VARIATIONS IN THE PERCEPTIONS OF URBAN CANALS IN FRESNO, CA

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by
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AUNT BABE
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Variations in the Perceptions of Urban Canals in Fresno, CA
Damian Whitney

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Abstract

In the fertile but dry San Joaquin Valley in California, Irrigation canals serve as the life blood of the agricultural industry. These canals predate urbanization and the expansion of cities in the valley have incorporated canals as de facto elements of the urban environment. Neighborhoods in Fresno have developed relationships with these linear structures in the process of this incorporation. Canals, however, traverse a diverse range of neighborhoods, many of which, have different perceptions of and relationships with canals. This study examines the difference in perceptions of canals between two specific neighborhoods. Old Fig is a higher socio-economic neighborhood that exudes a specific sense of neighborhood. Contrasting that is Mayfair, a lower socio-economic, racially diverse neighborhood that lacks a specific neighborhood identity. A comparison of canal perceptions between these two neighborhoods will reveal the effect of neighborhood identity on environmental perception as well as reveal the lack of consideration concerning neighborhood level issues in canal land use policy.
Fresno, California is a city of nearly 500,000 people that is located in the fertile but dry San Joaquin Valley. Like much of the Central Valley, Fresno has grown up around the agricultural industry, which has historically dominated the economy in the region. Because the San Joaquin Valley is an arid environment, farms there depend on irrigation water brought from the Sierra Nevada Mountains via canals and reservoirs. These canals run throughout the valley, including its increasingly urbanized areas. Because most canals predate urbanization in the area, Central Valley cities such as Fresno developed around canals, incorporating them into their neighborhoods. This has created a contradiction in the function of canals. They are utilitarian features developed by and for the agricultural economy but because they are part of urban neighborhoods in Fresno, they also function as part of the urban landscape.

Irrigation in the San Joaquin Valley began in the middle nineteenth century and was largely funded and maintained privately. The Fresno canal and irrigation company was formed in 1871, prompting a rise in canal construction that lasted several decades. Controversies over water monopolies and public verses private ownership of canals and water rights shaped the volatile development of central valley water politics (Shallat 1978). In 1920, the Fresno Irrigation District was founded as a public entity that would take over the Fresno Canal Company, which was privately owned. The district currently owns and maintains roughly 800 miles of canals and 150,000 acres of irrigated area within Fresno County California (Fresno Irrigation District, www.fresnoirrigation.com).
Canals are maintained by the Fresno Irrigation District, a county level branch of
government headed by a board of supervisors. The board of supervisors is made up of
four district representatives, all of whom are farmers who represent the area within the
district where their farms are located. The maintenance and land use of the canal is
governed, in effect, by farmers whose primary concern is the utilitarian function and
upkeep of the canals with regards to their intended agricultural function. Roughly 100
miles of canal runs through the city of Fresno which relies on canals for flood control and
water supply purposes. Although the city is politically intertwined with the irrigation
district, the later assumes all rights and responsibilities for canal maintenance and land
use policies (Fresno Irrigation District, www.fresnoirrigation.com).

The irrigation district and the city of Fresno have to consider the canals in a
specific and functional way, as they are responsible for their maintenance and liability
issues. The canals, however, have become incorporated into multiple neighborhoods in
Fresno and are viewed differently by the residents that interact with them daily. Canals
traverse private property and neighborhoods with no enclosures, making them a public
safety issue. They are also areas that are seen as attracting crime and pollution.
Conversely, they are also seen as scenic or communal areas that have the potential to be
converted into park trails for the benefit of Fresno pedestrians who interact with the
canals. These contrasting views are telling of a significant and largely overlooked factor
in the maintenance and policy regarding canals.

Canals are part of the landscape of Fresno, and interactions with them vary by
social context. Government interactions with canals focus on maintenance and water
management. Resident interactions with canals, although not considered at the
institutional level, are more dynamic and varied. Canals become incorporated into the neighborhoods they pass through, and thus can have different social meanings to different neighborhoods. This study seeks to explore the nuances of the relationships between the people of Fresno and canals, and the varied social contexts that affect this relationship.

This study is based on post-structural theories that maintain urban spaces as fragmented by social context. These socially constructed places inform the environmental perception of their residents (Mitchell 2000). This study expands on studies of socially constructed space from the neighborhood level. Neighborhoods are often made up of similar socio-economic and demographic populations. Residents of a neighborhood will often identify with each other through this class-based homogeneity. This identity will be transferred to the physical space of the neighborhood, with residents sometimes incorporating aesthetic elements of the area into their collective identity. These factors lead to the formation of neighborhood identity, which is often interrelated to class and demographic conditions in the neighborhood (Smith 1985). The strength of neighborhood identity is further shown to be influential in the social construction of space and perception at the neighborhood level (Purcell 2001; Martin 2003). Neighborhood studies, however, lack exploration into how the incorporation of the physical environment can vary between different neighborhoods.

Neighborhoods vary in demographics and identity, hence the nuances of environmental interaction in different neighborhoods. Linear elements of the urban environment such as canals, rivers, and greenways are viewed and experienced differently in the various neighborhoods they traverse. This is something that is often overlooked at the institutional level, but the planning and maintaining of these linear
features affect the dynamics between neighborhoods. Ethnically diverse, lower income neighborhoods for example, often feel unwelcome in parks shared with higher income, more homogenous neighborhoods (Westover 1986; Lindsey et al 2001).

This case study will expand on the knowledge of neighborhood identity and how it informs environmental perceptions. I have compared perceptions of canals between a neighborhood with a strong sense of identity and cohesion and one without. These neighborhoods also vary in socio-demographic characteristics. The differences that these neighborhoods present may elucidate the role of identity in the process of neighborhood level place making and subsequent environmental behavior. The social construction of place is often grounded in demographic and socio-economic factors. Although the two neighborhoods differ in this regard, this study focuses on the sense of place present in the neighborhood as well. The canals provide a focal point for perceptions based on the sense of place constructed by both neighborhoods.

There is also a practical relevance to understanding the role of neighborhood identity in environmental perception and behavior. One of the issues considered in the post-structural examination of fragmented space is the distribution of power and the power relationships between people and the environment. The canals are a part of the environment for both of these neighborhoods and as such, residents interact with them everyday and form relationships with them. Canals, however, are utilitarian features with a functional design and purpose. The Fresno Irrigation District and the city of Fresno consider issues of maintenance, liability, resource management and flood control when regarding canals. Canals, however, serve as much more than their intended and official function. Because they have been incorporated into the landscapes of these
neighborhoods, they are integrated into the sense of place and spatial behavior of residents. Yet with exception of safety concerns, resident level pedestrian, aesthetics and use issues are not considered in the implementation of policy, design or maintenance of canals. This issue of public safety has lead to a debate regarding the future land use of canals. Many residents feel they should be fenced for safety purposes and others feel they should be landscaped and turned into community areas. Opinions in this debate are also analyzed as part of the neighborhood-canal relationship. This study also seeks to address the implications that the relationship between canals and neighborhoods have in the institutional-level design of canal areas.

This study expands on post-structural and humanistic traditions of geography and studies of neighborhood dynamics by addressing issues of neighborhood level perception and behavior towards the environment. To address these issues, I ask the question “how do different neighborhoods perceive or interact with canals?” In answering this question, I will also address the implications that the differences in perception and behavior between neighborhoods have for institutional policies regarding canals and canal land use issues. I will attempt to answer these questions by analyzing interviews with residents of these two neighborhoods. These interviews will be coded for themes describing their perception and relationship to canals. The differences and similarities in these themes will be used to interpret the varied social meanings and symbolism of canals in these neighborhoods.
Approach

This study is rooted in two major philosophical approaches to geography. The first is post-structuralism. Post-structuralism is a reaction to modernist research, which is guided by meta-theories and principals in pursuit of universal knowledge. Post-structuralism incorporated the concept of relativism and the lack of a single, universal truth. In contrast to modernism, post-structuralism emphasizes heterogeneity, human agency, and pluralism. The guiding principal of post-structural approaches is that society is fragmented into different social groups that contextualize things differently and that power structures, not rationality, order knowledge. Because of this, universal meta-theories are seen as inadequate for explaining the nuances of a fragmented society. Rather, power structures and social dynamics can be compared between fragmented social groups (Mitchell 2000).

Geographers have often taken post-structural approaches to studies of urban geography. One of the most notable applications of post-structuralism in geography was developed in the Los Angeles school. Geographers such as Ed Soja (1989) maintain that positivist and modernist approaches fail to recognize the complex nature of cities like Los Angeles. The city, according to Soja, is a mosaic of multiple ethnic and demographic segments that blend together in an urban mosaic. Soja and other post structural geographers maintain that spatial studies should be framed by the cultural contexts of
these fragments (Soja 1989; Mitchell 2000). Using their example, I approached this study by operating within fragmented social contexts represented by two neighborhoods.

Similar to post-structuralism, humanistic geography was a reaction to quantitative, model-based approaches to geographic studies. Humanistic geography also emphasizes human agency and heterogeneity, where the subjective views and lived experiences of humans inform the way they interact with their environment. Like post-structuralism, this approach considers human agency, but also human subjectivity as a data source. Subjectivity and experienced space are given agency in the humanistic approach, whereas post-structuralism places agency on relations of power between fragmented segments of society (Mitchell 2000).

Incorporating a humanistic approach was essential to this study because it allowed for the inclusion of environmental perception and sense of place. Environmental perception entails a process of humans obtaining information through their senses and interpreting it through internal representation and the cultural framework produced by their environment (Rodaway 1994; Roy 2004).

The subjectivity of these observations is central to many geographic studies. Yi-Fu Tuan is one of the major contributors to geographic studies in perception and sense of place. He maintains that a sense of place, or mental mapping, makes it possible to rehearse and make sense of spatial behavior (Tuan 1975). In the context of humanistic geography, “sense of place” entails the emotional attachment to locations at the center of human meaning, intention and value (Windsor and McVey 2005). “Sense of place,” in humanist geography, is a product of the relationship between the environment and the
personal or collective identity of people. These human elements are what make “place” a way to interpret the dynamics of human environment interaction.

A place will hold meaning for people based on the environmental symbols and associations that they project onto it (Tuan 1978). Because place is embedded with meaning and emotional connection to location, it can also be seen as a social construct. Interpretation of environmental symbols and the language used to describe place are some of the ways in which sense of place can be socially created (Tuan 1978, 1991; Sell et al 1984). This process of social construction allows people to collectively identify themselves based on their relationship to place (Lowenthal 1967). Humanistic geography examines the social aspects of place perception and the process of social differentiation through the framework of place or the creation of sense of place. It is through place identity that people may create the social categories of “group or collective self and the other” (Larsen 2004).

Physical and social elements of the human landscape influence the subjective partitioning of space, which serves as guide for behavioral cues. This subjective partitioning of space can be seen as a kind of spatial information source that can be used to categorize and generalize spatial patterns. Environmental perception is the observational process of interpreting signs in the physical environment and associating them with feelings or emotions towards place (Golledge and Gale 1982). Perception is the process in which sense of place is developed. Social context influences environmental perception. Perception itself is a learned behavior and is therefore culturally specific. It is also “widely accepted that there is a difference in sensual experience between cultures” (Rodaway 1994). Because perception is influenced by the cultural and social context of
the environment, it has been used to measure how cultures vary in environmental interaction. The cultural frame of perception also illustrates the cultural influence of sense of place, as perception is the process in which sense of place is created. Few studies, however, consider the relationship between neighborhood identity and environmental perceptions towards urban canals.

Studies suggest that environmental perceptions are influenced by the social context of the person perceiving. Structures, for example, have a different meaning to the designer than they do to various users (Goss 1988). This applies to utilitarian structures such as canals serving as de facto neighborhood spaces and also gives context to the various interpretations of canal space framed by the land-use debate. The built environment itself can be seen as a system of power and social relations. In addition to social implications of community layout, semiotic studies provide valuable insight into how interpretation of the built environment varies by community (Prezsiosi 1979; Hillier and Hanson 1984; Roy 2004). Hillier and Hanson (1984) stated that, “Space can only have social implications when unequivocally identified with a particular group.” They also observed that cognitive approaches to territory are not universal but pertain to cultural or social contexts.

Place Framing

This study compares the perceptions of two distinct places framed at the neighborhood level. It is therefore necessary to connect the dynamics of fragmented society emphasized in post-structural approaches and the subjective, cultural influences of these perceptions emphasized in humanistic approaches. These two concepts are combined by Deborah Martin in discussing the process of place framing (2003). In this
study, Martin examines neighborhood as a self-identifying social unit that uses identity as a frame for neighborhood level activism. In other words, the specific traits that make up the sub-culture of the neighborhood are used as a platform (or frame) by residents to involve citizens in neighborhood activism and justify activist goals to the city government. In examining this process, Martin describes how political activism is shaped by the cultural contexts of neighborhoods, which follows the Los Angeles school concept that social politics is rooted in cultural sub-groups. She uses humanistic geography, however, to describe the process of neighborhood culture influencing perception, values and activism within the neighborhood.

Martin also examines socially based sense of place as a factor on the neighborhood itself, rather than exclusively focusing on socio-economic or ethnic connections in influencing perception and framing activism. Martin claims that the identity connected to neighborhoods “obscures social differences such as ethnicity and class amongst residents” and is itself a factor in creating units of activism. This study builds off Martin’s explanation of neighborhood identity having influence in creating neighborhood level activism and perception. Neighborhood identity is inseparable from perception and sense of place. Perception is the process of creating sense of place. Class and socio-demographic data can be social elements of sense of place. Neighborhood identity is a product of both of these elements, as they relate to neighborhoods. I will intersect these elements of post structural and humanistic approaches employed by Martin by focusing on place based environmental descriptions distinguished by the juxtaposed neighborhood, rather than strictly demographic data.

**Neighborhood Environment:**
Neighborhood is often defined as an urban sub-district, but may also be described as having a common identity in which a sub-culture develops. This is known as the neighborhood effect and is rooted in the sense of place created from neighborhood identity (Johnston et al 2000). Neighborhoods allow for a convenient study of place because they are often composed of similar demographic, aesthetic, and spatial features. Because neighborhoods consist of people who experience space in relatively the same way, a sense of community, homogeneity, and identity can form, making neighborhoods a relevant unit for measuring place perception and spatial behavior (Haynes et al 2007). Neighborhoods also experience different levels of identity and cohesion. These neighborhood elements are often measured by demographic homogeneity, the presence of formal neighborhood organizations, and social interaction (Smith 1985; Woldoff 2002). These dynamic factors of cohesion make neighborhoods an important level of focus for urban and spatial studies.

As Martin (2003) observed, neighborhoods contain their own sense of identity that informs their view and maintenance of the surrounding environment. Neighborhoods shape the environment based on social and aesthetic values, which are products of the association that forms between neighborhoods and their environs. An important element in neighborhood perception and activism concerns the meaning of the environment as interpreted through neighborhood identity. Neighborhoods often associate an aesthetic ideal with their sense of identity. The surrounding environment will be incorporated by the neighborhood under this ideal into a physical symbol of that neighborhood identity (Hunter 1974).
Studies suggest that varied, contextual meanings exist in the built environment. Donald Perziosi (1979), for example, examined architectural “code”, or the system of relationships between buildings and their social context, which he defined at a neighborhood scale. Perziosi suggests that neighborhood context influences the way people read and thus verbalize signs of the built environment, thereby illustrating a connection between socially influenced perceptions and the way in which people verbalize or describe the environment. Perziosi and others have developed the idea that the way people verbalize their environmental descriptions can be descriptive of and influenced by strong senses of neighborhood identity (Wittgenstien 1953; Perziosi 1979; Hunter 1974; Couper 2007). These studies contribute to the understanding of how people talk about and describe environmental objects and social contexts. There are few attempts, however, to explore how these contexts can be used to examine the influence of neighborhood identity or how environmental descriptions vary between neighborhoods with different identities.

Most neighborhood-based perception studies focus on demographic makeup as a source of identity. Many of these studies show that the less homogeneous (ethnically or economically) a population is, the less social cohesion exists in that neighborhood (Aitken, 1990; Cybriwsky, 1978). It has also been discovered that, in addition to demographic homogeneity, higher socio-economic status is also conducive to strong neighborhood identity (Smith 1985). These studies effectively use neighborhoods as a unit of social perception and introduce neighborhood identity as a variable, but do not elucidate its relationship to perception or behavior. This study expands on the
contributions of Deborah Martin by placing importance on neighborhood place and identity in addition to demographics.

Mark Purcell (2001) also shifts the focus of neighborhood studies from demographics to spatiality, allowing him to frame his study of local activism using neighborhood rather than demographic data. The common identities and issues shared by neighborhoods allow them to be cohesive social units for problem solving and activism. Purcell identified neighborhoods as an influential unit in local politics. This idea has implications for the importance of neighborhood identity as a source of governance and social maintenance. It is unclear, however, how Purcell’s framework may apply to neighborhood political activism surrounding the built environment.

Other studies have focused on how the cohesive sense of place that characterizes neighborhoods can influence perception and make neighborhoods a viable unit for local activism. Neighborhood cohesion or attachment is found to be inseparable from neighborhood activism (Relph 1976; Smith 1985). Because of this social cohesion, residents will compel each other into proactive maintenance or protection of the values and aesthetics of their environs. Response to stress through neighborhood activism can also increase attachment and social cohesion (Woldoff 2002).

Roundtree and Conkey (1980) provide an example of how this link between social identity and the built environment can create neighborhood-based activism. Their study examined neighborhood variations in preservation activism in the Austrian city of Salzburg. Neighborhoods that identified themselves as aesthetically historic were very proactive in the preservation process. Studies like these examine how values associated with neighborhood cohesion can propel activism, but more needs to be done to explore
the relationship between neighborhood identity and the environmental perception that drives activism and variations in behavior in neighborhoods that lack cohesion.

The place-framing process allows neighborhoods to incorporate the environment into their social context and identity. This can result in negative or positive perceptions of the environment that has been incorporated into the neighborhood space. This process often plays out in public spaces. Studies have correlated socio-economic and ethnic status with the use of public space (Fesenmeier and Wieber 1985; Lindsey et al, 2001). In addition to differences in use, parks and green spaces located between neighborhoods of different socio-economic conditions have been found to become boundaries between neighborhoods. The resulting boundaries are known as “green walls” (Westover 1985; Solecki and Welch, 1995;). Green walls divide neighborhoods and can sometimes become perceived as derelict landscapes. The severity of the division may depend on the kind of green space in question.

These studies have also been applied to linear public spaces. Parks and trails made out of converted linear spaces such as canals or railroads are called greenways: areas that are “seen as having scenic or historic value” and are also seen as “having value in maintaining some neighborhoods sense of identity” (Little 1990). As a result, they are often fostered by or marketed towards upper socio-economic populations. In urban spaces, however, they usually cut through neighborhoods of varying demographic, socio-economic, and communal status. Most studies of greenways address this problem of how different segments of society use and access greenways (Little 1990; Lindsey et al 2001). Greenway studies do not measure how residents perceive or feel about these greenways or how neighborhood identity may be a factor in the creation of greenwalls.
In employing the place-framing process, neighborhoods can place negative values on elements that are contrary to values and ideals of their identity. This environmental interpretation can result in avoidance. Studies of urban neighborhoods have linked avoidance behavior and visual disorder with various levels of neighborhood or demographic cohesion. Literature focusing on avoidance behavior can be categorized into studies that focus on the fear of crime and those that explore broken windows theory. Both of these approaches expand on perception and interpretation of environmental signs to inform behavior.

Wilson and Kelling’s Broken Window theory (1982) has been influential in studies of perceptions. The metaphor of a broken window represents visual signs of neglect in a neighborhood. People may interpret this as an indication of general neighborhood decline and so investment may decrease as a result of this perception (Wilson and Kelling 1982; Jakle and Wilson 1992; Doran and Lees 2005). These studies have usually focused on how the decay of individual buildings starts a process of neighborhood decline. Fewer studies have explored the role of semi-public spaces such as canals in this process and how their perception might vary throughout the diverse range of neighborhoods that have relationships to these places.

Expanding on this interpretation of environmental signs is fear of crime. Rather than general decline, fear of crime measures perceptions of criminal activity and risk of victimization. It is often not reflective of actual crime rates but can indicate perceptions of disorder and danger (Skogan 1986). This affects the perception of security in individuals as well as the cultural fabric of neighborhoods. Studies have shown that perceptions of crime and vulnerability are embedded in the physical environment and
social contexts of neighborhoods, affecting their internal dynamics. These studies have found neighborhood cohesion to be a deterrent to fear of crime and avoidance (Garofalo 1981; Jackson 2004; Matei et al 2001; Wilcox, Quisenberry and Jones 2003). Studies on fear of crime lack observation on how neighborhoods can vary in their perception of environmental disorder and how these perceptions can be used by exclusive neighborhoods to differentiate themselves from outside areas.

**Neighborhood Dynamics and Land Use Policy**

By studying the dynamics of neighborhood identity and varied neighborhood-based environmental perceptions, we can advance our understanding of the implications of these factors in land-use policy. Neighborhoods form identity and platforms for activism based on an internal set of values and interests. Many times, this can lead to dual interpretations of environmental symbols. Because of this, land-use policy may hold varied and possibly contrasting implications in different neighborhoods. This presents a practical need to understand more about the nature of neighborhood based perceptions and activism.

A study conducted by Lindsey et al (2001) examined accessibility and use of urban greenways in Indianapolis. These greenways were converted from preexisting linear elements in the urban landscape, such as rivers, canals and railroad tracks. Like the Fresno canals, these linear features link various kinds of neighborhoods. These areas mostly ran through minority or low-income neighborhoods but were utilized as recreation spaces by higher income people. These greenways turned into places of exclusion (or green walls) which lower income people perceived as unwelcoming. The decision to turn these spaces into park trails did not account for the different relationships that existed
between these spaces and the various neighborhoods they traversed. Like many other neighborhood-based studies, this one focused on socio-economic conditions as a factor in neighborhood differentiation rather than place based identity. It is unclear whether canals, as private linear spaces that are accessible to the public, create places of exclusion for lower income residents or function as green walls.

One last important consideration is that Fresno canals are a unique element of the urban environment in the city. Besides expanding on studies of neighborhood relationships with the local environment, it is also important to note how this perception study applies to single features that not only dominate the city geographically, but also have iconic meaning. One such examination looked at historic land use initiatives for the Los Angeles River, landscaping plans similar to those proposed for Fresno canals (Gumprecht 1999). The river is similar to Fresno canals in that it has been a subject of a land-use debate informed by perceptions of community identity and avoidance. The river itself is aesthetically similar to canals as they are both linear water bodies lined with concrete.

These plans were advocated by beatification organizations and resident organizations that incorporated the Los Angeles River into their community identity. “Identity” was a word used frequently when referring to the river as a potential landscape project. The river as a symbol of community and local identity emerged as an element of the beatification movement. These plans did not come to fruition, as they conflicted with some of the utilitarian functions of the river infrastructure. The difficulties in converting it into a greenway became “symbolic of the gulf between private organizations fighting for its renewal and the government agencies responsible for its maintenance” (Gumprecht
1999, pg 298). There were also those who saw the river as a social burden, as numerous people associated it with litter, graffiti and crime. The gap between government institution and various resident views is parallel to the views and usage of Fresno canals. Gumprecht’s study is also relevant in that it explores differing perceptions of the river and how they affect social meanings of the river to different segments of society. He frames this historically by examining the perceptions of the river in different time periods. This study builds on Gumprecht’s work by using a spatial rather than temporal approach to look at the correlation between neighborhood space and canal perceptions.

Gumprecht’s study expands on knowledge of social-strata based perceptions of the built environment, rather than neighborhood specific perceptions of urban landmarks and related land-use options. The urban canal system in Fresno presents a perfect opportunity to explore the ways in which people perceive and behave towards specific urban spaces through the social lenses influenced by neighborhood identity. The canals traverse multiple neighborhoods in the city that are diverse in socio-demographic and economic make-up. This allows for a unique case study of how different segments of society interact with these linear spaces with contested land use and various levels of social meanings. The linear space of canals acts as a focal point through which perceptions from both neighborhoods towards the same structure can be compared. This can be an informative expansion on neighborhood studies that have tended to focus on demographic change, responses to disorder and activism. The fact that canals are experienced in these different neighborhoods also provides an opportunity to expand on the relationship between neighborhood identity, sense of place and environmental perception by comparing these elements in contrasting neighborhoods. Most of these
studies have only sought to link neighborhood attachment with these general social behaviors. Little has been done to examine the environmental perception of neighborhoods towards a single element of the environment through the place framing process.

This study seeks to explore the relationship between neighborhood identity and perceptions of canals. I will also examine possible implications that the results could hold for canal related policy at the neighborhood level. This can be a telling element of the nature of neighborhood identity and will expand on previous studies, which have tended to focus on connecting neighborhood identity with status and activism, rather than a specifically directed sense of place. This study expands on that by following Purcell (2001) and Martin’s (2003) example of looking at neighborhoods spatially, through the social context of neighborhood based spatial perception as well as socio-economic conditions. These gaps in neighborhood literature will be addressed by this study, as will the knowledge of neighborhood-based land use implications.
Methods

To evaluate the effects of neighborhood identity on the perceptions of canals, I conducted a qualitative case study on two neighborhoods in Fresno, both of which are traversed by canals. This section provides theoretical background for the qualitative approach to the collection and analysis of subjective, human-based data. It also describes the methods of data selection, collection and analysis used to determine and analyze results.

Framework:

The data collected to measure the variations in perceptions are based in subjective description and imagery. The nature of this research question as well as the humanistic and post-structural approaches it incorporates necessitates a qualitative analysis. Qualitative research is used to contribute to the understanding of social and human issues. A qualitative approach is also necessary when using data that comes directly from subjects in their social settings. This study does not seek to explain how environmental perceptions form from physical cues or cultural influences, but focuses on what patterns emerge when the two contrasting neighborhoods are compared and what implications may be involved with the results. This generalizing process and use of human-based data fit best into the tradition of qualitative analysis (Limb and Dwyer 2001; Dey 1993).

This study seeks to determine how subjective views from two different neighborhood contexts can inform environmental perception of urban canals. The
The qualitative method used to analyze these differences is content analysis. Content analysis is the process of finding associations and categorizing phrases within the content of a text. The text, in this case, consists of interviews with residents of two canal neighborhoods. Content analysis deals with primary or first-hand information, and the themes in the text are put into context by the researcher. “There are no meanings that are unraveled in the interviews, but rather, coherent patterns and re-occurring themes that can be analyzed by the researcher” (Krippendorff 1980).

Like many analytical approaches, the qualitative method of content analysis, which deals with subjective perceptions, is inherently limited in that it relies on generalization the part of the researcher. A common criticism of environmental perception studies is a lack of solid empirical evidence (Bunting and Guelke 1979). This study, however, seeks to generalize the contrasting perceptions that exist within these two neighborhoods towards canal spaces in which case, these qualitative measurements are the most thorough way of obtaining and measuring such data.

In order to compare perception patterns between two different neighborhoods, it was necessary to conduct a case study. This framework allowed me to interpret neighborhood perception by examining the contrast between two selected neighborhoods. Criteria for choosing these neighborhoods were based on setting up a contrast between a neighborhood with a cohesive sense of neighborhood identity and a less distinguishable neighborhood (Creswell 1998). The neighborhoods themselves and their qualifiers for selection are described in the participant selection section below.

This study uses neighborhoods as the social context to frame variations in subjective environmental perceptions. To examine the similarities and differences in
these neighborhood perceptions, a case study was designed around two neighborhoods traversed by canals. Case studies bound research subjects (neighborhoods, in this case) in the context of their time or place. This allows researchers to examine the patterns and meanings of the juxtaposed subjects within their contexts. It is also important to note that the neighborhoods themselves are the focus of study, rather than simply the study area (Creswell 1998). This study expands off other interview-based studies of subjective perceptions based in neighborhoods. These studies have established that neighborhoods themselves are a measurable social and cultural unit and are rich subjects of study (Hunter 1974; Haynes et al 2007; Martin 2003).

The limitation of focusing on two neighborhoods is that it does not incorporate the views of all neighborhood types in the city. Although the sample size is limited, it has been designed so to ensure a rich data extraction in the time allotted for the field work and the study. Also, the purpose of this study was not to generalize canal perceptions through the city, but instead to draw contrasts between the two neighborhoods. Participants within the two neighborhoods were selected by proximity to the canal. Within these criteria, the participant selection was random.

In addition to these interviews, meeting transcripts from the Fresno City Council, the Fresno County Board of Supervisors and the Fresno Irrigation District were examined for any content relating to neighborhood level issues. All of these institutions have a functional relationship with canals in Fresno and are influential in canal land use policy. To gauge the attention given to resident views of canals at the institutional level, meetings of these three institutions were downloaded from their websites and analyzed for neighborhood or resident related content.
Fig. 1 Map of Neighborhood study areas and Fresno Canal network.
Study area and Participant Selection:

The first neighborhood selected was Old Fig, seated in west-central Fresno (see figure 1). This neighborhood was chosen for its distinct identity, sense of place and homogenous population. The identity of Old Fig is rooted in the history of the neighborhood. The neighborhood originated as a higher socio-economic area outside the influence of the city. Because Old Fig was on the edge of urban development, pastoral or “natural” settings were incorporated as aesthetic ideals of the neighborhood identity. The exclusive location and socio-economic standing in Old Fig made the natural imagery associated with Old Fig status symbols. This was demonstrated by the resistance of the neighborhood to be incorporated into the city of Fresno. Because it was never incorporated, Old Fig remains a county island in what is today, the middle of the city of Fresno. There are no sidewalks or streetlights, which extenuates the natural aesthetic that Old Fig is identified with. This has given it very distinct visible boundaries, which adds to its distinction from the rest of the city. Like the natural imagery, the neighborhood can still be distinguished by its high socio-economic status and ethnic homogeneity. Both natural imagery and high socio-economic standing have been central to the identity of Old Fig throughout the neighborhood’s history. These characteristics, plus eclectic architecture have given Old Fig a distinct identity that is recognized not only by Old Fig residents, but those who live outside the neighborhood.

The neighborhood is highly cohesive in formal organizations as well as social dynamics. There are many residents in Old Fig that participate in community activism. Two residents interviewed in Old Fig are active with Tree Fresno, a local beatification non-profit organization that has a long history in Old Fig and is actively advocating the
beatification of Fresno canals. Tree Fresno has conducted neighborhood meetings in Old Fig regarding canal beatification.

The other neighborhood selected was Mayfair. For the purposes of defining a second neighborhood study area the neighborhood boundaries were defined by four major streets (Shields, McKinney, First and Cedar) which border the area where three canals (the Hemdon Canal, the Dry Creek Canal and Mill Ditch) merge. In all other respects, this neighborhood is less distinct and similar to most Fresno neighborhoods. There are no distinct or recognizable physical boundaries that makeup Mayfair. It is more ethnically diverse than Old Fig and ranges from middle class to lower middle class. The architectural make up of Mayfair is dominantly composed of dense ranch style homes and multi-level apartment complexes. The area is sometimes referred to as Mayfair, although no Mayfair residents referred to this as a title for their neighborhood during this study.

Fieldwork was conducted in Fresno from May to August 2007. Residents located on the canal itself were chosen first. After streets bordering the canal were exhausted, I moved one street away and continued in that pattern. On each street, I randomly choose houses to approach for interviews. Interviews took place on the front porch or inside the resident’s house. These interviews were recorded with digital recorders and later transcribed for analysis.

The sample size was also dependent on volunteers who were asked at random to participate. In dealing with human data, particularly interview based data, one limitation is voluntary participation. The sample size was severely limited by the frequency in which people answered the door in random house selections and their willingness to be
interviewed. Roughly a quarter of the doors knocked on in Old Fig were answered and one half of people who answered agreed to be interviewed. This limitation was more severe in Mayfair. Roughly $\frac{1}{8}$th of the doors knocked on were answered and a quarter of the people who answered agreed to participate. Around half of those who declined in Mayfair did so because of language barriers. In total, 15 residents were interviewed in Old Fig and 13 residents were interviewed in Mayfair.

**Interview Design**

Subjects who chose to participate were given a set of questions designed to gauge perceptions of canals. Some questions were designed to gauge feelings or opinions towards the canals themselves, while others focused on neighborhood characteristics or land use options. There were two kinds of questions given to subjects. The majority of the questions were open-ended questions designed to extract as much data as possible from interview subjects. These were supplemented by short response questions.

The majority of the themes taken from interview data were from the open-ended questions. These questions were designed to elicit feelings and behavior towards canals through un-directed anecdotes. Some open ended questions included “what do you think about canals in general,” “how often do you use canals as a pedestrian” and “can you give a general description of what the canal areas are like.” Leaving questions vague and open-ended allows interviewees to give longer and more in-depth descriptions of their views and perceptions (Creswell 1998). It also allows interviewees to state canal-related themes that would not be uncovered with more specific questions. For example, I recorded any references to the agrarian function of canals made by interviewees, which revealed interviewees knowledge of the important role of canals in the local economy. I
derived all of the theme groups from the data extracted from these questions. A hierarchy of theme categories was created out of the themes that were repeated in interview data.

The study used single response questions to draw out specific imagery regarding the perception of canals spaces, canal use and policies regarding land adjacent to the canals. The perception of canals as spaces added the important insight of how the canals themselves and the space that they inhabit are seen by residents. To extract this data from interview subjects, I asked the interview subjects the following question “Do you think of the canals as one single or linear space, or do you think they are different depending on what neighborhood they are running through?” Giving them the option between one linear space and a contextual neighborhood space provided two simple categories that created an insight into the way subjects saw canals. The connection with neighborhood context was important because it allows the results from this question to be related back to the main query of neighborhood identity effecting canal perception.

Because of the emergence of canal land use policy as a major issue in Fresno, I asked subjects “would you rather see canals fenced off or landscaped?” From this question, data about the land use debate could be catalogued into a single answer. Although residents of both neighborhoods lack a substantial voice in this debate, variations on their views are telling of neighborhood effects on the views of this issue. The importance of keeping both sides of the debate in the question presented the interviewee with options within the questions, making sure the answers were not directed.

To understand how residents view and feel about canals, I asked “what are three random words that come in to your head when you think of canals.” This question prompts them to consider the canal spaces in their neighborhood and to respond with
images or words that they immediately associate with it. Each interviewee’s response was labeled as positive, negative, or neutral depending on the amount of corresponding answers.

Another question designed to record resident perceptions with short answers was aimed more specifically at visual images that residents associate with canals. Interviewees were asked “are there any specific images or pictures that come to mind when you think about canals?” Responses were catalogued and grouped into themes. This allowed for comparisons between neighborhoods in the images provided by interview subjects.

Coding:

The interviews taken from the two neighborhoods were coded for themes of perception, views, and behavior towards canals. This kind of data analysis is done outside the constraints of a specific theoretical framework or hypothesis (Auerbach and Silverstein 2003). Instead, the data received from resident interviews provided a research direction based on the themes that interviews presented. From this data, common and contrasting themes were detected by using a bottom-up or open coding approach. This entails collecting all the interview data and allowing it to present whatever themes it may contain (Krippendorff 1980).

Coding is a technique used in qualitative analysis to extract contextual meanings of words or quotes in speech or text (Krippendorff 1980). This allows the researcher to create categories based on the meanings in the text. Many coding schemes are done in two phases. The first is open coding, which is closely going over all of the text and deriving categories and themes that are present. From these results comes the next phase,
axial coding. This entails finding a relationship between the different categories and theme groups (Krippendorff 1980).

The open-coding process was used to uncover the major theme categories in the data. Words and quotes that expressed the themes repeated by interview subjects were marked by pen and referenced in the margin with the type of theme it related to. A quote about litter in canals, for example, was marked by the words “aesthetics/negative” in the margin, referencing both theme and sub-theme. In this manner, all the interview content was reviewed and coded. This resulted in a hierarchy of theme categories.

The next phase of coding was done with the axial coding process. After the main themes were taken from the data, I searched for the connections and links in the theme patterns. With these connections, I was able to derive theme hierarchies that broke themes down into more specific categories. The advantage of having a hierarchy of themes is being able to detect patterns between the two neighborhoods on multiple layers of theme categories. There were variations in the patterns between general and specific theme groups in both neighborhoods. Axial coding is necessary for building a multi-leveled theme category for analysis.

Once these theme categories were in place, variations and similarities between Mayfair and Old Fig themes were examined. Themes were divided into common and comparative themes. In some cases themes appeared exclusively in one neighborhood, which was considered a comparative theme due to absence of the theme in the contrasting neighborhood. Analyzing the patterns of contrast and similarity allowed me to generalize the comparative perceptions of canals in these two neighborhoods, based on the social influence of neighborhood identity and cohesion.
Coding was also done on board meeting minutes downloaded from the three institutional organizations, which have vested interest in canals: The city of Fresno, The county of Fresno, and the Fresno Irrigation District. Board meeting minutes from these three entities are available on their respective web sites. These were downloaded as Adobe files and examined for any content relating to canals or neighborhood canal issues. All files available between 2005 and 2008 were collected. The presence of neighborhood-level issues in these meetings was gauged the conducting word searches on meeting transcripts. For Fresno City and County meetings, the words “Canal”, “Irrigation” and “Water” were used to find portions of meetings dealing with neighborhood-canal dynamics or the relationship between local governments and the Fresno Irrigation District. For the Fresno Irrigation District, the keywords, “neighborhood”, “pedestrian”, “safety”, “landscape” and “drowning” were used to find discussions of neighborhood-level issues. Results from all three institutions were coded for the context of these word matches (Fresno Irrigation District Board of Supervisors, referenced June 2006-March 2008, www.fresnoirrigation.com; Fresno County Board of Supervisors, referenced June 2006-March 2008, www.co.fresno.ca.us, Fresno City Council, referenced June 2006-March 2008 www.fresno.gov/Government/CityCouncil).
Analysis and Results

In coding the interviews, theme categories were devised to measure resident’s perceptions of canals in each neighborhood. Most of the themes were taken from open ended interview data, although they were supplemented with the short answer response questions. These theme categories were organized based on the reoccurring issues brought up by residents that illustrated differences between the two neighborhoods in perception of canals.

The major umbrella themes include Safety, Aesthetics, Usage and Neighborhood differentiation. Different patterns of commonality and variation occurred in themes between the two neighborhoods. The major umbrella theme of Safety was common between both neighborhoods.

Neighborhood differentiation was an umbrella theme that held contrasting perceptions between neighborhoods. There were overlapping elements of commonality and divergence in the themes of Aesthetics and Usage. Expanding on neighborhood differentiation was the Landscape Debate, which was a theme derived from resident opinions regarding the land use of canals. This theme connects resident relationships with
canals with institutional organizations that administer canals. Results from institutional meetings were analyzed for any relationship to canal-neighborhood issues.

**Safety:**

Safety was the only universal theme category. The perception of canals as a safety issue was similar in both neighborhoods. The specific safety concerns expressed by subjects in both neighborhoods also tended to be similar. Three sub-categories were created out of these various concerns; child safety, public safety and personal safety.

**Child safety** was the most common of the sub categories. This may correspond to the high profile drowning that occurred two weeks prior to the period of data collection near Old Fig. Canals were repeatedly described as a drowning danger, particularly for children. In all three groups, the idea that children are “attracted to canals” was seen as part of the child safety problem. Canals were referred to numerous times as an “attractive nuisance.” They were seen as “tempting for young people when it’s hot because there’s not enough recreation in this area.” This creates another layer of tension for parents who live near canals. An Old Fig resident explained that one’s safety concerns over canals “depends on the age of your children. As a young father I was scared to death of them.” One Mayfair man stated that he “does not let his niece or nephew go anywhere near it.”

In Old Fig and Mayfair, a dominant theme within the child safety category was the lack of canal education, for children and parents. “To see kids run around the neighborhood unsupervised is one thing, but to see them near the canals is completely different” stated a woman in Mayfair. Subjects said that educating children on canal dangers should be more common and employed as a preventative measure. The lack of parks or other outdoor areas in Fresno was cited by subjects in all categories. This has
become one of the platforms for those advocating the landscaping of the canals. This movement has been headed by Tree Fresno, a non-profit organization that advocates for beatification measures. A common theme that was referred to more by Mayfair residents than Old Fig residents was the presence of canals near schools. This created the issue of kids using canals to “get to school,” “cut class,” or as an inconspicuous place to do drugs. The accessibility of canals to children was another common theme of child safety. This issue was highly related to positive views towards fencing canals, particularly in Mayfair, where many people blamed the accessibility of canals to children on a lack of fences.

This linkage between child safety and canal fencing complements data on Mayfair views of the fencing debate. On the other hand, several subjects, particularly in Old Fig, mentioned that “fences will not stop children”.

**Public safety** is another sub-category of safety concerns. Quotes pertaining to safety issues that concern the general population were put into this category. Similar concerns were coded as personal safety if they were in the context of personal behavior towards canals. “Drowning,” “crime,” “vandalism,” “lack of police presence,” “mosquitoes,” “isolation,” “vagrancy,” and canals being “not well lit” were common in both neighborhoods. Concerns over animals were connected with health concerns of canals. In Mayfair, one man said that “because the canals are so close, we have a problem with rats in this neighborhood.” An Old Fig resident described them as “a breeding grounds for mosquitoes.” Many residents in both neighborhoods stated that they avoid them at night because they are extremely dark. “They’re not well lit. When it’s dark and stormy out, they’re really dark and stormy.” Crime was associated with canal use. People who “don’t want to be seen” or “criminals” were often cited as regular canal users,
particularly in Mayfair data. Tree Fresno also addressed this issue when organizing a neighborhood meeting. A Tree Fresno landscape architect stated that “I was naively unaware of the prostitution and drug use and dealing that went on in some areas of the canals.” A Mayfair man also described “a friend whose back yard is the canal and he has a homeless person that lives next door in the shrubs.” One notable concern unique to Old Fig was lack of park space or pools in lower income areas. This concern links public safety with the perceptions of one socio-economic group towards another.

**Personal safety** was coded for references to concerns that directly affected personal behavior towards canals. Issues, past experiences and even perceptions of safety affect public interaction with canals. Many of the residents used safety concerns to explain their wariness of canal interaction. The most dominant concern of residents was the proximity of canals to their back yards. As residents in both neighborhoods described it, people walking along canals can “see right into your back-yard” and “see everything you’ve got laying around” from the elevated dirt banks of the canals. This hindered their sense of privacy as well as increased their vulnerability to burglary (according to their assessment).

Concerns over burglary were often connected by residents to the lack of back yard privacy. An Old Fig woman cited personal experience with a burglar who broke into her house and “used the canal to get away.” A similar aversion to canal activity due to personal experience was described by a Mayfair man “I had an uncle who got beat up and robbed on the canal.” Darkness was also coded as personal safety in addition to public safety. Residents cited darkness as a reason for avoiding pedestrian use of canals due to
fears of “falling in,” “not being able to see other people” and “people being able to sneak up on you.”

Although there were a wider variety of specific concerns listed in Mayfair than in Old Fig, the general theme of personal safety was similar in both neighborhoods. This suggests that crime, isolation, lack of privacy, burglary and other personal safety concerns are common to all canal neighborhoods. This may have effects on neighborhood investment and property values. One Old Fig woman stated that, “when we bought our house, the fact that it was on a canal was a concern.” The fact that there are personal safety issues associated with canals throughout Fresno presents major implications for maintaining canals in the interest of neighborhoods and nearby residents. There are also possible related implications to the economy of Fresno, such as growing concern over canal areas in the real estate market.

**Aesthetics:**

The second largest group of themes was aesthetics. This pertained to imagery that residents connected with canals or used to describe them. Although this theme was common to both neighborhoods, there is a clear distinction between the two in the variety of descriptions. Aesthetic themes broke down into three major groups positive, negative, and maintenance. The negative aesthetic themes, like safety, were similar in both areas. Positive imagery was almost exclusive to the Old Fig data. Aesthetic images related to canal maintenance contained an overlap of similar criticisms, but also contain divergence in the variety of views.

**Negative imagery** was coded from descriptions of dereliction, which both neighborhoods associated with canal space. Residents in both neighborhoods expressed
of “Litter,” “vandalism,” “graffiti,” “debris” and “shopping carts.” Litter/trash was the most commonly referenced image in both cases. Roughly half of residents in both neighborhoods gave generally negative descriptions of canals. Several residents in both neighborhoods specifically referred to them as being “unattractive when the water is low.” One Mayfair resident summarized this view by saying “they’re always dirty, especially when they’re empty. You can see all the garbage, tires and shopping carts that people have thrown in there.” Old Fig and Mayfair residents were generally similar in their negative descriptions of canal areas.

Aesthetic imagery was also measured by asking residents if there were any specific images or pictures that they associate with canals. The most common response in Mayfair was “shopping carts” and “dirt.” “Trash,” “tires,” “walkers,” “no swimming signs” and “agriculture/irrigation” were other answers given by Mayfair residents. Several Mayfair subjects noted that “stolen cars,” “stolen stereos,” and “all kinds of stolen stuff” were commonly found in canals, which relates aesthetics to safety issues, as burglary was associated with canals in both neighborhoods. One subject went further in summarizing the aesthetic effect of canals by stating “none of them look pleasing. None of them look appealing. They all look run down and decrepit.” Imagery from Mayfair data was overwhelmingly negative. Both neighborhoods gave similar examples of negative canal imagery, but a distinction emerged in the variety of aesthetic descriptions.

Old Fig residents were more varied in their responses. Many residents also referred to canals being “dirty” or even “disgusting when the water is low.” Also similar to Mayfair was the reoccurring use of the word “eyesore” in describing canals. One described graffiti as the “biggest concern for property owners along the canal.” Other
images from Old Fig residents included emergency vehicles. An Old Fig woman recounting the night of the drowning stated “the newest one [image] is all of the emergency vehicles at the end of the block of course. The picture in my mind of her being dragged out, but before that happened I didn’t think about that so much.” This description further illustrates the extent to which the high profile drowning affected the image of canals in Old Fig. “Quick transitions to unsightly areas” was also a common description in Old Fig. These were references to the canal in Old Fig connecting to worse neighborhoods outside of their neighborhood boundaries. This perception associates negative imagery with areas outside of Old Fig. This association introduces an important theme of contrast. Negative imagery may have been a common theme, but many Old Fig residents specifically associated it with “outside” or “other” areas.

Positive imagery. There were only two positive descriptions of canals in the Mayfair interviews. Both of these were general and vague descriptions, rather than sighting specific appealing qualities of canals. “If they’re maintained they’re pretty, it’s okay,” and “nice and clean” were the only positive images described by Mayfair residents.

By contrast, Old Fig residents expressed numerous examples of positive imagery. The most common of these positive themes was natural imagery, including vegetation, animals and water as an appealing element of the landscape. Positive descriptions of canal ambience included “peaceful, secluded and serene.” Other natural images included associations with animals such as “egrets,” “crawfish,” “birds,” and “ducks.” A canal landscape was described by one resident that illustrated the strong sense of natural imagery in Old Fig, which the canal becomes associated with. “We had photos of an area
[of the canal] that was very beautiful. That photo was of a canal with a gentle bend in it, a willow hanging over it from an adjoining property and this body of water bending off in the distance. It was a beautiful vision.”

Natural imagery in Old Fig was also tied to perceptions of canals as a recreational or community space. The positive themes and natural imagery depict a sense of community which contrasts with the themes of avoidance depicted by negative imagery. Descriptions of canal use in Old Fig transfer the aesthetic beauty of canals into notions of community space. “Walking along the canal, I love the moon reflecting in the canal water. I like the sound of the water rushing by. I find it very restful.”

Aesthetic images of canals were further examined by a short response question, which asked residents to use three words to describe canals. This provided easily categorized and comparable responses, which were not directed by interview design. These categories are summarized and displayed below (table one). Analysis of the three word responses shows that there are universal negative themes of child safety and danger in both groups. “Water” and “danger” were common responses in both neighborhoods. However, the neighborhoods differed in that Mayfair residents used primarily negative imagery to describe canals, whereas Old Fig residents used both negative and positive terms. Responses exclusive to Mayfair included negative imagery, kids, and safety. Even in Old Fig, which exhibited some positive and communal feelings towards the canals, interviewees did not present overwhelmingly positive responses to this question. This provides further evidence that neighborhood concerns relating to canals are common throughout the city of Fresno.
Although Old Fig contains negative images similar to Mayfair, the latter lacks any positive or natural imagery. Some of the negative imagery in Old Fig was also projected onto “other” areas such as “it’s fine here, but when it runs through other areas like Belmont, it really depends on who lives there. Over there it might just be that they don’t know or don’t care.” Data from this theme shows Old Fig to have more numerous examples of images that evoke sense of community. Natural imagery is one of the major elements of the sense of place and community exuded by the Old Fig neighborhood. In these examples, we can see how the canals that run through Old Fig have been incorporated into a distinct sense of place framed by an aesthetic ideal of the community.
The incorporation of canals into the aesthetic ideals of the neighborhood provides a link between the strong sense of community and aesthetics.

**Maintenance** was a specific issue related to aesthetics. References to the quality of maintenance and its effects on the ambience of the neighborhood were similar in the two neighborhoods, but there was divergence in that there was more variation in Old Fig. The three references to canal maintenance in Mayfair were critical statements that described canals as “not well maintained,” “normally it’s just real dirty,” or that lack of maintenance “affected the quality of the neighborhood.” Another Mayfair resident expressed concern over the “dilapidated” state of the footbridges that cross the canal areas in Mayfair.

There was a wider variety of references to canal maintenance in Old Fig. Old Fig residents were also critical of canal maintenance, citing similar criticisms such as “they don’t clean very well when the water’s down.” In contrast to Mayfair, several Old Fig residents stated that the irrigation district did a good job maintaining the canals. Several also stated that the irrigation district “keeps the dirt margins smooth and free of weeds” and “paints over the graffiti regularly.” When referring to maintenance, several Old Fig residents stated that they were less maintained in “other areas” because residents in “poorer areas won’t call and complain” or that they simply “don’t care” about the state of their canals. This provides a connection to neighborhood differentiation and the maintenance levels of canals. Maintenance was a small theme, but it serves as an example of how some canal issues are experienced in different parts of the city. Although maintenance issues are shown here to be a problem to all residents the fact that positive
Usage:

Coding for themes of canal use was based on statements or descriptions of how residents interact with canals or knowledge of their utilitarian function. Subjects described usage of canals either through personal experience or visual observations of community interaction with canals. The theme of canal use emerged from two sub-themes: recreation and functional use.

Residents in both neighborhoods discussed how canals are often used as shortcuts by residents. Mayfair residents described the benefits of canals for pedestrian use, stating “it’s a lot faster [than the street] and you avoid cars, traffic and stuff” and “lots of people use it as a path to just walk around.” The use of canals as shortcuts for students going to and from school was mentioned several times in both neighborhoods. “I see kids walking back there all the time. Teenagers, you know. It’s a shortcut,” said one Mayfair resident. An Old Fig resident observed, “It seems like a lot of young people walk or bike along the canal instead of taking the bus to school. It seems like they take public transportation along Blackstone and then walk along the canals.” Observations from both neighborhoods suggest that there is a functional pedestrian relationship between canals and schools.

The primary function of canals is irrigation, yet many of the residents who live around them may not be aware of the agricultural function of canals. The theme of agrarian function was important in gauging the knowledge of the purpose and original
function of canals. This was coded from references to irrigation or agrarian use in data from open-ended questions.

One description, which was unique to Old Fig, was function (as opposed to recreation) as the primary and most common use of canals space. The subject described canals as having “no architectural beauty. They just deliver water. That is their function.” There were two residents in each neighborhood who stated that they did not know what purpose canals served, although they both recognized that they were used for recreation because of their location. One Old Fig resident described canals as “antiquated” and one Mayfair resident asked “is that where we get our water supply from? I mean what is the point of having canals?” Residents in both neighborhoods referred to agriculture as the function of canals. As described by one Old Fig resident, “They do their thing. It takes water from the mountains and moves them to where the farmers need them.” This theme is summarized below (table two). Data suggests that the primary utility of canals is common knowledge, but regarded with indifference by residents. The amount of references to agriculture was similar between the two neighborhoods. Five Mayfair residents and eight Old Fig residents referred to canals as an element of agrarian infrastructure.

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>AG references</th>
<th># of subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayfair</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Old Fig</td>
<td>8</td>
<td>15</td>
</tr>
</tbody>
</table>

*Table 2. Number of references to Agricultural function*
Many residents recognized both functions of canals. This is illustrated by a quote from one Old Fig resident. “I think of them as recreation and work. They represent somebody’s work. Somebody from Parks and Recreation or maintaining the dams and reservoirs and the farmers who are getting the water and those of us in between who are walking up and down it.” Recreation is a use that is part of the everyday experience of canals in both neighborhoods. Because of this, the theme of recreational use was similar between the two neighborhoods. Walking, jogging, dog walking, biking and exercise were all common themes in both groups. “A lot of people ride their bikes and walk their dogs and stuff like that,” said one resident.

Many Old Fig residents described recreation as the primary use of canals. The amount of recreational use was illustrated by one Old Fig resident, “I bet you there is one hundred people a day, two hundred people a day, walking along that ditch bank.” “Families walking,” “jogging” and “exercising” were recreation activities that were listed in Mayfair as well as Old Fig. None of the Mayfair subjects, however, referred to it as a potential park or community space, whereas this was a common theme in Old Fig interviews. One resident stated “I frequently go to the San Joaquin river bottom which isn’t exactly a canal but it’s a body of water and an open space and I would much rather use the canal system in Fig Garden if I could go further on it and not have to worry about going into questionable areas of town.” This not only illustrates Old Fig views of the recreation potential for their canal, but also contrasts with perceptions of disorder towards canals in other areas.

Contrasts between the two neighborhoods emerged from variations in the theme of functional use. The difference in the description of canals as shortcuts in Old Fig is
that in all four cases, they were specifically associated with “apartment dwellers” or people from “other areas.” This suggests that Old Fig residents view the use of canals as a functional pedestrian shortcut as something separate from the lifestyle or culture of the Old Fig neighborhood. This is even suggested by the language used in some of these examples, such as “other areas” or “those neighborhoods on the other side of Palm[street].” For example, one Old Fig resident stated “we have people from those apartments over there who are using it to go to the mall and back again.” Quotes like this distinguish Old Fig canals as being different from other canals, which introduces another important theme: neighborhood differentiation.

**Neighborhood Differentiation:**

The theme group of neighborhood differentiation illustrates differences in the perceptions of these two neighborhoods. These differences clarify the effect of Old Fig’s strong sense of identity on the perceptions of canals. Many of these themes deal with incorporating canals into neighborhoods or perceiving them as potential community areas. These illustrate neighborhood contrasts in that they are abundant themes in Old Fig and absent from Mayfair data.

The effect of neighborhood identity on canals was gauged with a single response question. Subjects were asked whether they thought of canals as one space or whether they were different depending on which neighborhood they ran though. The results of this question (table three) showed a distinct variation in perception between the residents of Old Fig and Mayfair. Twelve of the thirteen residents interviewed in Mayfair saw the canal as one linear space. Of the fifteen Old Fig residents interviewed, three saw it as one linear space, nine saw it as varying by neighborhood and three could not think of an
answer. Data from this question reveals a basic difference in perception of canal spaces between the two selected neighborhoods. The fact that Old Fig residents dominantly favored the neighborhood context answer illustrates the effect that the strong neighborhood identity has on their perception of canal space. The canal that ran through their neighborhood was incorporated into the aesthetic ideals and values of Old Fig and the canals that run through other neighborhoods were seen as different from their own because they were outside the Old Fig neighborhood context. One Old Fig resident summarizes this sentiment, stating “I wish it was just one linear space, but it is probably different in different parts of the city. Some are more clean and welcoming than others.”

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>One Space</th>
<th>Different Spaces</th>
<th>N/A</th>
<th># of subjects</th>
</tr>
</thead>
<tbody>
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<td>Old Fig</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Mayfair</td>
<td>12</td>
<td>1</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

*Table 3. Views of canal spaces by neighborhoods*

Neighborhood as a theme was also coded from references to sense of place or common identity related to neighborhoods in the open-ended data. The most distinct characteristic of this theme is that it was only coded from Old Fig interviews. Data pertaining to neighborhood identity, sense of place, or communal space was absent in Mayfair interviews. Neighborhood-related themes from Old Fig interviews were described in several general ways. These themes commonly appeared in resident’s descriptions of Old Fig. This sub-theme was created from Old Fig residents describing
their neighborhood and its relationship to canal space. A dominant theme from this group was natural imagery (which was used to describe Old Fig’s sense of identity). This included references to the heavy vegetation in Old Fig and comparisons to creeks or rivers. One descriptive example was an Old Fig woman who referred to the Herndon canal as the “Herndon River,” or their “local River.” Six residents described a sense of community between recreational users of Old Fig canals. Four people described a “strong neighborhood identity” that exists in Old Fig. Several residents also stated that they only feel comfortable walking in Old Fig canals spaces and would be “hesitant to do so in other areas.”

The other theme from the Old Fig data was a description of outside or lesser areas. These consist of all the references made to neighborhoods or canal areas outside Old Fig. Several described canal neighborhoods outside of Old Fig as being “not as nice.” Several other subjects saw the danger of drowning being higher in low-income areas due to a lack of parental supervision and park space. Other reasons mentioned were a lack of “swimming pools in those areas” and a “lack of park space.” One Old Fig resident stated that canals should “only be landscaped in some areas.”

Another neighborhood based comparison presented by Old Fig residents was that people in “outside neighborhoods” or “low income” or “apartment dwelling” areas were less likely to take care of the canals in their neighborhood or complain about derelict conditions in their canals. For example, a man from Old Fig described how canal maintenance was a part of Old Fig values, in contrast with outsider values. “A lot of people use them as a dump. Obviously not people who live in this neighborhood.” Others observed, “[in poorer areas] no one calls in and complains, or typically not,”
which further illustrates the perception that Old Fig is unique in caring for their canals. These are examples of Old Fig subjects who believe their neighborhood character is stronger than outside areas. This is suggestive of the strong sense of community and exclusiveness that is associated with Old Fig and other cohesive, self-differentiating neighborhoods. Some outside areas with socio-economic status and ethnic homogeneity similar to Old Fig were referred to in Old Fig interviews. One area was the Fresno suburb of Clovis, which has landscaped several miles of canal. Several Old Fig residents described canals there as “natural looking,” “pleasant,” and “well landscaped.”

Another common observation in Old Fig was the fact that canals separate neighborhoods. This was mentioned by several Old Fig residents, two of whom referred to the area of Old Fig that lies south of the canal as “Baja fig.” This refers to the three blocks of Old Fig that lies between the Herndon Canal and Shields Avenue. This is considered the southern periphery of Old Fig, and is defined by its border to the canal. There were also three references to the sudden contrast along canals from “good” to “bad” areas. Some of these descriptions used illustrative imagery. “Some are basically like a bad alley, some are like a park trail.” Some cited more specific associations between canals and low-income areas or low property value. “We always joke about how close we are to the ghetto. The canals here separate some bad, violent areas to this, which is a sort of old money neighborhood.”

These descriptions of neighborhood-dependent aspects of canal space provide further evidence of the patterns of contrast between the two neighborhood’s perceptions. Old Fig data presents descriptions of a strong sense of place and communal feelings towards canals as well as projections of avoidance towards other canal areas. Lack of
references to neighborhood or community from Mayfair residents is itself a theme in neighborhood differentiation. Community or neighborhood identity as a theme was absent from Mayfair data. Also absent was the incorporation of canals into an aesthetic ideal or community symbol. Issues of incorporating canals into a neighborhood based aesthetic ideal are examined further in the landscape debate.

The landscape debate:

In response to the drowning, the land use debate was a current issue at the time of data collection. Various organizations, resident groups and factions of the local government were advocating the fencing of canals or landscaping them into a linear park space, or greenway. This set of canal related views is referred to here as the landscape debate, mainly because it was portrayed as a debate by local media sources. There was no evidence of such a debate within institutional level organizations responsible for canal related policy. This presented an important theme however, as resident’s views on the best policy for canal land use were indicative of how they view or feel about canals. Data from this theme presented clear patterns between Old Fig and Mayfair that expand on the patterns of contrast in levels of neighborhood identity found in the rest of the data. The theme itself was derived from open-ended dialogue and was supplemented by a short answer question, “Do you think canals should be fenced off from pedestrian use?”

The answers produced by the short answer question presented clear patterns of neighborhood variations in opinions towards the land use debate (table four). Twelve of the thirteen Mayfair residents questioned supported fencing the canals. One opposed fencing them, due to their recreational value. Two of the sixteen Old Fig interviewees favored fencing. Thirteen were against fencing and seven of them specifically cited
landscaping as a better alternative. One Old Fig resident answered neither, citing that both options were unfeasible. The patterns from this question indicate that the majority of Mayfair residents favor fencing the canal off to pedestrian traffic. The majority of Old Fig residents opposed fencing, largely in favor of utilizing its potential as a recreation or community space. This single response question further illustrated the tendency for Old Fig residents to incorporate canals into community spaces, contrasting with Mayfair resident’s perceptions of avoidance and disorder.

![Table 4. Resident opinions of the land use debate](image)

Most subjects further elucidated their views of the landscape debate with justifications for their response. Land use issues were also addressed in open-ended question responses. In Old Fig, residents used themes of natural imagery and community potential to describe their opposition to fencing. Canals were described as “a great asset. Like a trail.” Their potential as community spaces was also illustrated in many ways such as the claim that “they should have them be more of an asset than a liability” and “they could be something glorious in an urban setting. They could be landscaped. They could be an area to bring communities together.” A similar assessment was that “there are canals at every part of the city. It could be like a trail that intertwines the whole city.”

By contrast, responses to this issue in Mayfair were much more cautious. When asked if the city should fence canals, residents answered, “yes, definitely, they should,” “I think it would be much better off, because they just cause more problems when their
open” and “it would keep children out of situations where they could potentially get in and drown.” These sentiments summarize the view in Mayfair towards fencing. It was dominantly seen as a prudent course of action that would prevent further drowning. Residents in Mayfair also supported fencing because it would “keep people from putting their trash in the canals too.” One resident pointed out that it was a difficult decision because “a lot of people use the canals for good” and that “we would not need fences if parents would take more responsibility for their kids.” The opinions in Mayfair towards the landscaping debate were, however, dominantly driven by safety and litter issues. Although these were issues in Old Fig as well, opinions towards land use were driven more by the canal’s potential as a community space.

**Institutional Considerations:**

Alongside resident interviews, the coding process was also performed on transcriptions of board meeting minutes from 2005 to 2008 from three institutional entities concerned with canals. This was done to gauge the amount of consideration given to neighborhood level issues and concerns. The institutions analyzed were the city council of Fresno, the Fresno County board of supervisors and the Fresno Irrigation District board of directors. From these, seventeen meetings from the city, seventeen from the county, and two from the Fresno Irrigation District were found to have related references. References to canals from city council meetings mainly involved approving financial agreements with the Irrigation District for bridge or canal construction and water rights. There were only four references to canals which pertained to neighborhood issues. Two addressed the merits of moving $500,000.00 from beautification of canals to putting up safety fencing in response to the May, 2008 drowning. One of them
specifically cited that funds should go to fencing canals which are used as pathways to schools. In these meetings, the issue of sharing cost and liability with the Irrigation District was discussed. Another meeting addressed the potential for mesh lining over canals as a safety measure. Prior to the drowning, one meeting briefly addressed concerns of vagrancy in a Fresno canal area. Results were similar in the county level minutes. There were no references to neighborhood issues, although the county does implement several water safety programs focusing on canal safety education. There were only a few references to canal maintenance in Irrigation District meetings, but no references to neighborhood level issues. In summery, the board meeting transcripts showed that neighborhood level issues are not influential in canal policy making or a major consideration to these three institutions.

**Conclusion:**

These themes produced a number of patterns that illustrate differences in the environmental perception of canals. Old Fig presented more varied results in themes of aesthetics and land use opinions. Old Fig interviews also presented themes that were absent in Mayfair interviews, such as communal feelings towards canals, a sense of place positive aesthetics, and natural imagery. There was, however, a great deal of similarities between the two neighborhoods. Notably, the concerns about canals and their effect on neighborhoods were similar. Safety concerns over open canals running through neighborhoods and criminal use of canal space are issues common to both neighborhoods. Concerns over litter, graffiti, and signs of dereliction are also shown to be part of the canal-neighborhood relationship.
Discussion and Conclusion

Results:

The differences and similarities between the two neighborhoods allowed me to form generalizations regarding neighborhood identity and canal perceptions. Several patterns emerged in themes expressed between neighborhoods. Many of the themes were expressed in a similar way between the two neighborhoods, particularly regarding safety concerns, negative imagery and maintenance criticisms. Themes that were expressed differently were valuable in that they illustrated the differences in neighborhood perception. Perhaps the most telling results were the themes expressed by Old Fig residents that were absent from Mayfair interviews. These patterns are important in understanding how neighborhood identity frames perception and how the presence of that variable influences neighborhood stance on an environmental issue or spatial behavior (table five).

The themes that were expressed similarly in both neighborhoods were significant in that they established that canals, being linear spaces, create similar problems for residents who interact with them daily. They affect the neighborhoods they run through and thus, the way that neighborhood residents interact with them. Significant to this point is the safety theme type, which was common to both neighborhoods. All three sub-categories of public safety were expressed similarly in both neighborhoods, which
reflects neighborhood concerns of open canals running through residential areas and the resulting risk of drowning. Negative imagery was also common to both, which establishes the effect of canals on neighborhood image as a city wide issue. This is important because it illustrates that social problems related to canals are not neighborhood specific but are simply a product of the presence of canals in Fresno neighborhoods. Similarly, both neighborhoods expressed similar usage of canals, particularly for recreation activities. This illustrates the potential in both neighborhoods of plans advocating the use of canals as public parks.

The other two patterns in interview themes dealt with differentiating between the two neighborhood’s perceptions of canals and of themselves. The themes in which the two neighborhoods had opposing descriptions are telling of the importance of neighborhood identity. For example, the neighborhoods differed in whether they perceived canals as one linear space or a neighborhood dependent space. Old Fig residents saw canals as neighborhood specific and Mayfair residents did not. This serves as another example of Old Fig residents incorporating the canal into the aesthetic ideal, which is a product of their neighborhood’s historic identity. This aesthetic ideal leads Old Fig residents to see their portion of the canal as a way to differentiate their neighborhood from other areas. This is also suggested from the pro-landscaping stance in Old Fig, which is a result of residents incorporating canals into the aesthetic values of Old Fig compared to the pro-fence stance in Mayfair. The issues on which the two neighborhoods differed are telling of the difference in social context, but also important is the simple fact that this variation exists. Like the similarities in some themes informing us that canals
pose common social issues throughout Fresno, the variations tell us that views on how to approach those issues may be dramatically different between neighborhoods.

Many themes present in Old Fig data were absent in Mayfair data. These were mainly references to neighborhood or residents differentiating their neighborhood through positive imagery. It is in this pattern of themes that neighborhood identity is seen most clearly as a variable. Old Fig subjects contrasted other neighborhoods to theirs and incorporated the canal in to the aesthetic values associated with Old Fig. This language of self-differentiation and environmental incorporation is consistent with language associated with cohesive neighborhoods (Hunter 1974). In the case of perceptions towards Fresno canals, the framework of neighborhood identity and the language associated with it showed clear variations in feelings and behavior towards canals between the contrasting neighborhoods. Because Old Fig had incorporated canals into the aesthetic ideal of the neighborhood’s historic identity, the canal landscape was made valuable through that cultural perception. This also allows Old Fig residents to use the canal to differentiate their neighborhood from “other” areas. This contrast presents the issue of varied responses to canal policy between neighborhoods.

Most themes found in Fresno City, County and Irrigation District board meeting minutes dealt with maintenance, financial or planning issues. There were only a few references to neighborhood level issues such as landscaping and drowning prevention. Debates relating to these issues were unresolved due to the difficulty of balancing responsibility between the three entities. These results show a lack of consideration for neighborhood level concerns over canal issues, as well as a lack of consideration of the variations in concerns and views contained in different neighborhoods. The lack of
neighborhood level issues contained within these meeting minutes serves as evidence that resident-canal relationships are not a part of canal land use policy making. This re-enforces the idea that canals are strictly symbolic features in the differentiation of class.

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Table 5. Comparative theme results between neighborhoods

Implications:

Neighborhood studies often attempt to correlate neighborhood identity with activism and behavior towards the physical environment. Common examples are maintaining the physical environment to the aesthetic ideal of the neighborhood and centering social and activist activities on neighborhood issues and identity. These studies also illustrate the relationship of neighborhood identity to perception and sense of place as it is played out in the physical environment of the neighborhood. The unique geographic situation of Fresno canals allows these elements of neighborhood studies to be explored and expanded upon in this case study. The results of this study show the elements of neighborhood identity being symbolically applied to canals in Old Fig. This is further highlighted by the contrasting patterns in Mayfair, which lacks the historical and socio-economic identity of Old Fig. This contrast has expanded on studies of neighborhood by highlighting canals as a comparative focal point between the two
neighborhoods. This incorporates the unique relationship between canals and neighborhoods in the arid American west into neighborhood studies.

In this study, I expected to see canal spaces appropriated symbolically and differentiated by class and aesthetics. This was found to be true in the results of the study. The canals serve as a case study to explore the relationship between neighborhood identity, environmental perception, class and sense of place. Old Fig’s neighborhood identity is historically rooted in its differentiation from the political and aesthetic landscape of the city. The incorporation of the canal into the aesthetic ideal of the neighborhood is an example of symbolically appropriating the canals themselves into the identity of Old Fig. This links the study back to the significance of post-structural studies, which incorporate the concept of representing power structures in space. Canals are turned into landscapes of power because they are used as symbols of class differentiation. Like neighborhood studies, this study adds to post-structural theory with a case study focusing on the relationship between neighborhoods and canals.

One concern addressed by post-structural approaches to geographic study is the governing of a city fragmented into various cultural contexts. This study provides insight into the implications of land use policy regarding the unique, linear situation of urban canals, which run through these diverse social fragments. Old Fig and Mayfair presented differing perceptions of canals and opposing views on the ideal direction for land use policy. Old Fig represents isolated neighborhoods that are differentiated not only by class, but also by a strong sense of identity. These cohesive neighborhoods are shown to have different and more involved relationships with their environment and policies related to it. Canal policy has an added importance in Old Fig because the canals are
symbolic of class differentiation built into the landscape. This is one of the reasons Old Fig has more history with activism related to their environment, although they have no actual influence on canal related policy. Policies that affect public areas can have dramatically different effects on these neighborhoods than other ones. This is due to the strong tendency to incorporate the surrounding environment into the aesthetic ideal of the neighborhood identity (Hunter 1974; Lindsey et al 2001).

In the case of Fresno canals, residents in both neighborhoods lack any influence in the policymaking process of canals. This power is held by the Fresno Irrigation District, which is comprised of local area farmers. The city of Fresno is also influential in canal land use policy. These two entities, however, are concerned with maintenance and flood control issues. Canals are de facto public spaces that, as this study suggests, are experienced differently in the neighborhoods they run through. This situation is not reflected in the policy making process for canal land use. Even though the fencing vs. landscape debate became very public after the high profile drowning in June of 2007, the two options in question have never been thoroughly considered by the Irrigation District.

There are two issues concerning the lack of neighborhood consideration in canal policymaking seen in Fresno. One is the potential for different effects of land use policy between neighborhoods. The results of this study suggest that the decision to either fence or landscape the canals would have far different implications for Old Fig than they would in Mayfair (and presumably, most other Fresno neighborhoods). This complication has been overlooked by private organizations that advocate for both land use directions. The broader issue is the lack of consideration at the institutional level of neighborhood level dynamics. The fact that residents of Fresno interact with canals every day has no bearing
on canal policy. Fresno has grown rapidly around canals and this growth continues. Increasing growth around canals may increase the tension between residents and institutions over aesthetic, usage, safety and land use issues.

Limitations:

This study is limited by the sample size of residents from which data was collected. The generalizations made from interview themes were taken from a relatively small sample size. This was a result of time constraints imposed on fieldwork for the study, which took place from May to July in 2007. The timing of the fieldwork also coincided with the drowning, which may have shifted views and feelings towards canals. These generalizations may not accurately reflect the perceptions of most residents of Fresno. The two resident groups interviewed were sampled to contrast strong neighborhood identity with the lack of neighborhood identity. This case study is not necessarily conducive to generalizing perceptions of the population of Fresno.

Because this study was designed around whatever data was received by human subjects, the themes presented in the data were different than originally anticipated. The interview questions could not be designed around the outcome of themes that were produced. Questions of neighborhood identity, for example, were eluded to in questions, but not directly addressed. Most data compiled into neighborhood themes were taken from anecdotal answers to open ended questions. Questions regarding neighborhood identity were not constructed because they were not originally included in the research question. The sample size was further constrained by numbers of willing participants. There was a limited amount of subjects in both neighborhoods that either answered doors or agreed to participate in the interview.
The sample size was also dependent on volunteers who were asked at random to participate. In dealing with human data, particularly interview based data, one built in limitation is voluntary participation. The sample size was severely limited by the frequency in which people answered the door in random house selections and even more so in those that agreed to be interviewed. Roughly a quarter of the doors knocked on in Old Fig were answered and one half of people who answered agreed to be interviewed. This limitation was more severe in Mayfair. Roughly $\frac{1}{8}$th of the doors knocked on were answered and a quarter of the people who answered agreed to participate. Around half of those who declined in Mayfair did so because of language barriers. Thus, this study only reflects the views of the English speaking residents of Mayfair.

One further issue in this study was reflexivity. I grew up in Fresno and was a prior resident of the Old Fig neighborhood. I still have personal relationships with family members and friends in Old Fig, whereas I have none in Mayfair. This presents the issue of researcher bias. In order to minimize the effects of biased research, I had a standard list of questions in the interview design that participants in both neighborhoods were asked. Only the patterns of contrast or similarities within the results of the interviews were used to draw conclusions.

Further Studies:

This study touches on the effect that neighborhood identity has on perceptions towards the environment and what that effect can mean for neighborhood level planning issues. There are gaps left by this study as well as those which this study expands upon. One of these gaps is the creation of neighborhood identity. Because neighborhood identity is a functional element of urban politics, it is important to understand how such a
cohesive sense of identity is developed and maintained. This study examined the effect that neighborhood identity has on environmental perception and neighborhood level implications in land use planning. Further research should be conducted on the identity building process and the relationship between identity, community and environmental elements such as architecture, landscape, landmarks and historic or demographic contexts.

Perhaps the most relevant issues addressed here is the importance of different neighborhood experiences with space and how these experiences are considered at the institutional level. This was addressed with the narrow focus of land use policy and planning of urban canal areas in Fresno. This can be extended to look at multiple areas of planning and policy as they affect neighborhood dynamics, particularly regarding linear features that run through a diverse range of neighborhoods such as railroad tracks, rivers and highways.
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Map Sources

Damian Whitney (Author) Cartographer

Web Sources


Fresno County Board of Supervisors, www.co.fresno.ca.us referenced June, 2005-March, 2008


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