedier" reputation. The area became home to many head shops and bars. While it was held up as an example of "good" development during this period, as a result of its less-than-stellar reputation, the neighborhood was included as part of a massive local place-making attempt along Central Avenue in 1984. (Personal interview February 18, 2011; Central Avenue Study 1984).

By its proximity to Central Avenue, Nob Hill was included in one of the earliest attempts at place-making in Albuquerque occurred in 1984 when the City of Albuquerque brought in expert planners, urban designers, and architects from around the country to figure out what to do about disinvestment in the Central Avenue corridor from Tramway to the West Side. A RU/DAT or Regional Urban Design Assistance Team was brought in with the purpose of creating positive linkages between the city, the economic and development communities, and local neighborhood groups. The hope was that together they could identify problems with the built environment and offer some possible suggestions for future development (Barbee 1994).

In 1984, the City of Albuquerque took the first serious step to attempt to put into action some of the recommendations of RU/DAT by initiating a study of Nob Hill. The study tells of a rich, vibrant area well-liked by residents. However, concerns were raised over possible problems associated with liquor and adult establishments and the impact of large numbers of homeless people, parking issues, and poor building maintenance. The study considered Nob Hill to have an excellent prospect for redevelopment. In 1988, the Nob Hill Sector Redevelopment Plan was adopted by the city which included a set of voluntary design guidelines to be provided through a design handbook provided by the first iteration of Nob Hill Main Street, a prominent neighborhood non-profit involved with the promotion of the area's commercial corridor (personal interview April 2, 2011; Barbee 1994).

Economic problems associated with Central Avenue in the Nob Hill area were also considered by the RU/DAT study. The team targeted issues ranging from land use to historic building preservation. These concerns involved the cooperation of the city and

land owners to preserve historic building stock and to emphasize and develop the unique character of the area. In 1987, the City provided approximately \$100,000 a year for three years to finance the Nob Hill Main Street program (Barbee 1994).

One of the more salient findings of RU/DAT was that some neighborhoods apparently had better political access to the City than others, and coordination with neighborhood groups seemed to be based on economic considerations. Since Nob Hill was one of the more vibrant, affluent, and apparently well-organized neighborhoods, it was a natural place for the City to begin investing.

During this time, the City mainly focused on collaborating with the so-called “Nob Hill coalition” which had been instrumental in delivering many projects associated with Nob Hill Main Street. In contrast, other neighborhood groups were consulted, but only during the public hearing phase of development projects. It seemed actual consulting and coordination with neighborhood groups was only happening in Nob Hill (Barbee 1994).

There is a history of collaboration in development efforts between government and the Nob Hill neighborhood, particularly Nob Hill Main Street. Nob Hill Main Street is strongly directed by the state Main Street office. The state office’s organizational approach is concerned with “establishing and maintaining a non-profit corporation that works in partnership with the public and private sector to plan and implement a comprehensive downtown revitalization strategy (New Mexico Main Street, n.d).” The state office also encourages partnerships between “both the public and private sectors” who “have a vital interest in the future of [Nob Hill] and must work together to achieve common goals (New Mexico Main Street, n.d).” The public/private organizational

emphasis has had an effect on Nob Hill's development network. This has manifested in a pattern of collaboration between local government and Nob Hill Main Street. This is evidenced by the prominence of the above institutions in Nob Hill's present-day development network: an analysis of which is covered later in the thesis.

Literature Review

The term relational space was initially coined by Jonathan Murdoch in his book, Post-Structuralist Geography: A Guide to Relational Space (2005). In terms of analyzing social space in the context of development, relational space is a relatively new concept in planning and policy-making. In addition to the physical spaces of planning and policy-making, it is important to have an understanding of the structure of relationships within a planning and policy-making process. At its simplest relational space can be best understood as the space of human interaction. Recently, scholars like Healey (1998), Hajer and Zonneveld (2000) Mossberger and Stoker (2001), Black and Henderson (1999), McCann (2002), Purcell (2000), and Martin (2003) have called for new ways of looking at planning and policy-making through the prism of the relational space. Patsy Healey's article on British planning practice in the new millennium illuminates the potential for new ways of thinking about planning and policy-making practice. Healey (1998) has argued that for too long professional planning and policy-making has been "criticized for reifying place and for attempting to acquire too much control of place-making activities (Healy 1998)." Planning and policy-making should be instead directed at people rather than places because it is "people who have problems and not places

(Healy 1998).” But then place is still the fundamental space upon which planning and policy-making actions occur and if:

The qualities of places are important and if public policy has to acknowledge that ‘geography matters,’ then the challenge for public policy, and specifically for the planning system, is to develop the institutional capability to respond to concerns about place making in the contemporary period (Healey 1998).

Further the nostalgia for traditional notions of place as “a set of integrated socio-economic and ecological relationships where propinquity implies a relationship,” is brought upon by the “disembedding from established places of many economic and social relationships, the recognition of the openness of regional and national economies and the realization that local actions have global effects on the sustainability of the biosphere (Healy 1998).” As fragmentation continues to occur and as “the networks of people and firms cut across particular spaces seemingly disconnected from each other through adjacent spaces,” leads to a greater concern for quality of place (Healy 1998). Place is then defined more by life style and less by merely being proximally close to your neighbors (Healy 1998).

The idea that quality of space is important raises challenges for planning and policy-making processes, and opens the possibility of greater and more complex conflicts among competing stakeholder visions of what then constitutes a “quality” place. The challenge for planners and policy-makers then becomes how to navigate the complex relationships and stakeholder concerns that “flow across any particular area,” and to design systems to “reorient... conceptions of place and to redesign the processes through which stakeholders’ concerns are taken into account (Healy 1998).” Particularly as society has moved into what scholars such as Hajer and Zonneveld, Castells, and Cardoso are calling

the “Network Society (Hajer and Zonneveld 2000; Castells 1996; Castells and Cardoso 2005).” The Network Society is radically reshaping notions of planning and policy practice as “community” is being redefined to include not just one’s immediate physical, friendship, professional, and familial ties, but now is stretched across much larger socio-spatial distances. Castells and Cardoso argue that in response to the rise of digital information technology, society has organized itself into a network- based society. This society is based on “networking, which is on the diffusion of networking in all realms of activity on the basis of digital communication networks (Castells and Cardoso 2005).” This process of organization can be “likened to the role of electricity and the electrical engine in diffusing the organizational forms of the industrial society (e.g. the large manufacturing factory, and its correlate, the labor movement) on the basis of new technologies of energy generation and distribution (Castells and Cardoso 2005).”

Castells and Cardoso further argue that indeed networks have existed as a form of social organization throughout history, but networks were historically the “domain of private life (Castells and Cardoso 2005).” However, with the rise of digital communication technology, networks have now expanded into every facet of society including the social, the economic, and the political.

Further, in the Network Society, close spatial proximity becomes less important to social organization as it has become increasingly easier to socially organize with digital communication technology (Hajer and Zonneveld 2000). Spatial density need not be high for a high level of social density (Wellman 1979, Castells 1996). The effect of this has been to reemphasize the need for “interactive decision-making” and “communicative and collaborative planning (Hajer and Zonneveld 2000).”

At its simplest the Network Society is defined as “a social structure based on networks operated by information and communication technologies based in microelectronics and digital computer networks that generate, process, and distribute information on the basis of the knowledge accumulated in the nodes of the network (Castells and Cardoso 2005).”

A network is then a system of interconnected, but ever evolving nodes. Nodes are “added or removed” based on the requirements or goals of a given project as assigned to the network (Castells and Cardoso 2005).” Work then becomes increasingly dependent on the ability to build strategic partnerships around specific projects.

Hajer and Zonneveld (2000) have also argued that in the Network Society, there has been a change in the way space is thought about, and ultimately “consumed.” There has been a shift away from a “mostly quantitative search for housing, work, and recreation” to one that is more “qualitative.” People have become “the consumer of ‘places’ rather than abstract ‘spaces’ and have high expectations for these places (Hajer and Zonneveld 2000). They are searching for places that are aesthetically and intellectually appealing and stimulating. According to Castells and Cardoso, the increased emphasis on the more “qualitative” aspects of place has been driven by the decentralized economy that has manifested as a result of the Network Society. The skilled labor force has become increasingly fragmented as large corporations and firms have decentralized to become more flexible in a global market. The ability to work autonomously and flexibly and be an active component in a network becomes most valuable to firms. Castells and Cardoso call this “Self-Programmable Labor (Castells and Cardoso 2005).” The autonomous labor is then not tied to a particular location because work can be accomplished through

networks by digital communication technology. The place this autonomous labor chooses to live then becomes one of personal preference.

Social Network Analysis to Understand Relational Space

Social network analysis can be used as an analytical tool to help us broadly understand relational space and social connections. With that knowledge it may also be able to tell us how development processes have contributed to the “shape” of Nob Hill’s development community.

At the simplest level, social network analysis is concerned with examining the relations (ties) between individuals or institutions (nodes) within a defined social space. In social network analysis, these nodes or actors are examined entirely in reference to their ties. These ties are part of a much larger social structure, which in turn has an effect on the power and prestige of nodes. Social network analysis looks at the complex structures of these reciprocal relationships. The actors within the social network are usually individuals or organizations. Common examples of actors in social network analysis are people who live in a given neighborhood, individuals attending a concert, school children in a class room, or in the present analysis, those who have a material or aesthetic interest in the Nob Hill neighborhood. (Scott 2001; Knoke and Yang 2008).

A relation is usually defined as a specific sort of contact, interaction, or tie between or among individual or collective actors. The simplest tie that exists between a pair of actors is referred to as a dyad. Relations are thought of as being directed, whereby one actor sends information and another receives, or undirected whereby mutuality occurs in

the interaction. A conversation would be a good example of an undirected interaction (Scott 2001; Knoke and Yang 2008). Relations are not always strictly informational. For example, kinship ties whereby the relationships are not the result of an obligation, or which may not involve any actual exchange of anything. Kinship ties nonetheless are influential in shaping social structures.

Social networks are then a structure composed of a set of actors, some of whom are connected by one or more relations. Different types of relations characterize different types of social networks depending on the social context. Thus the friendship network among a set of university students is likely to be different from their studying network, or the ties among developers are different from those they have with their immediate family (Scott 2001; Knoke and Yang 2008). Connections and relations may exist in a social network, but this does not imply that every actor has a tie with every other actor. Social network analysis operates under a number of assumptions about relationships and their effects. Social network analysis aims to test the hypothesis that networks can have an effect on the beliefs and perceptions of those individuals involved in a given network. Direct contact and interaction exposes individuals to better information and awareness and increase the ability of an individual to influence and to be influenced. Accordingly, even indirect contact carried out through intermediaries in the network can bring expose an individual to new ideas and provide access to useful resources. Social network structures provide complex pathways for assisting or hindering flows of exchange through a given population (Scott 2001; Knoke and Yang 2008).

Social network analysis also assumes that these network structural relations are dynamic. Social networks are constantly changing given different circumstances and social

contexts. Individuals use their knowledge about their given networks to not only move within them and perhaps leverage this knowledge, but the decisions they make also have the effect of changing the network structural relations in which they are embedded. This then can alter the flow of exchange thereby creating opportunities or constraints on current or future relationships (Scott 2001; Knoke and Yang 2008).

Social network analysis represents a mediating concept between agency and environment. Networks may represent the point where the environment of the network constrains the choices of the actors within it. It also could represent the point where the choices the actor makes can alter the social network over time (Dempwolf and Lyles 2011).

Social Network Analysis Measures

Centrality is the most common way to analyze social network structure. Centrality can be thought of as a proxy measure for a given actor's relative power within a network. A central actor occupies a structural position that serves as a source or conduit for larger volumes of information exchange and other transactions with actors. Central actors are located at or near the center in social network maps. In contrast, a peripheral actor maintains few or no relations and thus is located on the periphery of social network maps.

While there are increasingly complex measures of social networks, the most typical measures of social network analysis are degree, between-ness, and closeness. Degree is the foundation of centrality measures. Degree simply measures the absolute number of connections an actor has within a social network map. With degree, one can get a sense

of how well connected a given actor is. Thus, an actor with high degree centrality maintains many contacts with other actors in a given social network (Wasserman and Faust 1994).

Closeness simply measures how “near” an actor is to other actors in a social network. Closeness can be looked at as a proxy for how quickly an actor can interact with other actors by interacting directly or going through intermediaries. An actor’s closeness is a function of its geodesic distance between itself and other actors. Geodesic distance is a mathematical computation of the length of the shortest path connecting a dyad (Wasserman and Faust 1994).

According to Scott (2001), between-ness measures the extent to which a point, on average, lies between all points in a network graph. A point of relatively low degree may play an important brokerage or intermediary role in a network and so be very important. Between-ness then measures the extent to which an actor plays a gatekeeper role in the network. An actor with a high level of between-ness centrality has a high level of ability to hinder or assist network flows.

For this thesis, I have chosen to measure the social network of the Nob Hill development community using the measures of between-ness and degree. I have also chosen to analyze the Nob Hill development social network using the eigenvector centrality measure because it offers a control on the typical between-ness measure. Eigenvector centrality measures centrality to the extent that a given node is connected to other nodes that are central. A node with a high eigenvector centrality is connected to many nodes

that are connected to many actors (Safford 2009). I will tackle these analyses in turn when looking at the Nob Hill development community's social network.

Methodology

From the period of February 18- April 6 2011, I conducted 30 IRB- approved, survey-based phone interviews. These interviews then formed the primary analytical basis for this thesis, and were used as the means for capturing relational space in Nob Hill. My interview questions were concerned with asking *who* the interview participants primarily interacted and/or worked with in development in the neighborhood. This would also serve as a way to tell me *how* they were connected as well. Given my fairly narrow focus, the interviews were short, averaging about 20 minutes. After interviewing the participants, I used UCInet, a statistical social network analysis software, to turn their answers into numbers, and analyze what exactly the structure of their relational space looked like. In this way I would be able to determine how and if the social make-up of a development community could affect development outcomes. I then used my UCInet inputs and turned them into actual map outputs using NetDraw, a social network mapping software. I would then be able to gain a visual understanding of relational space in the development community of Nob Hill.

In order to start building a social network of the Nob Hill development community, I first began by identifying which *spheres* I wanted to include in the survey. Based on a thorough examination of the literature along with my own experience working with social network analysis, I identified the following *spheres* for inclusion in the analysis:

business/property owners, land developers, government, preservationists/boosters, real estate, community activists, and others. For the purposes of this thesis, *spheres* are defined as typical drivers of community development processes. To ensure I had the broadest coverage and the best chance to access the Nob Hill development community's actual social network, I then set about identifying two candidates from each sphere to act as *seeds*. The seeds were identified using an internet search using Nob Hill and the particular spheres as key words. The seeds were chosen a priori based on two main criteria: 1. in at least one capacity, they were an active member of a given sphere focused within Nob Hill. For example, in one case I searched for a real estate agent who worked exclusively in Nob Hill who was easily identified through an internet search. 2. If possible, the individual was a member of multiple spheres. The reason for this was that the likelihood of being able to access "deeper" parts of the social network increased with multiple-member seeds because of the higher likelihood that the seed would know multiple people involved in Nob Hill. The seeds are better able to nominate other people in which to interview. The nomination of participants was an essential part of my methodology and the fundamental way in which I built Nob Hill's community development social network.

The demographics of the participants were overwhelmingly male (24 versus 6 females), middle aged (19 out of 29 participants were between the ages of 50 to 64), and white (19 out of 29, with one declining to respond).

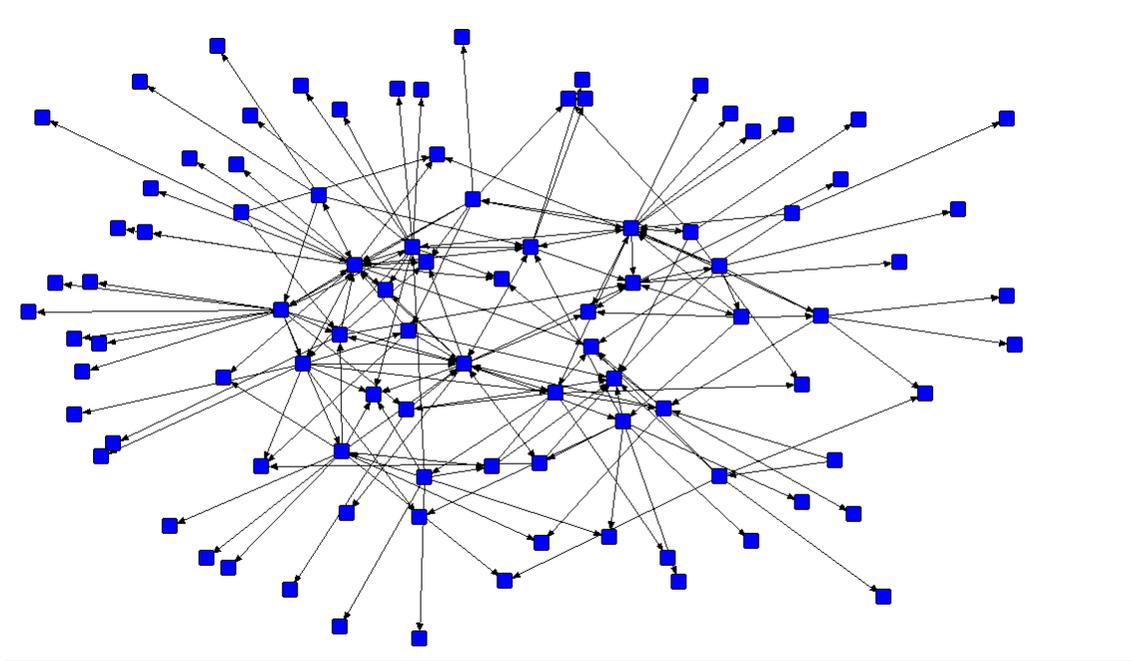
The process by which I was able to get "deep" into the network was by using a snowball sampling method to identify subsequent interview participants that were initially

identified by my seeds. Snowball sampling as described by David Knoke and Song Yang (2008) is a method whereby

Researchers begin with a small set of network actors, who are asked to nominate other participants with whom they have a specific kind of relation. These additional actors are likewise asked to nominate others, and the process continues until few or no additional names surface... Because snowball sampling uses network actors' social relations to construct the sample, each round of nominations typically uncovers new participants who have relations with the extant actors (Knoke and Yang 2008).

I asked the seeds along with the subsequent interviewees to “Please name in rank order up to five people or institutions with whom your interactions are most important in your community development activities in Nob Hill.” I would then, if possible, take the top two people or institutions they mentioned and survey them. If one or both of the top two mentioned had already been surveyed, I would interview the next person down. After a number of interviews, I began to reach a point of “saturation” whereby the same individuals or institutions began to be reference again and again. This was how I was able to determine when to stop interviewing. The initial results of this process can be found in **Figure 3**. Ninety-four distinct nodes or actors are included in the Nob Hill development network.

Figure 3- Nob Hill Social Network Map



I asked the interview subjects to then identify their principal role in the Nob Hill development community and I gave them a list from which to choose. I asked them to identify which of the spheres they saw themselves as being a part of. This helped me identify the specific character of the social network. The results of this particular analysis can be found below in **Figure 4. Table 1** identifies the particular spheres along with the particular colors associated with them.

Figure 4- Nob Hill Social Network Map with Spheres

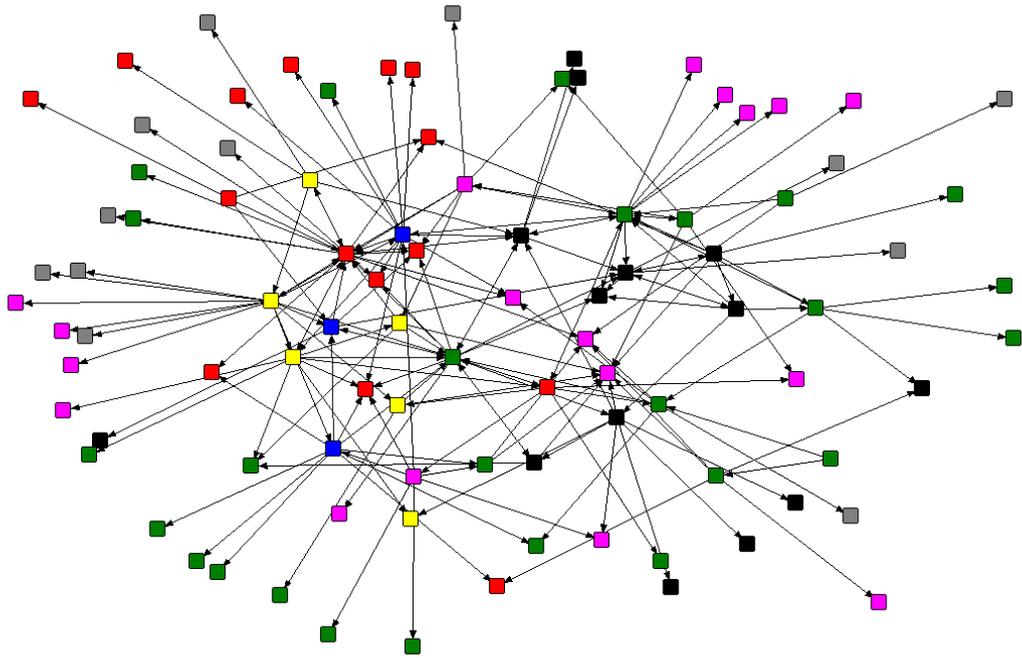


Table 1- Nob Hill Development Community Spheres

Sphere	
Business/Property Owners ¹	
Land Developers ²	
Government ³	
Preservationist/Boosters ⁴	
Real Estate ⁵	
Community Activists ⁶	
Other ⁷	

¹Includes any individual or entity that owns a business and/or property; also includes business associations and/or non-profits

²Defined as an individual or entity involved with changing landforms, subdividing lots, and/or redevelopment of property

³Defined as an individual or entity involved with the legislation, administration, and/or arbitration of local/state administrative bureaucracy

⁴Defined as an individual or entity involved with the promotion and/or preservation of commercial, architectural, and/or residential neighborhood space

⁵Defined as an individual or entity involved with the buying, selling, and/or leasing of commercial, residential, and industrial property

⁶Defined as an individual or entity involved with neighborhood-based social/and or political advocacy

⁷Includes any individual or entity that is not directly associated with the Nob Hill community, but have been identified by respondents. These include individuals or entities involved with finance, religious and educational institutions, non-profits, and/or general professional and non-profit organizations

I also asked the participants to list any and all organizations they were involved with.

These could include non-profits, or any organization a participant was involved with both related to Nob Hill and not. I was interested in determining if participants were potentially connecting through particular organizations. The results of this analysis can be found in **Figure 5**.

Findings

Using the social network analysis centrality measures of degree, between-ness and eigenvector centrality, what can we learn from the social networks that result from development processes? I used the degree measure for analyzing the organizational network structure, while analyzing the social network structure using between-ness and eigenvector. In the following social network maps, the relative size of a node are a reflection of the relative amount of centrality is has based on the particular measures being used. Let us first turn to an analysis of the organizational character of the community.

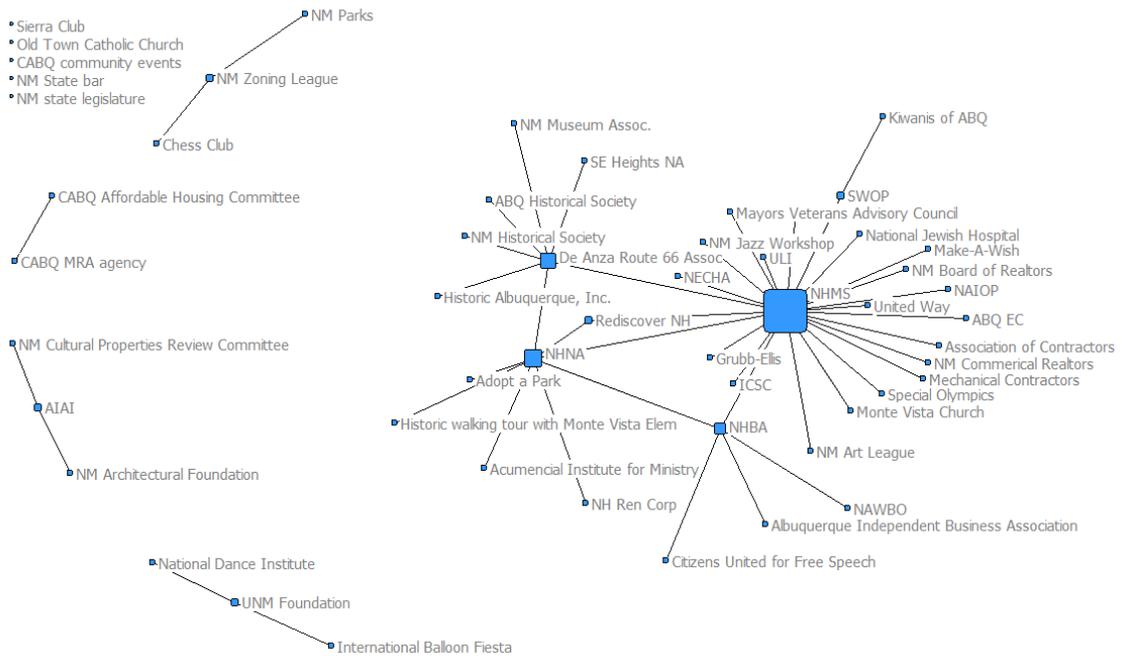
Degree

1. Using the degree measure, the organizations that were referenced the most by my participants were: Nob Hill Main Street, Nob Hill Neighborhood Association, De Anza Route 66 Association, and Nob Hill Business Association. Looking at **Table 2**, one can quite clearly see that Nob Hill Main Street was the most cited organization. **Figure 5** below displays the results.

Table 2- Degree Organizational Rank

Rank	Organization	# Mentions
1	NHMS	29
2	NHNA	10
3	De Anza Route 66 Association	7
4	NHBA	6
5	UNM Foundation	2
6	NM Zoning League	2
7	Rediscover NH	2
8	ICSC	2
9	NAIOP	2
10	AIAI	2
11	SWOP	2

Figure 5- Nob Hill Social Network Degree Organizational Map



The high level degree centrality is unsurprising given that Nob Hill Main Street was referenced a total of 29 times by respondents. While the specific character of these connections was difficult to capture, the important aspect is that Nob Hill Main Street is central to the network as a connector of various individuals within Nob Hill's development community. Nob Hill Main Street is thus a powerful organization by the measures of social network analysis.

Two-Mode Degree

2. **Figure 6** shows a two- mode analysis (that is, what organizations were cited by which specific respondents) of the organizational participation of the development community of Nob Hill. While it is not a specific degree measure, it does show the actual organizations that were cited by the particular respondents. One can see in this particular analysis, that Nob Hill Main Street connects a variety of individuals and spheres to one another. In a sense, Nob Hill Main Street is the locus for a majority of those in the development community who participated in the study. Referring to back to **Figure 6**, one can see that Nob Hill Main Street directly connects 12 out of the 30 respondents. In addition, four participants were connected to Nob Hill Main Street in a secondary manner through affiliations with Nob Hill Neighborhood Association, De Anza Route 66 Association, and Nob Hill Business Association. Fourteen of the respondents had zero connection with Nob Hill Main Street and interestingly, eight of them were those who identified themselves in the Government sphere. Only one individual within the primary Main Street locus counted themselves as Government. There were also four respondents who did not identify themselves as belonging to, or associating with any sort of organization.

“The planning and work Main Street has done has been a positive thing for the growth of the neighborhood and a good thing for the neighborhood in general (personal interview, February 18, 2011).”

For a community activist, the importance of Main Street lies in its ability to bring disparate parts of the community together:

“For Nob Hill to sustain itself, Main Street could play the role of a conduit for the various self-interested parties within the neighborhood to come together and work toward some sort of collective action. I think this would be beneficial to the neighborhood (personal interview, March 25, 2011).”

And from another small business owner, the opportunity to work within the community to find a common vision for the neighborhood:

“With my work in Main Street, I’ve specifically sought to reach out to everyone in every sector- business folks, government, residents. I think this has made a difference in that there is some unity in vision as well as being able to almost provide a public forum for people (personal interview, February 23, 2011).”

Between-ness Centrality

3. The structure of relational space in Nob Hill is centered on approximately 7 nodes, or individuals. These individuals represent 6 of the 7 spheres (Business/Property Owner, Land Developer, Government, Preservationist/Booster, Real Estate, and Community Activist) previously identified. When looking at the relational space in terms of between-ness centrality, there seems to be two distinct geospatial spaces within the structure of the

network map. The between-ness measure is dependent on the ability of a given node to “speak” for itself. That is, nodes that have been interviewed tend to have a higher level of between-ness than those who have not.

The relational space is being acted upon by two nodes representing the same sphere, but occupying differing roles within the network. Looking at **Figure 7**, one can see that one cluster is centered on node number 26 in the more central part of the network, and the other cluster is centered on node number 28. Some of the reason for the split is though they claim the same Government sphere; they have two different roles/jobs within that sphere: one a politician (Number 26), the other a high-level bureaucrat (Number 28).

As you can see in **Table 3**, number 26 has the higher between-ness ranking in the network structure with number 28 a close second. Looking closer at **Figure 7**, one can see that though both nodes are have a high level of between-ness based on their node size, but they occupy distinct positions within the network, and thus have differing levels of access to the network. Number 26 is in the middle of the main cluster of nodes while number 28 occupies a position in the upper right part of the figure. Their distinct roles within the structure of this particular network are reflected in their actual positions in the structure of the social network map. By virtue of Number 26’s structural position within the social network, the individual is also able to connect a variety of individuals and interests which in turn could influence the direction of development in the neighborhood. In Number 26 own words, “My role is to bring together the good thinking in the community and turn that into policy (personal interview, April 6, 2011).”

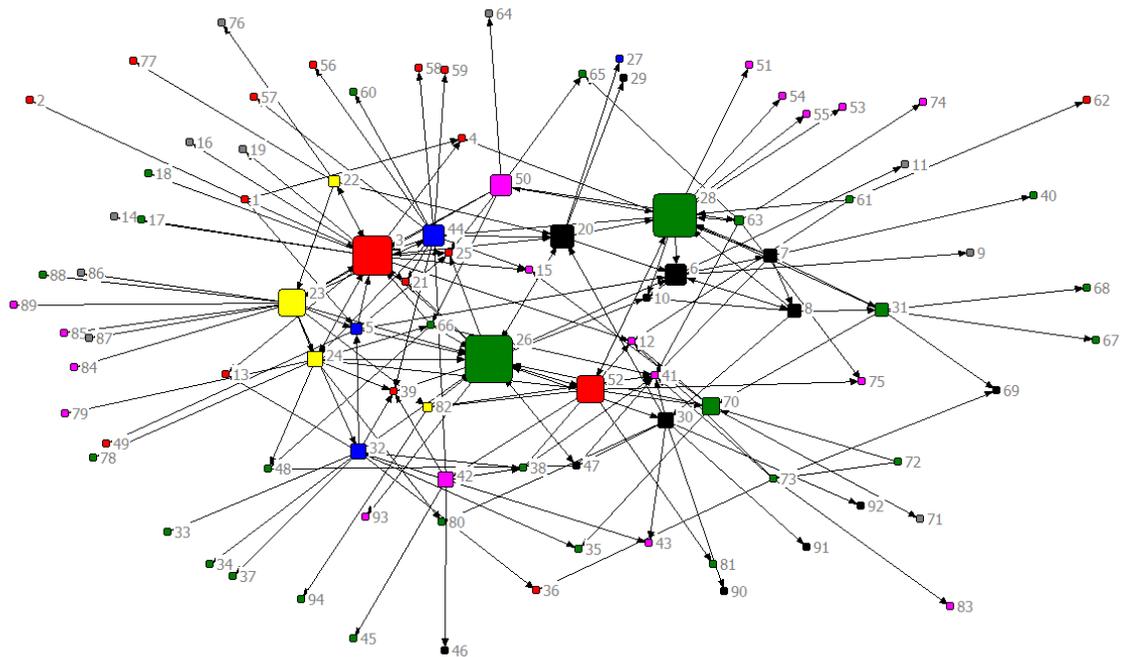
Turning to number 28, this individual has a high level of between-ness in the social network primarily because of the nature of the individual's role/job, and as such the nodes Number 28 is connected with are of a specific nature. Turning toward the map, one can see that Number 28's primary realm of influence is among those who identify themselves as Land Developers, Government, and to a lesser extent Preservationist/Boosters, although most of those particular nodes emanate from Number 28 and are not broadly integrated into the main social network (nodes 51, 54, 55, and 53 respectively.) Number 28 works specifically in preserving local historic places and because the City "adopted architectural guidelines, Number 28 reviews projects for compliance. This includes new construction as well (personal interview, March 4, 2011)." Thus, any development in Nob Hill must ultimately be approved by Number 28, and therefore one can see that Number 28's primary space of interaction happens among those who need to seek him out: Land Developers, and other government officials who work in a similar role.

Evidenced by their high levels of between-ness within the network structure, Numbers 26 and 28 are highly involved in the development community and as such are prominent connectors within it. The difference between the two is access. While Number 26 is widely connected to a variety of nodes and spheres, Number 28, while still prominent, has a more limited access to all parts of the network. Given both nodes relative amount of prominence, they presumably have a high level of influence within the structure of the network.

Table 3- Between-ness Ranking

Rank	Node	Sphere
1	26	Government
2	28	Government
3	3	Business/Property Owner
4	23	Community Activist
5	52	Business/Property Owner
6	20	Land Developer
7	44	Real Estate
8	50	Preservationist/Booster
9	6	Land Developer
10	70	Government
11	32	Real Estate
12	30	Land Developer
13	24	Community Activist
14	42	Preservationist/Booster
15	7	Land Developer
16	8	Land Developer
17	31	Government
18	5	Real Estate
19	22	Community Activist
20	82	Community Activist

Figure 7- Nob Hill Social Network Between-ness Map



Eigenvector Between-ness Centrality

4. The question of relative network access is answered when one looks at this particular relational space in terms of eigenvector between-ness. One’s relative influence sometimes comes down to “whose ear you have.” Eigenvector says that a node is central to a particular network to the extent that the node is connected to other nodes that are themselves central. Eigenvector essentially looks at the power of being near others that are powerful.

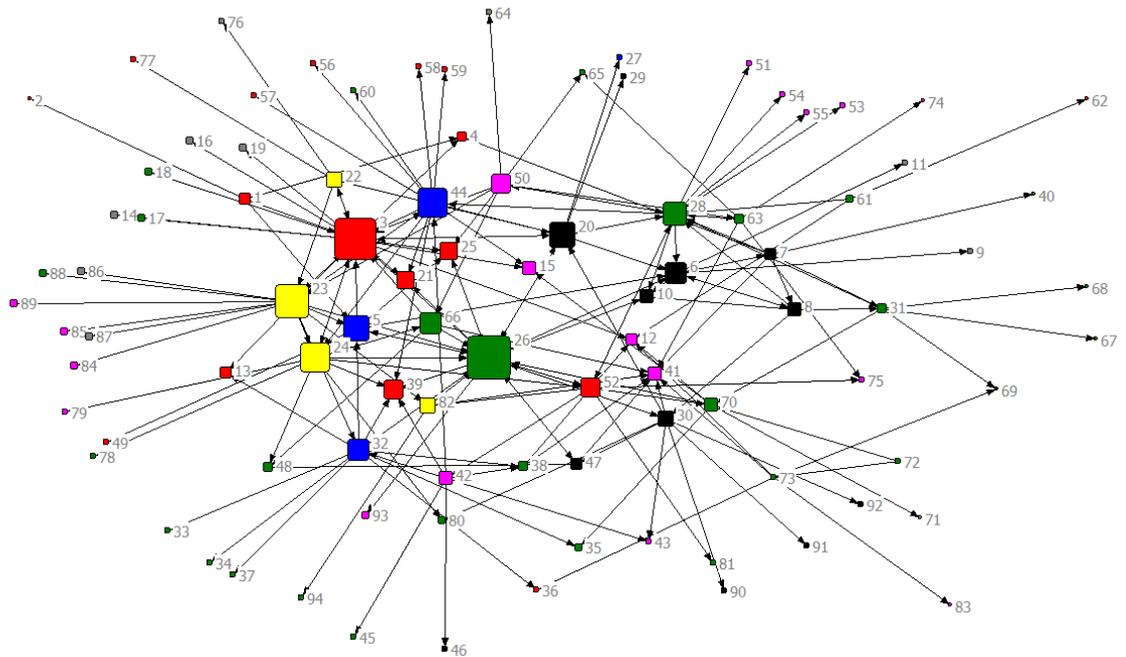
When the Eigenvector measure is taken into account, there are a number of changes evident in the network structure. Turning to **Figure 8** we can first see that node Number 28’s relative prominence has diminished. This could be because while he is relatively between, his “neighborhood” in the network structure is not. Again, this speaks to the

very specialized nature of his connections within the network. Second, looking at node Number 24 in **Table 4**, we see that when eigenvector is taken into account, his overall level of prominence jumps from 13th when considering only his between-ness, all the way to 5th. This is nearly the opposite situation of node Number 28; in that Number 24 is connected to a “neighborhood” within the network structure is filled with nodes with a high level of centrality. Number 24 is thus important in that he seemingly “has the ear” of a variety of powerful nodes, and is therefore able to exercise his influence in this manner. Lastly, we can see that Number 26 maintains his positions as the most between node in the network, and thus the most influential at least in terms of his place within the network structure.

Table 4- Eigenvector Ranking

Rank	Node	Sphere
1	26	Government
2	3	Business/Property Owner
3	23	Community Activist
4	44	Real Estate
5	24	Community Activist
6	20	Land Developer
7	5	Real Estate
8	28	Government
9	32	Real Estate
10	6	Land Developer
11	66	Government
12	50	Preservationist/Booster
13	52	Business/Property Owner
14	39	Business/Property Owner
15	25	Business/Property Owner
16	21	Business/Property Owner
17	30	Land Developer
18	82	Community Activist
19	22	Community Activist
20	42	Preservationist/Booster

Figure 8- Nob Hill Social Network Eigenvector Map



Discussion

This research sought to capture the social network that arose as a result of, and influence on, development processes in Nob Hill. This social network is one that is heavily influenced by government, particularly those who have the greatest power to regulate development. It is also one that is seemingly dominated by a non-profit development organization, Nob Hill Main Street. And finally, it is one where being nearest to those who have the most amount of prominence and influence can also be a source of prominence and influence.

Using three social network analysis measures, I was also able to illuminate the complex relationships in the development process in Nob Hill. In particular, I showed that the

number of connections a node has, the structure of a node's connections, and the quality of a node's connections is important when assessing social networks. The structure of the network changed when each of these analyses was taken separately.

The number of connections a node has is important when assessing relative prominence. Nob Hill Main Street was referenced by most of the study participants as an organization they belonged to or associated with. Participation with Nob Hill Main Street was a prominent feature within this network. Nob Hill Main Street has an historical role within development processes in the community, but it was interesting to see how many of the participants were in some way connected with the organization. Nob Hill Main Street is embedded within this network in ways that I was not able to fully capture. However, it is telling that of the 30 participants, a little over half had some connection with the organization. Organizations as well as individual people can have an effect on the structure of a given social network and thus can take a prominent role within development processes.

Not only does the number of connections matter, but the structure of one's connections within the network matters. When the social network is analyzed using the between-ness measure, two nodes (Number 26 and Number 28) within the Government sphere stood out as the two main influences within the network. In general there was a high level of government participation in the social structure of the Nob Hill development community. This makes sense given the political and regulatory role government can play in development. It is also likely related to the fact that Nob Hill Main Street is strongly directed by the state New Mexico Main Street program, which works from a model that emphasizes government engagement with the private sector to drive redevelopment.

David Harvey has characterized the increasing involvement of government in development processes as “government entrepreneurialism.” Government acts as an entrepreneurial entity because governmental decisions are based upon what is best to draw industry and capital to a given location (Harvey 1989). This government entrepreneurialism has “at its centerpiece, the notion of a ‘public-private partnership’ in which a traditional local boosterism is integrated with the use of local government powers to try and attract external sources of funding, new direct investments, or new employment sources (Harvey 1989).” However, the character and relative amount of prominence, influence, access and connection varied widely depending on the node’s particular job within government.

In addition, a node’s relative prominence and influence changes when nearer to those who themselves have a high level of prominence and influence. Thus, the “quality” of connections matter when assessing a social network. When the social network is analyzed using the eigenvector between-ness measure, the relative importance of node Number 28 is diminished, and that of node Number 24 increases.

Certain caveats apply with the results of this thesis: 1. the make-up of the social structure identified in the maps says just as much about the methodology as it does about the actual organizational structure of the development community. For example, many of the initial interviewees I identified were members of Nob Hill Main Street, so it would be understandable if those same people identified themselves as being affiliated with Nob Hill Main Street, and thus Nob Hill Main Street seems to have a high level of prominence when it may actually not. 2. I was able to capture a development network that existed during a very specific point and time, but given the data I was able to gather, and given

that I was working from historical data, I could not determine whether this network “created” development in Nob Hill, nor whether the development process itself created new social networks. The question of causation will have to be tackled through further research.

Conclusion

Social network analysis proves to be an appropriate way to examine the social network, the relational space in Nob Hill as a result of, and influence on, recent development processes. In the Network Society, work is increasingly organized around ever-changing social networks with individuals and spheres (input) that are part of a given network based on a given project (output). Given that development processes are fluid and dynamic and change depending on the particular project or undertaking, the “look” of this network would likely change. The ties that bind the Nob Hill development community network are made up of nodes that are connected based on projects and obligations. Many of those interviewed stated that their choice about when to interact with a given actor was highly dependent on what project was happening or what civic obligation was to be fulfilled.

Implications for future planning and policy-making in Nob Hill

The research presented here has implications for practice as well as theory. An important observation made by this thesis is to show that the quality and not just the quantity of network ties (relationships), is important. While the number of network ties is important, this thesis suggests that their structural location can also have an important impact on

potential outcomes both within the social network and on the neighborhood of Nob Hill. Having broad relationship ties is good for being able to influence outcomes and affect the direction of development. Benefits also seemingly accrue to those who develop ties with others who themselves have many network ties.

These findings might help to guide future planning and policy-making processes aimed at encouraging greater intra-network connections among the development community.

These processes could also be aimed at the broader community to encourage better quality participation in development processes.

Development in Nob Hill will happen, but *who* has the potential to influence *how* it happens is an important insight to be gained by examining relational space. Gaining an understanding of who is “at the table,” and who is not can tell us a great deal about the development process.

Thus social network analysis could provide us with not only a means to examine relational space, but also a means to encourage public participation.

Social network analysis could also be used to determine hidden populations in a development community. The methodology for this thesis was focused primarily on the “center” of a social network, and those who are generally the “typical” drivers of development: land developers, real estate agents, property owners, etc. The methodology could be tweaked to focus on those that are on the periphery of a network, who may not be fully engaged in the development process, but who nonetheless may have important roles to play. Using a snowball sampling method, one could ask participants to nominate or rank the individuals or institutions they participate the most

with, but instead of focusing on the top nominees, one could focus on the nominees that were named last. Social network analysis could thus help identify development communities beyond the usual elite coalitions, and help planners and policy-makers tap into more grassroots power bases.

Patsy Healey (1998) has argued that social network analysis could be a way in which planners and policy-makers could more effectively facilitate better forms of collaborative planning. These include building “horizontal networks and partnerships” among stakeholders, developing “stakeholder mapping and finding ways to involve stakeholders in policy development,” and to “create and maintain arenas for open debate on strategic issues (Healey 1998).” Planners and policy-makers have not always been able to identify those individuals who should be at the decision-making table. Ideally, planning is a discursive and iterative exercise, whereby plans are made, tested, and re-made depending on public input. Social network analysis allows for the ability to gauge at the outset, what the “planning network” looks like and how it functions. It is also important for the planner and policy maker to understand their own structural place within the network and how this could affect outcomes.

From a professional planning and policy-making perspective, understanding relational space through social network analysis could have the effect of engendering community trust as well. It shows that the planner and policy-maker have taken the necessary time to understand where the community stands.

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