CP 241- Summary of Student Research Projects

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BART

Ashby BART Station Study, 1984
*Marsha Gale, Amy Rakley*
This group analyzes the effect of the Ashby BART station site on the surrounding neighborhood (both in terms of social as well as spatial patterns). Does this station create a void? The findings indicated that the Ashby BART is indeed a void in relation to its surroundings. The residents avoid using the space and see it as having significant negative impacts on their neighborhood.

Analysis of Three BART Stations: A Look at Choice, Connectivity, and Social Interaction, 1995
*Heather Hood, Michael Rios, David Winslow*
This study explores the relationship between open spaces adjacent to BART stations and social interaction. Social interaction is hypothesized to be positively related to the degree of connectivity and choice in the open spaces adjacent to stations. The group looked at 24th Street, Powell Street, and 12th Street Oakland. The results suggest evidence in support of the hypothesis, but differences in socio-demographic variables made comparing stations largely inappropriate.

BART Station Integration and Pedestrian Activity, 1999
*Joon Bhang, Autumn Buss, Kevin Dwarka, Richard Walkling*
This hypothesis of this study was that BART stations that are integrated into the surrounding neighborhoods are more likely to create successful transit-supportive environments. The group studied three BART stations: 24th Street Mission, Rockridge, and Pleasant Hill. The study analyzed physical factors of the areas surrounding BART stations, including mix of uses, pedestrian amenities, and views of the station, and correlated these factors with observed activity and survey results. The group found their hypothesis was supported by their research. In addition, they found that proximity of uses to transit alone will not create vibrant pedestrian environments.

BART Connections, 2003
*Thomas Miller, Pooja Singh, Todd Vogel*
Making suburban rail stations more pedestrian friendly has become an increasingly important issue for planners. The goals of creating transit villages and encouraging transit-oriented development rest on our ability to make the walking environment around rail stations more attractive places for those within easy walking distance. This paper presents the results of research aimed at uncovering the importance of design issues in encouraging people to walk between a suburban downtown and its adjacent commuter rail station. Case studies were conducted in two San Francisco Bay Area cities, Concord and Walnut Creek, to explore the relationship between urban design elements and pedestrian behavior. While the research did reveal some correlation between “well designed” walking environments and pedestrian activity, further study would be required to separate out other influencing factors, such as land use, before a more definitive relationship could be shown.

Pedestrian Paths Between Suburban Transit Station and Downtown, 2003
*Pooja Singh*
*Matt Haynes, Doug Johnson*

The Well Connected Ferry Terminal: A Study of Connectivity, and Sense of Place, 2003  
*Jeff Carney, Yuteki Dozono, Laura Mezoff, Marc Pfenninger, Pablo Undurraga*

Amenity Access and Public Interaction at Three BART Stations, 2006  
*Jennifer Olsen, Vijo Cherian, John Miki*

This study attempts to elucidate how station-area accessibility to various nearby amenities influences the amount and nature of public interaction around three BART stations where recent efforts have been made at improving station areas: El Cerrito Plaza, Fruitvale, and Hayward. The three stations were analyzed to control for land uses, observations were done at each station for movement patterns and interactions and a survey was conducted to test the validity of our observations. The results of testing this study's hypothesis were twofold. First, directedness of access does seem to be related to the amount of public interaction at these three BART stations, although to what extent is not immediately clear, since so many other variables are likely also to be contributing factors. Second, directedness of access can be potentially deceptive, as was seen at Fruitvale, which was thought to have highly directed access and orientation to Fruitvale Village until the observation and survey data showed otherwise.

BART and the Daily Path, 2007  
*Paul Supawanich, Caroline Chen, Eric C.J. Liu, Hong Lee*

Often in transportation planning, proximity is seen as the most prominent attribute in how an individual would access the BART System. It is assumed that a rider would simply select the BART Station nearest to his or her point of origin, and ride the system from there.

While we acknowledge most commuters would select a station based on proximity, we are interested in examining the smaller group of commuters: those who decide to use a BART station that is located farther away from where they reside.

What are their reasons for choosing to enter the BART system at a station located farther away from their home?

We hypothesize that BART station choice is not simply based on proximity; people choose BART stations based on their own perceived values of the station, especially the availability of amenities they must stop at along the course of their Daily Path. We thought that if the location of services along an individual's Daily Path determines the BART station choice (and not proximity to home) then perhaps predicting commuters’ BART station choice would require a deeper understanding of residents’ lifestyle patterns, Daily Path, values and needs.

From our research, we learned that while many riders exit at amenity-laden stations such as El Cerrito del Norte and El Cerrito Plaza, it is safety and not the presence of amenities that drives them to choose a BART station far from where they live. When safety became a
Concern, safety would take a higher precedent over proximity. Proximity and safety were then followed by other factors such as parking availability, seat availability, and last, services and amenities.

These findings lead us to conclude, that for BART planners, station location plays a critical function in the relative success or failure of a BART station to meet its potential. Location near amenities, high densities of residents, and ample parking may seem to be needed components for a good BART station. Yet, these components are not sufficient for a truly successful station that meets its full potential.

From our research, we learned that the Richmond Station has had the least success in attracting sustained ridership from its local residents despite its ample parking, nearby services, and well-designed station area. Its location in an area of perceived low safety has crippled its ability to meet its full potential as a BART Station. When safety is a concern, safety trumps all other factors. No matter how much parking or other enticing amenities are available, BART riders will choose to use a different BART station that they feel is safer.

**COMFORT**

**Stockton Street Comfort Study**
Authors unknown
Abstract being updated.

**Comfort in Urban Open Spaces, (2 copies) 1984**
Shih-Cheng Chung, Heidi Schless, David Shaw, Sam Ziegler
Abstract being updated.

**Sutter Street Comfort Study, 1984**
Barbara Gualco, Lynn Goldberg
This group attempted to find a relationship between pedestrian behavior and factors effecting pedestrian comfort (wind, temperature, and amount of light). The site, located in San Francisco's Financial District, was Sutter Street between Sansome and Kearny. The findings indicate that land use, location of employment, and vacancy factors override physical comfort factors in terms of pedestrian behavior.

**Boedekker Park Comfort Study, 1985-86**
Christopher Castorena, Lewis Kraus
Abstract being updated

**Huntington Park: Comfort and Microclimate Study, 1987**
Teresa Babich, Christine Gimmelt, Ephaim Leon-Guerrat
This study was designed to determine how comfort areas and the built environment are defined and how they effect the way people use public open space and perceive comfort. The site was Huntington Park in San Francisco which has a diverse user group with different activities throughout the day as well as different microclimatic conditions. The findings indicated that sunlight was the most important factor in influencing perceptions of comfort, behavior and location of the user. Wind also effected user behavior.

**What Affects How People Use Urban Open Space? 1989**
Corey Alvin, Ann Cotter, Andrew Vesselinovitch
This is a study of the effect of comfort and other factors on the use of two urban squares: John Be. Williams Plaza, City Square, and a walkway adjacent to City Square. All sites are situated around 13th Street in Oakland thus controlling for demographics and neighborhood characteristics. In order to control for other variables, the study was conducted during weekday lunchtime hours on several usually clear and warm days. The findings indicate a positive relationship between comfort and the peoples' use of open space. Overall comfort is important but other factors determine peoples' use of space: presence/absence of other people, presence/absence of landscape elements; but the presence of commercial and retail business does not encourage/increase use. People also avoid the area when climatic conditions are less than favorable and they prefer certain areas of the plaza according to occupation and sex, but not race.

Brookdale Park, (2 copies) 1993
Marianne Lim, Gloria Ramirez, Carrie Salazar
The goal of this research is to determine whether or not comfort (sunlight, wind, temperature and humidity) determines how people use a recreational open space, although it is assumed that comfort is not the predominant factor in determining how people will use recreational open spaces. The site chosen is Brookdale Park, a recreational urban park located in a residential neighborhood of Oakland. The park offered different microclimatic regions and provided space for different structured activities. It was also used by a diverse group of people. The findings supported the hypothesis that comfort does play a role in determining how people used the space but it was seen that comfort was not the predominant factor influencing users' decisions.

Portsmouth Square Comfort Study, 1994
Chris Thomas, Shenglin Chang
Abstract being updated

Microclimatic Factors and Its Effects on Use: A Study of Pier 7 and the Embarcadero Promenade, 1996
Suparna Dhir, Diana Lee
The focus of this group is to understand the importance of micro climatic conditions, in open spaces, and the effect of these conditions on amount and type of use. The group chose Pier 7 and the Embarcadero Promenade, each divided into three zones. This allowed them to control for location and user type. The findings indicated that non-microclimatic conditions play a more significant role in determining amount and type of use in waterfront open spaces.

Microclimate Study Oakland City Center, 1996
Micha Hoy, Katie Stockhammer
Abstract being updated

Comfortable Pedestrian Spaces, (2 copies) 1999
Shinichiro Ikeda, Masayuki Natsuka
This study investigates the factors which contribute to pedestrian comfort on streets. Their hypothesis holds that the comfort of pedestrians is directly influenced by the physical dimensions of buildings and the quality of street design in the pedestrian realm. The study
examined three streets in downtown San Francisco: Market Street, California Street, and Sacramento Street, all between Drumm and Battery. The group analyzed the enclosure of the streets, as well as the articulation of the facades of buildings, and the presence or absence of streetscape elements such as trees or unusual paving. The data, from observation and intercept survey did not support the hypothesis. Building features seemed relatively neutral, while other elements, such as trees, and the presence of other people had a more significant impact on pedestrian comfort.

Creekside Chillin': Base Point Selection by the Creek, (2 copies) 2000  CMFT 12
Chao-ti Chen, Eli Ilano, Chia-ning Yang
Abstract being updated

Stockton Street Comfort Study: Chinatown San Francisco, 1985  CMFT 13
Alan Harris, Ahn-Ming Hsia, Kai-Tai Lin, Patricia McCormick

Density, Hillsides, and Livability, 2004  CMFT 14
Don Vehige, Adam Weinstein, Kit Wang
This study explored the role of hillsides in mitigating the adverse effects of higher-density urban environments. Research was conducted in two 2.6-acre hillside sites in San Francisco: 1) Prentiss Street (between Tompkins and Crescent Street) in Bernal Heights and 2) Sanchez Street (between Hill Street and 23rd Street) in Noe Valley. The Prentiss Street site has a higher residential density than the Sanchez Street site, but both contain slopes greater than 10 percent. The hypothesis centered on the concept that, because of the space, view, and light-providing qualities of hillsides, the higher-density Sanchez Street site would be as livable (or more livable) than the Prentiss Street site. The hypothesis was tested via first-hand measurements, observations, and mail-back surveys, which were distributed door-to-door to all residents in the two study areas. The results of the research were somewhat inconclusive, but pointed towards a refutation of the hypothesis: the environmental qualities of the hillside did not mitigate the adverse effects of density in the Prentiss Street study area.

DENSITY

A Study in the Perception of Density  DENS 1
Joe Aicher, Michael Boland, Roi Evron
This group looks at the presence of vegetation, specifically trees, and hypothesizes that it has an inverse effect on the perception of density. The sites were Folsom Street between 24th and 25 streets, and South Van Ness between 24th and 25th streets. The group controlled for environmental characteristics, behavior of those on the streets, and demographics. No inverse relationship was found between the presence of trees and the perception of density.

At the Border: Downtown Berkeley and the Neighborhoods, 1983  DENS 2
Jill Lawrence
The purpose of this study is to define and locate the border area between downtown Berkeley and the neighborhood and analyze how the activities within and the perceptions of the area influence the relationship between the two parts of the city. The area studied was bordered by Francisco Street to the north, Grove Street to the west, University Avenue to the south and Shattuck Avenue to the east. The study found that a border exists and can be
identified. The commercial band is limited to University Avenue, Shattuck Avenue, and segments of Grove Street. The construction of BART disrupted the residential development that used to be clearly defined behind the commercial strips.

**Physical Determinants of Perceived Density, 1986**

*A Proposed Research Agenda by James Richard Bergdoll, Jr.*

This thesis compiles a summary of research conducted in order to test the perception of density and the physical characteristics that affect it.

**Density in Suburbia, 1987**

*Chris Beck, Todd Bressi, David Early*

This was a study of the physical characteristics of suburban neighborhoods and their effects on perceived density and satisfaction (among residents). The group controlled for objective density (2-4 units/acre), and kept similar demographic and location characteristics throughout the sites. Six suburban neighborhoods in the Danville area of Contra Costa County were chosen: Estates Drive, Sheri Court, Mission Drive, Meese Circle, Ridgeland Circle, and Java Court. Survey results showed that as satisfaction with physical characteristics increased, the perception of density decreased. The group found that physical characteristics do affect the perception of density but there was no relationship between perceived density and satisfaction.

**How Dense is it? A Study of the Affects of Two Neighborhood Characteristics on the Perception of Density, 1987**

*Brad Beck, Marge Gladman, Iris Sisson*

This study looks at the effects of landscaping (street trees) and street design (street width) on the perception of density. The density of the study sites is kept constant as is the average mass of the buildings, their distance from each other and from the street. The streets chosen were Shafter between Clifton and Hudson and Locksley between Clifton and Hudson. Although the width of the street did have an effect on the perception of density (the wider the street, the less dense it was perceived to be), the number of trees had no direct relationship to the perception of density.

**Addressing Neighborhood Opposition: A Study of Perceived Density and Socioeconomic Status, (2 copies) 1989**

*Willie Pettus, Lisa Reynolds, Diane Scholz*

The aim of this study was to show that the perception of density is inversely related to the perception of socioeconomic status. In addition they looked at the impact of the amount and type of articulation in the design of buildings in the perception of density. Two San Francisco developments were studied: Parkview Heights in Potrero Hill and Holloway Terrace, in Ingleside. The two sites have similar densities and similar socio-economics. No conclusions could be made about the role of design on the perception of density or the role of the perception of density on perception of socioeconomic status. However, the study showed that there is a link between building articulation and perception of socioeconomic status (the more articulation the higher the socioeconomic status).

**The Perception of Density, (2 copies) 1990**

*Zoe Antoniadou, Allison Dobbins, Anindita Mitra*

The study focused on the effect of visible complexity, especially the amount of vegetation in
transition spaces, on the perception of density. The controls were: density, land use, neighborhood, number of floors and buildings, and street dimensions. Alvarado Street (between 23rd and 24th) and Fair Oaks Street (between Guerrero and San Jose), both in the Mission District, were chosen as sites. The results of the study showed that people usually associate existence or intensity of physical elements to the density of streets.

Perceptions of Density, 1992

David Arkin, Roger Gorham, Tom Martin, Andrew Partos

This group looked at the effect of landscaping on the perception of density. A constant street orientation was used for all sites. All sites were in the same neighborhood and thus had similar socioeconomic and ethnic compositions. The sites studied were Parker Street, Blake Street, Carleton Street, and Derby Street, all situated in the City of Berkeley. The findings showed that perceived density decreases with greater amounts of landscape, contrary to the hypothesized relationship.

Density Perception in Multi-Family Housing (2 copies), 1994

Lisa M King, Ann M Silverberg

This study looks at both the effect of visual complexity on the perception of density and on the perception of socioeconomic status in housing developments. The variables held constant were units per acre, tenure, resident income, rent levels, existence of affordable units, project age, construction quality, maintenance, and the existence of retail. The two developments chosen for this study are both located in San Francisco: Bayside Village and Fillmore Center. The findings indicate that visual complexity did not play a role in either the perception of density or in socioeconomic status. However, variation in massing did play a role in the perception of density. People linked tall buildings and the lack of open space with high density. The variation in massing did not play a role in people's perception of socioeconomic status. There was no relationship found between density and socioeconomic status.

The Effect of Environmental Complexity, 1994

Jeff Clark, Olivia Suan, Yasmeen Ahmed

This group studied the effect of environmental homogeneity on perceived crowding. They controlled for the type of street (retail use), choosing streets that had a scale, content, and design appropriate for pedestrian use. Their sites included College Avenue (between Alcatraz and 63rd), 4th Street (between Virginia and Hearst), and College Avenue (between Russell and Ash by). There was no correlation found between homogeneity and the perception of density.

Recognizable Boundaries and Their Effect on Perceived Density, 1994

Ben Chuaqui, Kevin Gardiner, Amy Jack

The hypothesis in this study relates the existence of recognizable boundaries to a decrease in the perception of density. Pairs of streets with similar densities but varied physical and recognizable boundaries were chosen: 30th Avenue, between Judah and Kirkham and 32nd Avenue between Kirkham and Lawton; San Bruno Avenue between 18th and 19th and Rhode Island Street between 18th and Mariposa Streets. No correlation was found between the presence of recognizable boundaries and the perception of density. One finding, however, was that respondents preferred the streets with a recognizable boundary.
Land Use and the Perception of Density, 1995  
*Kaori Tokunaga, Kim Nityayangkul, Matt Seubert, Kevin Roberts*

This group attempts to show that a higher degree of sensory and physical information increases the perception of density in the area. Thus, a greater land-use mix, greater amounts of physical detail, and higher activity levels in an area all result in a greater perceived density. The group kept density constant and chose four sites: the intersection of Telegraph Avenue and Derby in Berkeley, on Clement Street between 25th and 29th in the Richmond District, and on Geary between Hyde and Leavenworth in the Tenderloin. Overall, the group found that a higher level of information increases the perception of density.

Density and the Perceived Edge, 1998  
*Marshall Foster, Dan Parolek, Bryan Suchy*

The study looked at the impact of various architectural and landscape elements on the perceived density of residential streets. The group controlled for demographics and density (in units per acre). Three sites were chosen for the analysis: Josephine Street between Berryman Street and Rose (Berkeley), Walker Street between Weldon Street and Mandala Street (Oakland), Lawton Avenue between Millikan Street and College Avenue (Oakland). The results indicated that highly articulated facades and soft edges, among other things, contribute to livability on the street and contribute to a lower perception of density.

Design and Density, (2 copies) 1998  
*John Beutler, Dawn Kooyumjian, Alisa Shen*

This is an evaluation of the role of design, specifically the way in which a building addresses the street, on the impacts of multi-family housing in single-family residential areas. A street with only single-family housing was used as the control. The sites included: Stannage Avenue, between Solano and Washington; Kains Avenue, between Brighton and Garfield; and Talbot Avenue, between Washington and Portland. These streets are all within several blocks of each other. The findings were not conclusive in proving the hypothesis. There was a consistent negative reaction to the dominance of garage doors. Most "neighboring" was also perceived to be the least dense.

Density in Urban Neighborhoods: Public Space and Building Design, 2000  
*Kevin Aaron, David Davis, Neil Hrushowy, Khushru Irani, Amit Patel, Stefan Pelligrini, Steven Shum*

Perceived Density & Sense of Community, 2001  
*KartiKA Rachmanawi, Champaka Rajagopal, Tetsuya Yaguchi*

This group hypothesizes that there is a direct relationship between perceived density and sense of community. The exploration involved identifying important criteria for perceived density and measuring them. The criteria for measurement are: Degree of greenery present, projections, degree of transparency on façade, variations in color and materials, setbacks and types of entries, activities. The chosen sites include 9th Street, Richmond district, 24th Street, Richmond district, and 20th Street, Sunset district, all in San Francisco. A correlation of preliminary surveys, first hand observations followed by a postal questionnaire/survey led to the conclusion that 9th Street displayed the highest perceived density and also the highest sense of community.
Perceptions of Residential Unit Density: Perceptual Determinants VS. Traditional Measurement, 1989  DENS 17
Carl Maxey, David Alumbaugh

Acceptability of Infill Development in Two East Bay Communities, 2004  DENS 18
Jason Hayter, Susan Moffat
This report investigates how the relative importance of ground floor use, vegetation, and design vary amongst neighbors in regards to their acceptance of new, large mixed use buildings depending on whether or not those buildings are in a fine-grained or a coarse-grained setting. Selecting two buildings in the fine-grained setting of Albany, California and two in the coarse-grained setting of Emeryville, California, we conducted building and neighborhood analysis followed by detailed, mail-in surveys. Contrary to our hypothesis, we found that ground floor use was the most important issue to neighbors of these new structures, regardless of the buildings’ settings.

Density & Perception, 2004  DENS 19
Christopher Janson, Jennifer Cutler, Hai Lin, Shannon Radbill
This report hypothesizes that when certain design features normally associated with lower density development are applied to higher-density development, the higher density development will look to be lower in density than it would have otherwise. Perceived density is a crucial issue because it plays a major role in the acceptability of new developments in existing urban areas. The authors conducted a written survey, in which many possible confounding factors were controlled. An analysis of the data shows that the hypothesis is true. This result can have significant meaning for urban design and real estate development. Taking direction from this report, urban designers can further research the intricacies of the relationship between aesthetics and perceived density. In the meantime, real estate developers can improve the acceptability of their proposed properties by applying the simple design principles tested in this report.

Livability Factors in Dense Neighborhoods, 2006  DENS 20
Corinne Stewart, Haein Lee, Selina Lam, Eva Huang
People often blame high density as the opposite side of livability. However, we believe it is not true. We hypothesize that livability is directly associated with the Availability and Quality of Open Space, both public and private, Accessibility (public transportation, bikability), and Mix of Uses/ Diversity of Character. Though so, we also recognize that there still might be other factors that could overwhelm the suggested ones. In this research, we select three dense neighborhoods in San Francisco to test our hypothesis: the Marina District, the Inner Richmond District and the Mission District. We measure both the physical environment and the satisfaction of the residents. In comparing and presenting the livability, we create a livability rose diagram so as to visualize the livability degree of our measurements. As a result, the Marina District has slightly higher level of open space, accessibility and mixed of uses. However, the Richmond received the highest score in the livability perception which is not fully support our hypothesis. One possible reason might be the incomplete survey due to time, available resources and sample size. The other reason can be other factors overwhelming our three suggested ones, which needs further search to get more convincing results.
**DENSITY: Bringing Amenities to a Neighborhood Near You! Measuring the benefits population density can bring to a neighborhood, 2006**

Terri O'Connor, Julia Abbassi, Jay Stagi

This study explored the relationship between density and the provision of neighborhood amenities. Research was conducted in three neighborhood sites of similar size (55 to 58 acres) with high-, medium-, and low-population densities, along the regional BART transit system: 1) Glen Park in San Francisco (27.13 ppl/acre) 2) Rockridge in Oakland (19.93) and 3) Lafayette in the Lamorinda area (9.73). The hypothesis centered on the concept that higher density areas have more amenities than less dense areas.

The amenities provided at each of the sites were broken down into four categories: retail services (eg. number and variety), public amenities (eg. distance and access to parks, schools, etc.), community amenities (eg. planning council, neighborhood watches) and physical amenities (eg. connectivity, access, comfort, etc.)

The hypothesis was tested via firsthand measurements, observations and mail-back surveys, which were distributed door-to-door to residents in each of the study areas. The results of the study were mixed, but generally supported the hypothesis. The strongest correlation we found was between low-density neighborhoods and low amenity provision. Between Lafayette and Rockridge there seemed to be a density threshold over which amenity provision increases significantly. As density increased beyond that of Rockridge, results were less clear; however, in general, amenity provision tended to be correlated with higher density.

**NEIGHBORHOOD PATTERNS & SOCIAL INTERACTION**

**Subdivision Guidelines and Standards for Residential Subdivision Streets and Their Impact on the Suburban Environment**

Eran Ben-Joseph

This is an analysis of the history of suburban street guidelines, a nation-wide survey of residential standards required by various cities, and finally a research comparing the relationship between physical street design and sense of traffic layout. Specifically, it analyzes residents’ perceived sense of traffic safety, street livability and preferences of neighborhood and street layout. The findings indicate that most cities are still using published street standards. Although city officials believe that generally their current practice is satisfactory, the residents’ complaints prove otherwise. Cul-de-sacs show to perform better than grids and loops in regard to traffic safety, privacy and area for safe play.

**Gentrification in Haight Ashbury, 1978**

Colette Meunier, Jim Musbach, Charles Kahn, Steve Darrow, Artemis Anninou

The purpose of this study is to explore certain aspects of the demographic changes occurring in the Haight Ashbury district of San Francisco. The hypothesis states that new commercial uses reflect and benefit the newer residents and users from outside the neighborhood. The study site is bounded by Oak Street to the north, Stanyon Street to the west, Frederick Street to the south, and Buena Vista Park and Central Avenue to the east. The findings express no correlation between new commercial uses and newer residents.
Enclosure and “Place” in Two Berkeley Neighborhoods, 1984
John Steere, Yoshi Asanoumi
Abstract Being Updated.

Subdivisions Surrounded by Walls: Nouveau Feudalism? (2 copies) 1989
Barbara Brack, Laurie Glass, Monica Lamboy
This study analyzes the effects of a walled-in residential development on the sense of community and security as compared to such senses in a community which is not walled-in. The sites were chosen for similar age, size, density, amenities, and home value and were all residential developments of single-family homes. The results of the study supported the hypothesis that the residents of the walled-in subdivision have a greater sense of community and security than those in the community that is not walled-in.

Accessibility and Vitality, 1991
Jodi Ketelsen-Johanson, Mathew Henning, Laura Hall
This is a study of the relationship between accessibility, both visual and physical, and vitality in community shopping districts. Three sites are all comparable in physical characteristics but differing in vitality: Elmwood in Berkeley, Montclair Village in Montclair, and the Crossroads in Orinda. The results of this study show that the site most vital also ranks highest for accessibility. The site least vital is also ranked the least accessible.

An Analysis of Suburban Residential Street Forms and their Influence on Social Interaction, 1992
Rebecca Coffman, Stephen Willrich, Eran Ben-Joseph
The goal of this study is to test whether or not suburban street form influences community interaction. The study was conducted in the city of Hercules and compared curvilinear streets, cul-de-sacs, and irregular streets. The group found that some street forms are more supportive than others in creating opportunities for social encounters, especially cul-de-sacs. However, this is based in part on the physical layout of the street (sections, dimensions, components, landscaping and materials).

The Role of Walls in Creating a Sense of Community, 1992
Ellie Petrides, Susi Stadler, Ben Trautman
This study's goal was to analyze the effect of a wall on the sense of community of a planned development. They aimed to compare the contribution of other factors including enclosure, local context, open space organization, ratio of planting to paving, and interface between public and private space to the sense of community. The sites were chosen in order to control for the neighborhood and the density and were Marina Heights, Marin Vista, and Seabreeze. Their findings showed that an impermeable wall alone cannot create a sense of community and that a sense of enclosure had no effect on the sense of community.

The Effect of Soundwalls on Sense of Place: A Comparative Analysis, (2 copies) 1993
Jonathan P. Kazmar, Leora So Elazar, Maria Ko Wiseman
This group tested the effect of sound walls in residential communities on an individual's sense of place. The communities chosen were controlled for age and type of structures, demographics, layout, population, foliage density, and proximity to freeway. Both neighborhoods are located along 680 north in the East Bay: Walnut Creek and Pleasant Hill.
The results from the study disproved the hypothesis and generally showed that homes closer to a sound wall may have a weaker sense of place than those further away.

**Soundwall Study, Group 2, 1993**  
*Mashal Afredi, John Kelley*  
Do soundwalls contribute to a sense of neighborliness and a "sense of place"? This was the question under study by this group. The group chose three sites along Highway 101 in Marin County: one near Tiburon with no soundwall, one in San Rafael with a landscaped soundwall, and the third also in San Rafael with a soundwall but no landscaping. The results of the data analysis and surveys showed that those living in areas where there was a landscaped soundwall had a greater sense of place and contributed to more outdoor activity.

**Neighboring in Neo-Traditional Neighborhoods, (2 copies) 1994**  
*Thomas Kirk, Brian Laczko, Anne Torney*  
This group believes that the assumption that residential streetscape and facade design has a positive effect on neighborhood socializing is invalid. They choose three neighborhoods in the Sacramento Metropolitan Area, in the Laguna West Development with similar building ages, same areas, similar traffic volumes, and similar socioeconomic characteristics. The neighborhoods are Cedarview Way, Delair Way, and Cornfield Way. Their findings indicate that possibilities for interaction are not more prevalent or more likely in neo-traditional neighborhoods than in conventional neighborhoods. However, the perception of interaction and possibilities for interaction among residents is much higher in neo-traditional neighborhoods.

**Effects of Automobile Traffic on Children's Sense of Place: A Case Study in Environmental Research, (3 copies) 1995**  
*Bruce Appleyard, Marcus Diederich, Vijay Ja Yachandran*  
This group aims to look at the relationship between neighborhoods, schools, traffic volume and children. The controls for this study included: schools located in the same area of a residential suburban neighborhood and schools with similar number of students walking or biking to school. The schools chosen were Parkmead Elementary and Gregory Gardens. The findings show an inverse relationship between traffic volumes and schoolchildren's sense of place in their neighborhoods.

**Social Interaction and Neighborhood Form, 1995**  
*Nashua Kalil, Marisa Lopez, Martha Martinez, Diana Murrell*  
This study looks at the relationship between the physical form of residential neighborhoods and the amount of social interaction within them. The group looks at the difference between traditional residential neighborhoods and new suburban neighborhoods. The group looked at Taft Street in Rockridge and King's court in Fremont and controlled for proximity to BART and hillsides, demographics and economic status. The findings support the hypothesis in that there was no more social interaction in the traditional neighborhood than in the newer suburban neighborhood. In fact, the suburban neighborhood had more social interaction.

**Residential Crowdedness and Outdoor Activity, (2 copies) 1996**  
*Yung-Teen Chin, Gabriel Kasper, Michael Sigala*  
The goal of this research study is to support the hypothesis that residential crowdedness, in
urban areas, positively effects outdoor activity among residents. In order to conduct their study, the group controlled for demographic and physical environmental variables. The blocks studied were all in the Upper Market/Noe Valley area: Noe Street between 17th and 18th, Sanchez Street between 17th and 18th, and Alvarado Street between Noe and Sanchez. The findings showed no evidence to support the hypothesis.

Street Configuration and Outdoor Activity in a Residential Area, (2 copies) 1997  
Shunji Suzuki, Mike Larkin, Andy Keller
This group compared cul-de-sacs to through streets in terms of the amount of outdoor activity as related to street pattern. They controlled for street and sidewalk sizes, house size, spacing and setbacks, and demographics. The sites chosen were in Concord: Marsh Elder, Pine Crest, and Turtle Rock streets. The findings show that the perception of neighborhood was very much related to street configuration. Those with access to a greenbelt or park had a greater sense of neighborhood and showed more outdoor activity.

Walls as a Factor in the Perception of Suburban Safety, (2 copies) 1997  
Amalia Lorentz, Catherine Howard, Kari Holmgren
This research aims to show that people perceive a community as safer when a wall surrounds the community. The group controlled for geographical location and socioeconomic characteristics by keeping the sites within the same suburban section of a county. The chosen communities were Westwood and an area in the City of Concord across from Clayton Road. The results showed that those living within the walled community of Westwood perceived their area to be safer than those in the Concord area.

Biotechnology Facilities and Neighborhood Livability, (2 copies) 1998  
William Bulkley, Amber Evans, Denise Kupperman
This study looks at the perception of livability in neighborhoods as influenced by biotechnology facilities located within them and the urban design elements of the facilities. Sites were chosen in such a way as to control for scale, proximity to residential neighborhoods, boundaries, location to the San Francisco Bay, and recent rate of growth. The sites were both within Alameda County: Bayer facility in West Berkeley and Chiron Facility located in Emeryville. The study found no correlation between urban design and the perception of livability in communities near biotechnology facilities.

Creeks and Community, (2 copies) 1998  
Mohamed Abdel-Kader, Sharon Danks, Corrina Kweskin
This study attempted to show that well-exposed urban creeks foster a greater sense of community than similar creeks with less exposure. The sites under study were Glen Echo Creek and Temescal Creek and were controlled for being independently owned, V4 mile long with a linear orientation and the creek as the main feature of the park, located in residential neighborhoods and attract local users, and both parks have similar amenities. The findings supported the hypothesis that the degree of exposure does seem to have a correlation with the overall sense of community in a surrounding neighborhood.

Intersection Interventions, 2000  
Evans, Tom; Kass, Jonathon
Seth Cornell, Pamela Bodie-Schwarz

A Highway Ran Through It, 2003
Claire Hilger, Karen Mauney-Brodek, Rodrigo Orduna

The Contribution of Experiences of Nature Along the San Francisco Waterfront to Community, Livability, Civic Identity, and Urbanity, 2003
Justin Doull, Anchi Mei, Marie Sorensen

History and Imageability: A Comparison of Two San Francisco Neighborhoods, 2004
April Hesik, Jeff Williams

This study explores the relationship between history and identity in two San Francisco neighborhoods, Haight-Ashbury and the area north of the Golden Gate Park Panhandle. The study’s hypothesis is that local historical continuity makes a neighborhood more imageable. Imageability is defined as having a distinct identity and a clear structure. Haight-Ashbury and North of Panhandle were selected because they have similar physical and social qualities. Haight-Ashbury, however, has a well-known history, while North of Panhandle does not. The research design included physical, social, and historical analysis, as well as surveys of study area residents. The findings are inconclusive. While Haight-Ashbury residents have a strong sense of local historical continuity, it was not clear that this factor had a significant influence on imageability. North of Panhandle residents have a weaker sense of neighborhood identity than Haight-Ashbury residents; however, their weaker sense of identity likely has as much to do with their lack of a strong commercial center as with their lack of shared neighborhood history.

Spontaneous Cultural Production: A Measure of Urbanity, 2004
Benjamin Bross, Marilyn Yu-Li

An exploration into the effects of cities restricting activities and/or enforcing existing nuisance laws on the probability of spontaneous cultural production occurring. Two sites were studied: 16th Street (between Mission and Guerrero) and Clement Street (between 3rd and 7th Ave). The study found an association between nuisance enforcement and spontaneous cultural production, but no causation. Furthermore, spatial factors were found to be significant confounding elements.

Complexity and Memorability,
Howard Blecher, Deni Ruggeri

Designers are often concerned with making environments memorable and recognizable however the mechanisms through which people perceive a particular setting and the memories of it have not been sufficiently studied by environmental designers.

This study addresses the idea of memorability by looking at the effects that environments characterized by different degrees of complexity have on people’s recollections of them. The focus on a particular type of perception, that of driving through an environment was not the primary intention of the study, although we recognize that the mode of transport
certainly has an effect on a person’s perception. While the issue is particularly relevant these
days, as more and more people consume much of their time at the wheel to bridge the
distance between residence and workplace, our use of the automobile provided us with a
means of transportation that allowed our test to stretch over a variety of environments in a
relative short timeframe.

The definition of complexity is a very critical component of our study. As environmental
designers, our definition of complexity is often one that is purely physical, based on the
“grain” of a particular environment. In this study we have attempted to expand the
definition of complexity to include experiential, phenomenological aspects of an
environment that may or may not be tangible and capable of being measured traditionally.
Hence, we developed our own definition of complexity as a combination of physical and
phenomenological attributes of a place.

The results of our study, summarized in part three of this report supports our hypothesis
that environmental complexity and memorability are in fact related and that environments
displaying different degrees of complexity lead to unique types of memory.

The hope is that what we learned through this study will be useful to environmental
designers interested in understanding how their designs are perceived by users and teach
them to create more memorable places.

Octavia Boulevard: Healing an Urban Scar, 2006
Noelle Cole, Sadie Graham, Aaron Odland
This study builds on a previous 2003 study, A Highway Ran Through It, that demonstrated
that the scar left from the former Central Freeway in the Hayes Valley neighborhood of San
Francisco created both a perceptual and habitual divide between two sides of the
neighborhood. The hypothesis of our study, that the recent design and construction of Octavia
Boulevard will influence how people delineate their perception of the boundaries of their neighborhood and will work to breach the habitual divide previously created by the scar, and that the remnants of the scar continue to pose consistent barriers to the perception and habitual divide of the neighborhood, is supported by the results of our investigation. This study uses analysis of the site, behavior mapping, mail-in surveys and cognitive mapping. Our findings indicate that since the recent construction of Octavia Boulevard, people are both habitually crossing this former freeway area and including it in their neighborhood boundary and cognitive maps, indicating a change since the previous study. The study also includes survey results on 1) the perception of the design of Octavia Boulevard, 2) satisfaction with the neighborhood.

Overcoming 580: Underpass Design and Neighborhood Connectivity in Oakland, 2006
Amnon Ben-Pazi, Nick Perry, Tim Sullivan
We hypothesize that when an elevated highway passes over a city street, the continuity of the
streetscape of the city street under and adjacent to the highway overpass affects the
magnitude of the psychological barrier created by the highway. We examine three Oakland
streets crossed by the elevated highway I-580. At each site, we measure the continuity of the
streetscape in physical terms. Next we survey non-resident volunteers who have participated
in a tour of all three sites about their perceptions of streetscape continuity and barrier
magnitude. Finally, we survey residents at each site to gage the effect of the elevated highway
on behavior and perception of connectivity.

Our results suggest that the magnitude of the barrier associated with the elevated highway does indeed decrease as streetscape continuity increases. However due to the small size of this study we are unable to isolate streetscape continuity from other factors, most notably streetscape quality, which our study indicates may also play an important role in influencing perceptions of connectivity.

**Form and Identity: A Study of the Relationship between Physical Form and Neighborhood Identity in Three Neighborhood Centers: Washington Square, Lakeshore, and Rockridge, Fall 2004**
*Garlen Capita, Sheila Hakimipour, and Aditi Rao.*
(There is no abstract turned in by the group)

**UC Village: Designing Courtyards for Active Use in Family Housing, 2007**
*Willow Lung Amam, Krishna Balakrishnan, George Denes*

This study investigates factors associated with active use of residential courtyards in University Village, Albany—a multifamily housing complex for student families. The study hypothesizes that factors including the scale of the courtyard; architectural articulation of the surrounding buildings; sense of enclosure and visual and physical access are important factors that contribute to active use. The influence of the scale of the courtyard on active use was not conclusive from this study, but the results suggest that various scales may be appropriate for different users. Architectural articulation was found to be important only in so far as it related to sense of enclosure and physical and visual access. Sense of enclosure proved to be an important variable, but the level of importance varied with age groups. Visual and physical access was the most significant variable, almost equal importance among all age groups.

**Ashby, Ashby, Ashby: A Comparative Study of Three Neighborhoods Along The Ashby Corridor, 2007**
*Ingrid Stromberg, Noah Freidman, John Sugrue*

This study focuses on the correlation between livability and the perceived intrusion of traffic on the daily lives of people living along Ashby Ave. The study compares the actual traffic and the perception of traffic in three specific areas along the Ashby corridor, and seeks to determine if the street profile and house design make a difference in the residents’ perception of traffic intrusion. We hypothesize that where traffic volume and noise are the same, residents will perceive traffic differently when lot sizes and home sizes are larger, there is more vegetation at the front of the houses, and houses are set back further from the lanes of traffic.

In order to confirm that traffic is constant while lot and home layout differs between the study areas, we completed a series of field measurements including 1) traffic noise levels at the property line, 2) traffic flow and volume at peak commute hours, 3) right-of-way measurements, including sidewalk and parkway width, and 4) building setbacks. In order to determine the perception of intrusion of traffic, a survey was created and distributed to residents of the three study areas. The survey measures self-reported demographic data, and
included sections that dealt with residents’ image of their street, perception of traffic intrusion on activities in their daily lives, and social activity on the street. The survey also included a mapping exercise for the residents to complete in order to measure home territory and neighboring.

Based on our findings in the survey, our hypothesis that larger home and lot sizes would measurably decrease the perceived intrusion of traffic is not proven. While all of the study areas report noise and traffic in the open-ended questions, respondents in the eastern area report fewer activities being interrupted by traffic noise. This may indicate that all the residents are equally aware of traffic, but don’t find it equally intrusive.

**Water Where?: Permeable Landscape Sidewalk Projects & their affect on Environmental Awareness & Social Interactions on Urban Residential Streets**

2007

*Andrea Gaffney, Trudy Garber, Kirsten Johnson*

Water Where is a look at one method of stormwater mitigation that has become increasingly popular in several urban environments. With a heightened awareness of the importance in stormwater retention and mitigation as well as greening of the city, this type of project responds to both trends. This study looks at the benefits of permeable landscape sidewalk projects in the city of San Francisco. Using the PlantSF program as a guide for selecting our sites, we studied three recently constructed projects to determine if the plantings were creating a greater sense of environmental awareness as well as promoting social interaction among neighbors.

The three sites are located in urban residential areas where a main project coordinator was responsible for organizing neighbors around the project. We conducted an analysis of each of the selected blocks to better understand the existing socio-economic and physical conditions. In addition, we distributed surveys to all residents along the study blocks and conducted interviews with the each project coordinator. Our results concluded that the permeable landscape sidewalk projects and environmental awareness are linked by social interaction, reinforcing the framework style of planning.

**PARKS**

**Busy Places are Safer Places, a study of the sense of security among park users in Mountain Lake Park, San Francisco, 1987**

*C. Gamez, F. Sijstma, J. Singleton*

The hypothesis in this study is that areas that receive more use are perceived by park users to be more secure. The group analyzes group activity, visual access, physical openness, territory symbols and buffers and housing character and stability as they affect the perception of safety. The group looks at Mountain Lake Park in the Richmond District of San Francisco for this study. The group found that their hypothesis was supported by their user
observations. The surveys, however, did not lead to the same conclusion as people were unwilling to say that they chose a particular spot in the park due to the sense of safety.

Memorability of Urban Parks, 1987

Lee Emke, Susan Harris, Nancy Peace, Michael Terzich, Mark Towne
This study looks at the effects of views, topographic relief and degree of geometric formality in park design on the memorability of urban parks. The sites chosen were all in northern San Francisco: Alta Plaza, Alamo Square, and Lafayette Park. They were controlled for size, recreational opportunity and neighborhood character. The findings indicated that views and a strong topographic relief are important in creating an impression of memorability in urban parks. However, geometric informal design does not contribute to memorability while organic informal design does.

Community Garden: McKinley Park, 1989

Joy Dorst, David Robinson, Kathleen Van Velsor
This study discusses the positive aspects of the blending of an urban community garden and an urban park and suggests ways that urban planners and landscape architects and community garden advocates might borrow from this example. The urban park discussed is McKinley Park in the Potrero Hill area of San Francisco. The group found that the subtle blending of park and garden uses does occur between these two spaces. However, although physical relationships and structures suggest otherwise, the functioning of both garden and park are largely distinct.

Memorable Parks Study: The Prominence of Water, 1995

John Cook, Michael Fainter, Kristen Kwan, Karen Rippey
This group investigates the effect of a prominent watercourse on the memorability of a park. In choosing their sites, the group controlled for socio-economic status, size of the parks, and the presence of a creek. These sites included: Strawberry Creek (Berkeley), University Park (Albany), Live Oak Park (Berkeley), and John Hinkel Park (Berkeley). The results showed that the prominence of water does contribute to the memorability of the park, but it does not dictate the memorability of the park.

Attachment to Open Space, (2 copies) 1997

Alma DuSolier, Michael Wirsching, David Landry, Masahiro Mori
The goal of this study is to understand whether or not open space connected to a large urban office structure fosters a sense of attachment for the people who work there. The controls included: urban context, type of connection to open space, similarity in design, buildings of 20 floors or higher. The sites were Delta Tower in San Francisco, the APL Building in Oakland, and the Civic Building in Oakland. The findings indicated that many people have a subconscious feeling of attachment to their respective buildings and open space. However, these users also seem to have a feeling of non-commitment to these spaces.

Memorability of Public Open Spaces, 1997

Michael Angelo Larice, Greg Delaune, Ken Winfield; Kevin Brown
The hypothesis being tested was that focal elements, a high degree of enclosure, an interactive edge, pedestrian friendly and accessible transition space, pleasing general appearance and good maintenance all contribute to memorability. In order to test this hypothesis, the group controlled for location, context (urban, dense neighborhood),
boundary streets on all edges of the space, scale and size, similar land use contexts, mixed hardscaping and landscaping (same uses and patterns). The sites were Precita Park, South Park and Washington Square. The findings indicate that proper functioning of a space is much more important in memorability than design intents through enclosure and focal points. Ease, comfort, safety and general well functioning and appearance of an urban park are more influential in effecting memorability.

**Urban Neighborhood Parks, (2 copies) 1997**
*Corby Hannah, Susan Rogers, Colleen Shelton*

This group looked at the relationship between frequency and types of use and the physical features of urban neighborhood parks. They controlled for park size, neighborhood linkage and surrounding residential density, proximity to each other and other nearby parks. All parks were located in East Oakland and all were public parks. The study sites were Verdese Carter Park, Elmhurst Park and Foothill Meadows Park. The findings did not support the hypothesis, thus social factors (such as safety and cleanliness) appeared to be more important than physical factors.

**Stewardship of Creek Parks & Neighborhood Connection, 1999**
*Vikki Chanse, Heather Koch, Fernando Martí*

This study examined the relationship between neighborhood connection and park stewardship, focusing on parks with creeks. The group studied three parks in Berkeley: Thousand Oaks School Park, Live Oak Park, and Strawberry Creek Park. The group chose neighborhood-scale parks, and controlled for park size and neighborhood characteristics. The findings did not entirely support the hypothesis, but did produce interesting findings on the complexity of both connection and stewardship. The group found connection loosely linked to stewardship, but also made recommendations for ways to refine the definitions and measures used in the study.

**Geographic Features, 2003**
*Anne Deutsch, Dipti Garg, Marianne Stuck*

**Neighborhood Park Adaptability, 2003**
*Ally Bechtel, Shannon Cairns, Wendy Mosbetti, Julia Sanchez Viamonte*

**Livability of Urban Parks: Visitor Perception of Natural Elements, 2003**
*Iorraine Maldague, Rosalyn Stewart, Timothy Strand, Eric Zhang*

**Perceptions of Accessibility and Biodiversity - A Study of Three San Francisco Parks, 2004**
*Mara Baum, Shay Bontillier, Duane DeWitt, Rosey Jencks, Doug Kot, and Leslie Webster*

San Francisco is home to unique remnant natural landscapes that support a host of rare plants and animal life. Due to these landscapes, San Francisco is considered a biodiversity hotspot, and manages several natural areas within parks and open spaces to support biodiversity. There is a history of stewardship and controversy surrounding the management
of these parks. Issues such as access, design, and questions about the various purposes of parks can become subject to intense public debate that can jeopardize these management objectives. In order to better understand this controversy, the focus this research examines the relationship between park users and the management of parks. Through observations and data collection, user surveys and a comparative park tour, we explored people’s perception and appreciation of biodiversity between three urban parks in San Francisco—those with managed natural areas, Mountain Lake and Pine Lake Parks, and those without Palace of Fine Arts (PFA) Park. Within parks that do manage for natural areas, we sought to examine people’s perception of access and appreciation for these parks given differing design strategies implemented to achieve management goals. Our findings support our assumptions that the users and visitors do perceive greater levels of biodiversity within managed parks. It is inconclusive whether or not the data confirms if a users appreciation relates to management for biodiversity. The study shows a correlation between appreciation and perception of access.

**Nature at the Edge: A visual preference study of Lake Merritt’s Waterfront, 2006**
*David D. Gregory, Liyan Yang, Rasha Aweiss*

This study explored the relationship between the knowledge of ecological structures in the city and preference for more natural-looking water edges by users of the Lake Merritt waterfront. Research was conducted along the shores of Lake Merritt, in Oakland, California, in late winter and spring of 2006.

After understanding activity patterns and the range of edge types, the hypothesis was tested via on-site administered surveys which included questions to gauge both knowledge of the lake and surrounding hydrologic system, and visual preference among distinct edge conditions, both at Lake Merritt and at other select urban water body edges.

The lack of correlation demonstrated by the data suggest that preference for naturalness is not correlated to knowledge, as well as that other factors - such as cleanliness or level of maintenance - should be more thoroughly controlled for in future studies of this theme.

**Openness and Memorability: A Study of Two San Francisco Parks, 2006**
*Abby Bilkiss, Ian Griffiths, Stanley Muraoka*

This study is an evaluation of the relationship between the relative openness of a park and its memorability. The research hypothesis is: If a park is comfortable and open, then it will be more memorable and more used, not only by people living locally, but also living further away. The decision to study two parks in urban settings, Dolores Park and Alamo Square, was relatively straightforward, as the parks enable the research to be controlled for a number of variables, including the presence of exceptional visual features. To test the hypothesis, the research team took measurements for comfort, openness, and use. Because park users were the main focus of the study, a questionnaire survey was given directly to users while they were using the parks. The survey was necessary to confirm the measurements and observations made about the variables of comfort, openness, and usage. In addition, the survey was necessary to investigate how memorable people viewed each park as being, as this could not be observed directly. The findings on the two independent variables, comfort and openness, and the dependent variables, memorability and usage, support the hypothesis, although they do not point to causation. However, this study does suggest that simply
having a memorable view is not enough to have people spend large amounts of time at a park or view it as memorable. The view may act as a draw that can initially attract people to a park, but ultimately, the openness of the park in terms of the availability of spaces for a variety of activities and for viewing these activities encourages people to stay at the park for longer periods of time, and is what sets apart a pretty park from a truly memorable one.

PLAZAS

Downtown Open Space  
Robin Eo Anderson, Louise Mozingo

This study attempts to understand the environmental qualities that attract people to certain types of open space and to make recommendations to public policy makers. The sites analyzed were Crocker Plaza and Redwood Park in San Francisco. The group thus controlled for location and found that each of these public open spaces is successful and provides space for a different need and demand. The group concludes that policies should be made to provide for various types of open space, however, they have no specific environmental qualities to recommend in designing such space.

Ferry Plaza Comfort Study, 1985  
Bob Merrill

The basis for this study is to evaluate the effect of microclimatic conditions on the use of an open space. The Ferry Plaza was chosen as a site due to the urban setting of the open space. The group found that within the open space of the Ferry Plaza, microclimatic conditions are not main factors in determining peoples' behavior. However, the sunlight throughout the Ferry Plaza attracts users to come there instead of to other plazas.

Justin Herman Plaza Comfort Study, 1986  
Liz Eddins, James Moore, David Nowak, Steven Alward

This study analyzes the effect of microclimatic conditions on people's physical comfort and use an urban open space. In order to test their hypothesis, the group looks at the Justin Herman Plaza in downtown San Francisco. As a result of field observations and user surveys, the group concluded that comfort is not the predominant factor that determines how people use urban open space, also, people cannot differentiate between small changes in microclimatic conditions, it is the extremes that make a difference.

Corey Alvin, Ann Cotter, Andrew Vesselinovitch

Alameda Waterfront Memorability Study,1994  
Jared Eigerman, Gustavo Gonzalez, Lucretia Miranda, Jill Slater

The hypothesis of this group states: design features that enhance the natural qualities of a waterfront result in its greater memorability .The group controlled for historical associations, activities, microclimate, and views. The two sites studied were located on an estuary leading into San Leandro Bay, within the city of Alameda. One is on the main island, on the estuary's northern shore, the other is on Bay Farm Island, on the estuary's southern shore. The group was able to support the hypothesis that design elements play an important role in memorability of waterfronts.
A Study of the Success of Urban Plazas in San Francisco, 1995  
*Akoni Danielsen, Taichi Goto, Billy Rhyne, Clark Wilson*

This group aims to test the adequacy of the Open Space Guidelines from the San Francisco Downtown Plan by analyzing four urban spaces, Zellerbach Plaza, Mechanics Plaza, the plaza at 101 California Street, the plaza at 525 Market Street, in terms of success as related to physical design characteristics. The group controlled for location and relative proximity of the plazas to each other, all plazas met the terms of the guidelines. The group found that the plaza with the least use scored just as high for meeting the design guidelines as did the plaza with the highest use.

Enclosure and Sense of Territoriality in Campus Plazas, 1996  
*Skip Lowney, Diana Marsh, Sofia Shwayri*

This group hypothesizes that "the sense of enclosure in a plaza influences a person's perception of territoriality." In order to test this, three sites were chosen on the campus of the University of California Berkeley: the internal courtyard of the Haas Business School, the plaza in front of Wurster Hall, and the plaza in front of the Genetics-Plant Biology building. The sites allowed the group to control for user demographics and microclimatic conditions since they are all located on one campus. The group did find that the perception of territoriality diminished with decreasing enclosure, however, the group felt that the human factor also influenced these results.

Attributes of Civic Space: Social and Physical Dimensions Beyond Public Space, 1997  
*Josh Jakus, Dominic LoGalbo, Tracie Reynolds*

This group proposes that physical attributes of a civic space that support its social structures determine the strength of the civic space. These attributes are defined in four terms: connection, accessibility, supports and prompting. The campus of the University of California, Berkeley, and the Campus of the University of San Francisco were chosen as sites. The group controlled for level of civic quality and the presence of the above attributes in each site, subject (of user survey) knowledge of the two sites. The findings indicate that there is a definite correlation between the attributes of a civic space and the "civicness rating." However, the individual rankings of each attribute did not always follow the overall rankings.

Downtown Plaza Design Study, 1998  
*Patricia Akinaga, Sagar Chavan, Patrick J.B. McGannon, Ghazal Saadat- Lajevardi*

The goal of this study was to explore the importance and effect of physical, designable elements on the success of urban plazas as measured by the amount of use. The group controlled for density and user type, plaza size, location and time of use. Four sites were chosen which include: 525 Market Street Plaza, 100 First Plaza, the Mission Plaza Shops, and 77 Beale Street Plaza. The findings indicate that there is no significant relationship between the existence of designable elements and the success of a plaza. The group did find, however, that it is not the quantity of these elements, but their quality, which adds to the success of a plaza.

Upper and Lower Sproul Plazas Comparative Study, 1999  
*Eric Osth, Annie Tennant, Pei Zhu*

This study examined Upper and Lower Sproul Plazas, on the UC-Berkeley campus, in order to understand what physical factors contributed to the success and failures of the two spaces.
The group analyzed various factors, including: the presence of defining edges, trees, thermal comfort, location as a campus thoroughfare, and other supporting physical amenities. Upper Sproul was found to be successful for the presence of all of these elements, while Lower Sproul was not successful for their lack. Other factors, including maintenance, also contributed to the success and failure of the two spaces.

Sharing Plaza Space: A Study of Three San Francisco Plazas, (2 copies) 2000, PLAZ 11
Susan Chivaratanond, Emily Rylander, Egon Terplan, Jess Wendover
Abstract being updated.

The Relationship between Plaza Features and Their Uses: A Study of Two BART Plazas, Fall 2006 (Prof. Bosselmann on Sabbatical) PLAZ 12
Ying Hao, Bei Jiang, Ivan Lopez, Mahesh Waghdhare

Designing for A Strong Sense of Place, 2007 PLAZ 13
Nicole Horn, Jen Hughes, Carrie Wallace
Historically, success for urban spaces has been defined by usage, or the number of occupants per square foot. This study redefines success as a measure of sense of place: a stronger perceived sense of place indicates a more successful space. To quantify “sense of place”, four equally-weighted categories are identified as contributing factors in establishing the identifiable bond that represents a sense of place. These factors are: uniqueness, publicness and high levels of user attachment and dependence. The tested hypothesis is:
Sense of place for urban plazas is made stronger by inclusion of three specific design elements: convenient seating and to a lesser degree, public art and a water feature.

Through lunchtime observations, interviews and a scoring system, this study attempts to quantify and compare the sense of plaza perceived by users of three urban places in downtown San Francisco: Redwood Park, 101 California Plaza and Ecker Plaza. The study concludes that 101 California Plaza is the most successful urban plaza as having the strongest sense of place. With respect to our hypothesis, seating was found to play a significant role in creating a strong sense of place, while water features and public art had no recognizable impact. Contrary to the study hypothesis, the plaza with no public art (101 California) exhibited the stronger sense of place.

SAFETY

Mission Night Environment Study, (2 copies) 1992 SAFE 1
Nicholas Ancel, Malini Krishnankuty, David Schnee
This group looks at the relationship between pedestrian perceptions of safety, due to changes in lighting levels, and the night environment, both physical and social. The controls for the study include use patterns, physical structure, wealth, traffic and crime. The chosen sites include: Guerrero Street between 18th and 19th Streets, 17th Street between Dolores and Guerrero, and 20th Street between Valencia and Guerrero. All sites are located in the
Mission District. A correlation between lighting and the perception of safety was apparent. However, the data was inconclusive on showing a relationship between safety and hidden places.

**Enclosure and Safety in Urban Neighborhood Parks, 1998**
*Kathleen O’Day, Jessica Perez, Samantha Schweitzer, Jake Tobias*
Abstract being updated.

**Perception of Safety in the Tenderloin, 1999 – FOLIO**
*Shanti Breznau, Mochamad Kamil, Sungjin Park, Ilaria Salvadori*
This study analyzed the perception of safety in the Tenderloin district of San Francisco. The hypothesis linked the transparency of the lower facades of buildings and the presence of elements of friendliness to the perception of a space as safe or unsafe. The transparency of a facade would also have an effect on the types of activities occurring in front of the building. The group studied both block sections and intersections. The blocks were Eddie Street between Mason and Taylor Streets, and O’Farrell Street between Jones and Taylor Streets. The intersections were those of Ellis and Jones Streets and Eddie and Leavenworth Streets. The group found a clear relationship between the degree of transparency and friendly elements to the perception of a space as safe or unsafe. The lack of these elements also contributed to a greater density of activities in front of the building, which in the Tenderloin often includes illicit activities which contribute to feelings of insecurity.

**Perceptions of Safety in Neighborhood Parks: An Environmental Design Research Project on the Perception of Safety in Two Neighborhood Parks of San Francisco, 2003**
*Anat Bichovsky, Anna Forsberg, Simone Le Grange*

**Park Safety at India Basin, San Francisco, Fall 2006** (Prof. Bosselmann on Sabbatical)
*Ria Hutubarat, Brinda Mehta, Hagu Solomon, Kate Tollefson*

**STREETS**

**Is This a Good Street?**
*Authors unknown*
This study aims to show that good streets have solid identity, provide for interaction and are those streets which capture your interest. The controls used in this study were in type of street: neighborhood commercial streets. The sites included 16th Street between Guerrero and Valencia, 24th Street between Sanchez and Noe, and 24th Street between Harrison and Bryant. The findings for this study were not conclusive and seemed to indicate that wealth of the community, safety and comfort for visitors are the factors for creating a good street.

**Memorable Streets**
*Isabel Brown, Terry Griffiths, Leonie Hermantin, Karen Radziner*
This group looks at the characteristics that make a street memorable and create a sense of place. The study sites were controlled for block length, street and sidewalk width, and parking configurations. The sites included 17th Street in Oakland between Broadway and
Grand, 15th Street between Webster and Broadway, and College Avenue between 63rd and Alcatraz. The findings indicate that there is a relationship between memorability and willfully designed features of a street. The group found that although there is a weak correlation between the number of entrances onto a street and memorability, there is a strong correlation between clearly defined transition spaces and memorability. There is also a strong relationship between a highly communicative edge or transparency and memorability of a street.

Memorable Streets
Unknown authors
Abstract being updated.

Street Corners
Dan Glaser, Ben Grant, Deryani Jain, Jennifer Kao
Abstract being updated.

Upper Market Street Pedestrian Experience of Sequence
Jennifer Avery, Thomas Kronemeyer, Craig Meyer, Mark Reilly
Abstract being updated.

Which Block Would You Rather Walk on? The Shattuck / Adeline Pedestrian Study
Tom Jacobson, Barbara Zeid; Shelley Poticha
The purpose of this study is to identify differences that occur on Shattuck versus Adeline Streets and determine what factors contribute to these. What creates in interactive versus a non-interactive street? The group controlled for location. The sites included Shattuck between Kittredge Street and Bancroft and between Dwight Way and Blake Street as well as Adeline between Oregon and Russell Streets. The findings indicate that abutting land uses are a major factor in characterizing pedestrian street environments and interactive or non-interactive. The width of the ROW is less important as is the perception of the width of the ROW.

Street Livability Study, (2 copies) 1970
Donald Appleyard
Abstract being updated.

Belden Street Report, 1983
Judy Chess, James Hynes, Sandra Kapsiotis
Abstract being updated.

Commercial Street Case Study, Preserving an Alley between Chinatown and Downtown San Francisco, 1983
Alison Kendall, Richard Worthy
The purpose of this study is to understand whether or not people appreciate the small-scale, detailed character of Commercial Street and would like it preserved instead of replaced by newer, large-scale development. The studied section of Commercial Street is located between Montgomery and Kearny Streets. The group found that Commercial Street has a lot of potential to be used as a pleasant and distinctive place to walk, shop, dine, live and work.
for present users as well as for others.

**An Environmental Study of a Berkeley Intersection: Adeline and Ashby Avenues, 1984**
*Elena Eger, Threse Brekke, Natalie Macris*
Abstract being updated.

**Livable Streets, 1986**
*Rajeev Bhatia, Peng Wang*
This study explores the contribution of building set-back and vegetation to neighborhood quality and livability as affected by traffic volume. It is assumed that setback and vegetation decrease the amount of exposure to traffic noise and other street activities. The group controls for demographic pattern and traffic volume in selecting the following sites: College Avenue around Woolsey, College Avenue between Stuart and Garber, Ashby Avenue between Deakin and Fulton, and Ashby Avenue between Piedmont and Pine. The group found that an increase in the exposure to traffic noise and other activities has an adverse effect on livability. They found no relationship between exposure to street activities and renter versus owner occupancy. They did find, however, that houses with more exposure (thus less setback and less vegetation) provide for lower levels of livability.

**Memorable Streets: A Survey of Recollections of Berkeley Commercial Streets, 1986**
*Pu Miao, Robert Sakai*
This group hypothesizes that the memorability of streets differs according to the expectations of the user. The site encompasses Berkeley commercial streets which are part of neighborhood shopping areas and are becoming regional shopping areas. The findings indicate that the level of street activity, nature of shops and the symbolic function of a street all contribute to "memorability." Telegraph Avenue and Shattuck Avenue were most recognized and remembered. Telegraph Avenue was favored by a more defined group of users.

**Enclosure and Sense of Place, (2 copies) 1987**
*Shingo Mizuno, Chiaki Mizutu, Flora Yeh*
This study asks the questions: why does enclosure contribute to a sense of place? What factors contribute to enclosure? The sites include Elizabeth Street in San Francisco between Noe and Sanchez, and Elizabeth Street between Sanchez and Church. These sites were controlled for physical and demographic characteristics. The group found that narrower streets have more enclosure and a better sense of place and enclosure is created by physical features but it does depend on people's psychological problems.

**The Transition Zone: A Study of Two Urban Residential Streets, 1987**
*Connie Goldack, Julie Isbil, Julia McCray, Liz Newman*
Abstract being updated.

**College Avenue/ Rockridge Memorable Street Study, (2 copies) 1988**
*Jane Ostermann, Linda Ruffing, Amita Sharma, Kent Watson*
This study analyzes the relationship between physical features of a commercial shopping street and values of people using the street. How is the street perceived in the memories of
its users? The site is College Avenue from Alcatraz Avenue to Manila Avenue. The findings indicate that physical and social features are related to the memorability of an area and memorability is closely linked to people's values (likes and dislikes).

**Havenscourt Boulevard: A Study in Contrast and Memorability**, (2 copies) 1988

*Andrea Morgan, Maureen Daly, Anna Powell*

This group hypothesizes that a street is memorable because it contrasts with the surrounding neighborhood. In order to test this hypothesis, the group chose sites which are all located in central East Oakland and are similar in appearance, size and style of homes. The sites include: Havenscourt Boulevard from 14th Street to Bancroft, 66th Street, 67th Street, and Church Street bounded by 14th Street on the south, 64th Street on the West, Bancroft on the North, and Church Street on the East. The group found that Havenscourt is more memorable and it does contrast with the area. Thus, the hypothesis was supported.

**Solano Avenue: Memorable Street Case Study**, (2 copies) 1988

*Andrew Bryan, Bryan Coleman, Janet Mack*

This study compares different sections of the same street, Solano Avenue, in order to investigate the relationship between physical designable characteristics of a commercial street and memorability. In order to control for traffic volume and use, different parts of Solano Avenue were chosen for the study. The east, west and middle section of the street were compared. The findings indicated that visual cues do not seem to be very significant in determining memorability of a retail street. Instead a critical mass of various commercial users and pedestrian friendliness contribute more to memorability on a retail street.

**Memorable Streets, 1989**

*Shwu-Jen Hwang, Khalid Imam, Sung-Hong Kim*

This study was conducted in an attempt to identify the physical features that contribute to making a street memorable. The group studied Noe between Beaver and 14th, and 15th between Dolores and Sharon. The findings showed that physical features do effect memorability of a street. However, these features, in themselves, are not sufficient for creating a memorable street. Examples of the physical features studied that contribute to memorability include: gateways, "willfully designed features and activity nodes."

**Memorable Streets: A Study of Marin Avenue**, (2 copies) 1989

*Preeti Chopra, Maria Sanders, Aditya Advani*

Abstract being updated.

**Street Livability Study, 1991**

*Albert Lopez, Martha Goodavish, Jeffrey Woo*

The focus of this study is to understand how traffic effects the livability of residential streets and to see if these findings are consistent with Appleyard's results. The sites have similar architecture, are all residential, and have similar street widths and sidewalk widths. Since the streets are parallel streets in the same neighborhood, they are similar in character. The sites include: Sixth, Seventh and Eight Streets between Kirkham and Judah in the Sunset District. The results of the study are not at all similar to Appleyard's; the group found no relation between traffic and livability.
Complexity and Perception of Street Definition, 1992
Alfonso Fillon, Emi Mizuno, Patrick Lane, Setu Shab
This study focuses on the effect of various amounts of street complexity on the perception of street definition. The group tries to identify the level of street definition which creates a sense of variety versus the level which creates a sense of chaos. The sites, all residential streets, are as follows: Scott Street between Oak and Page Streets, Anza Street between Stanyan and Parker Streets, 4th Avenue between Balboa and Cabrillo Streets, Avila Street between Alhambra and Capra Streets. The findings indicate that there is a relationship between perceived street definition and complexity. However, different types of complexity have different effects.

Memorable Locations, 1992
Katy Janda, Steven Lewis, Carlos Martinez
The hypothesis being tested is that "greater memorability is associated with changes in physical continuity." The sites for this study are seven blocks on California Street, between Drumm and Grant. These blocks allow for control over demographics, location, and physical factors. The group found that memorability seems strongly linked to changes in spatial continuity along the street.

Street Sequences, 1992
Melody Tannam, Ray Isaacs, Elizabeth Macdonald
The hypothesis of this study is that for pedestrians, the experience of a sequence along a street is enhanced if there is a succession of distinct places providing both continuity and variety. The sites chosen were along College Avenue, starting south of Dwight Way. The street was divided into different districts: Elmwood District, Alcatraz District, Central Rockridge District, South Elmwood Residential District, North Rockridge, South Rockridge, and South College. The findings were inconclusive; even though a sequence of distinct places is important, an alternating pattern of experiences does not enhance the experience.

Clement Street: A Memorable Street Study, 1993
John Cu, Curt Pham, Marvin Yee
Abstract being updated.

Enclosure and Sense of Place, (2 copies) 1993
Fatima Araneta, Takashi Ariga, Matt Schelly, John Martin-Rutherford
This study looks at the relationship between street enclosure and residents, perception of sense of place as expressed by their social interactions, neighborhood activities and territoriality. The group conducted the research using pairs of streets which were adjacent to each other. The study controlled for street direction thus, all streets were oriented in a North-South direction. Building and housing types, accessibility and type and percentage of land use were kept constant. All streets contained buildings with garages and had similar demographics and income mixes. The sites were Castle and Kearny Streets on Telegraph Hill, Moss and Russ Streets in the South of Market, and Lucky and Treat Streets in the Mission District. The findings indicate that enclosure of a street makes the street more easily identifiable and describable by its residents. The more enclosed streets had greater social contact and interaction except where there was a high volume of traffic.

Livable Streets Study, 1993 – FOLIO
Jennifer Cooper, Andrew Delaney, Lynn Harlan, Heather Hensley
The focus of this study was to analyze the impacts of light, medium and heavy traffic on three neighborhood streets in Le Conte neighborhood in Berkeley. The sites, similar in appearance and density, included: Blake Street, Derby Street and Perker Street. The findings showed that streets with less traffic resulted in more social interaction among residents. The group found that the less the traffic in a street, the more the residents were aware of and took care of the physical street environment. Overall, however, traffic was not seen as such a nuisance in either of the streets. Higher traffic did result in higher concern for safety. Heavy traffic activity was also associated with more renter versus owner occupancy.

Memorable Streets: A Study of Memorability and the Rhythm and Sequence of Streets, 1993
Iris Cheng, Robert Hewitt, Kei Hattori
This study focuses on the physical qualities of rhythm and sequence and how they contribute to the memorability of a street. The controls in this study include: walkable area, residential character of area, convenient access to the area, and all chosen streets are part of the same neighborhood. The neighborhood is North Berkeley and the sites are Martin Luther King Way between Virginia and Rose, Hopkins Avenue between Martin Luther King and Sacramento, Marin Avenue between Alameda and Tulare. The findings supported the hypothesis that areas of strong rhythm are areas of strongest memorability.

Effects of Traffic Calming Designs on Livability and Non-Automobile Use of the Street, 1994 - FOLIO
Pauline Henderson, Jonathan London, Stephen Wheeler
This study analyzes the effects of three street design approaches intended to slow and reduce traffic: speed bumps, spatial barriers and a "slow street" design including bumps, curbing lanes and planter islands. The streets chosen were controlled for demographics, similar housing mixes and location (Berkeley). These streets were Milvia Street between Vine and Cedar, Milvia Street between Delaware and Virginia, Derby Street between Ellsworth and Fulton, and Rose Street between Edith and McGee as the control street with no traffic calming devices. The findings showed that all designs had a positive effect on residential satisfaction and non-automobile use of streets. The control street had, reasonably, the poorest ratings. The street with the entire "slow street" design was most successful, while the street using the barrier approach created the most resident satisfaction.

Enclosure and Sense of Place in Three San Francisco Streets: Carmelita, Pierce and Laussat, 1996
Arne Elliot, Clara Irazabal, Sadakumi Suga
This group studies the correlation between enclosure and sense of place and tries to understand what factors create physical enclosure. The sites are all in the Duboce triangle and include: Carmelita, Pierce, and Laussat Streets. The hypothesis was not supported by the findings and no correlation was found between enclosure and sense of place.

Pedestrian Study for Geary Blvd. and Clement St. in San Francisco, 1996
Heracles Lang, Tobias Liebermann, Asha Weinstein
The focus of this study was the relationship between traffic on a street and pedestrian behavior. The study controlled for land use, social character, and physical character. The sites, both located in the Richmond District were parallel to each other and both
commercial: Geary Boulevard between 18th and 21st, and Clement Street between 9th and 12th. The group found that traffic does have an impact on pedestrians and people do feel effected by traffic.

**Enclosure and Vitality: A Study of Pedestrian-oriented Commercial Streets, 1997 – FOLIO**

*Tim Erney, Dan Koo, Eugenia Mares, Kathleen Mikulis*

This group hypothesized that the sense of enclosure enhances the vitality of pedestrian-oriented commercial streets. In testing this hypothesis, they controlled for demographics, hours of operation, land uses, number of establishments, parking, traffic speeds and traffic volumes. The sites chosen included: College Avenue between Russell and Ash by A venues, Piedmont Avenue between 41st and Monte Vista Streets and Lakeshore Avenue between Park and Trestle Glen Roads. The study results supported the hypothesis and showed a relationship between enclosure and vitality. The more vital a place is, the more enclosed it is. However, the relationship is not causal and enclosure does not enhance vitality but instead there may be more powerful influences on vitality.

**Live/Work Units and Street Livability, 1997**

*Mikus Kristoffer Fox, Jeff Juarez, Judith Stilgenbauer*

The focus of this study is to analyze the effect of live/work units on livability. The controls are similarity in land use, street level circulation, building scale, similar traffic volumes and similar neighborhood. The group chose Hallam and Brush Streets, Langton Street, and Rodgers Street; all streets are bounded by 7th, 8th, Folsom, and Harrison. The findings show that live/work units do not lead to a greater sense of livability.

**MUNI Memorability: The Effects of Transit on the Memorability of Commercial Streets, (2 copies) 1997**

*Brian Newman, David Schellinger, Greg Shiffer, Mahendra Subba*

The goal of this study is to compare the difference in effects of an electric light rail line as opposed to a bus on the memorability and livability of an urban commercial street. Two streets, Irving Street between Sixth and Tenth, and 24th Street between Sanchez and Castro Streets were chosen. These streets were controlled for socio-demographics and types of transportation used as well as tenure and number of units per building. The results of the study indicate that the presence of a light rail transit as opposed to a bus line has more memorability. However, the study was inconclusive about the effect of such rail on the memorability of the street.

**Pedestrian Activity and Street Width: A Study of Neighborhood Commercial Streets, (2 copies) 1997**

*Kathy Kleinbaum, Eric Scavetta, Zac Wald*

This study focused on the relationship between street width and pedestrian activity and hypothesized that there is an inverse relationship between the two. The sites included: Lakeshore Avenue, Solano Avenue and College Avenue (in the Elmwood District). The group controlled for length of the block, building height, density of stores on the block, retail mix, on and off-street parking, parking availability, public transport availability, sidewalk width, surrounding residential density, median income levels and racial composition. The study findings supported the hypothesis and indicated a relationship between street width and pedestrian activity.
Grain and Livability, 1998  
Karen Murray, Mukul Malhotra
This study tests the relationship between grain and livability in urban residential areas while hypothesizing that more grain on a street results in more livability. They group controls for presence of trees, traffic volume, block length, orientation, thermal comfort, density, and demographics. The variables were street width, sidewalk width, and building and parcel frontage. The sites were Lexington and Fair Oaks streets in the Mission District. The findings show that the intensity of social interaction is greater on finer grained streets, however residents on both streets with the streets environment.

The Length of a Commercial Strip and the Sense of Place: A Case Study of Solano Avenue, 1998  
Kim Tran, Filippo Boschi, Jonathan Grosswasser
This study focuses on the effect of the length of a commercial strip on the sense of place on that commercial strip and on finding an ideal length which maximizes the sense of place. The controls for this research are that all streets are located within a residential neighborhood. The sites include: College Avenue from just above Russell Street to Webster Avenue, Solano Avenue from The Alameda to Peralta Avenue, and Piedmont Avenue from 40th Street to the Cemetery. Although the findings did not give an ideal street length, they did support the hypothesis that there is a relationship between the length of a commercial strip and its sense of place. The longer the street, the weaker the sense of place. The study also indicated that the sense of place was enhanced by a well-defined edge and that larger lot sizes reduce pedestrian activity and reduce the sense of place.

The Use of Seating and Activity Patterns on Commercial Streets, (2 copies)  
1998  
Liisa Ecola, Megan O'Neill, Yoshiko Sato
This study looks at the effect of outdoor seating, either by public agencies or by private businesses, adds to the vitality and richness of activities on commercial streets. The group, however, hypothesizes the seating must be a balanced combination of public and private seating in order to attract the most people and foster the most variety of activities. The sites included Solano Avenue in Berkeley between Peralta and Ventura, Locust Street in Walnut Creek between Mount Diablo Boulevard and Bonanza Street, and Fourth Street in Berkeley between Delaware Street and Virginia Street. The group controlled for street width, selection length, pedestrian access to buildings on streets, mix and type businesses on the streets, and building height (between one and two stories).

Pedestrian Space in the Mission, 1999  
Rachel Berney Quirindongo, Sylvia Muñoz-Moreno, Sam Zimmerman-Bergman
This study examined what physical elements contribute to vibrant pedestrian spaces. Their hypothesis was that greater enclosure (including vertical elements such as trees and light posts, as well as horizontal elements such as awnings and signs) contribute to an increase in “staying” activities, such as strolling, sitting, chatting, and window shopping. The group chose three blocks on the East side of Mission Street: between 16th and 17th Sts., between 18th and 19th Streets, and between 24th and 25th Streets. Using observation and survey techniques, the group found that their hypothesis was not entirely supported by the evidence. High levels of vertical and horizontal enclosure were found to encourage staying activities, and vertical elements had more influence than horizontal activities. However, these
conclusions, based mainly on observed behavior, were not wholly supported by the survey results, pointing to a difference between conscious and subconscious preferences.

**Summary of Student Research Projects**

**Memory of Paths, (2 copies) 2000**  
*Kris Agardi, Justin Huang, Madeleine Zayas-Mart*  
Abstract being updated.

**Repetition, Design, and Place: The Role of Repetition in the Creation of Identity and Sense of Place, (2 copies) 2000**  
*Kushner, Nico Larco, Meil*  
Abstract being updated.

**Aspects of Street Memorability, 2001**  
*Makiko Abe, Abha Kaphadia, Joanne Manson, Ana Sverko*  
This report is based on research (conducted in the Fall of 2001) to test how people’s perception and memorability of a street were affected by the density, diversity and overall relationship of physically designed elements of selected mixed-use neighborhood streets in San Francisco. The field measurements were backed up by two kinds of surveys. Written surveys were used to gauge responses to textual descriptes related to the physically designed elements of the streetscape. Visual recognition surveys of the streets were used to test memorability of these street elements. This was done by recording the level of recognition of the street based on highlighting the presence, absence or alteration of those physically designed elements related to density, diversity and overall similarity. The group found that the street with the highest density, most diversity and best overall relationship of designed street elements was not the most memorable; however, the group did find that these variables contributed to street recognition.

**The Sunny Side of the Street: Sunlight, Design & Sociability, (2 copies) 2001**  
*Zander, Ponca, Dryden, Cataffa*  
We examined correlations between orientation of homes to sunlight and the resulting amount of sociability. In our initial hypothesis we stated that west- and south-facing homes, which receive late afternoon sunlight on the front of their homes, spend more time outdoors in their front yard in the late afternoon, resulting in a higher level of sociability and interaction with neighbors. Conversely, we believed that residents of north and east facing homes would primarily spend time outdoors in their backyard due to increased availability of light in the late afternoon. Although our research did not entirely support this hypothesis, it did reveal some very interesting relationships between sunlight exposure and the variety of activities households engage in. This initial investigation provides insight into the mood, sociability, and satisfaction of residents in relation to the orientation of their homes, neighborhoods, and landscapes.

**Street Design and Resident Satisfaction, 2003**  
*Hugo Errazuriz, Chris Sensenig, Michael Tunte*  
The goal of this research was to determine whether or not streetscapes willfully designed to create pedestrian realms have an effect on a resident's sense of satisfaction with their streetscape and interaction with neighbors. In addition, the study tries to find a link between resident participation, satisfaction and community interaction. The study looked at Noe and
Sanchez streets, in the Duboce Triangle in San Francisco, and compared them with Pierce and Steiner streets, on the opposite side of Duboce Park. The results were conclusive and indicate that resident satisfaction and community interaction is related to streetscape design. In addition, we found that dead-end/ cul-de-sac streets greatly influence the amount of satisfaction and community interaction.

**Against All Odds: An Analysis of Pedestrian Paths in the Auto-dominated Landscape of Emeryville, California, 2003**
*Christine Ferracane, Lauren Hertel*

**Vibrancy, 2003**
*Meredith Burney, Andrea Urbiel Goldner*

**The Transition Zone: A Study of Two Urban Residential Streets, 1987**
*Connie Goldade, Julie Ishii, Julia McCray, Liz Newman*

**Scale and Streets: A Study of the Relationship between Scale and Neighborhood Integration of Local Commercial Streets, 1990**
*John Hamilton, David Lee, Peter Owens, Admasu Tegegne*

**Which Block Would You Rather Walk On?: The Shattuck/ Adeline Pedestrian Study, 1993**
*Tom Jacobson, Barbara Zeid, Shelley Poticha*

**Enclosure and Sense of Place in 3 San Francisco Streets: Carmelita, Pierce, Laussat, 1996**
*Ame Elliott, Clara Irazabal, Sadakuni Suga*

**Street Design & Pedestrian Activity: A Neighborhood Study of the Duboce Triangle Area in San Francisco, 2001**
*Jenny Henry, Darrin Nordahl, Satyaki Raghunath, Sarah Trenhaft*

**Transition Zones and Communicative Edges on Commercial Streets, 2003**
*Brijesh Bhatha, Swapneel Patil*

**Central Diversity: Diversity of Uses and the Success of Neighborhood Centers, 2004**
*Peter Frankel, Culley Thomas, Devon Williamson, Erica Spaid*

The greater the diversity of uses, the more successful the neighborhood center. A neighborhood center can be important as a place of utility and leisure. A successful center combines both of these, providing a focal point for the neighborhood. Users visit the center to fulfill multiple needs: civic, commercial, retail, grocery, and leisure. In addition, the center’s design should make the diversity of uses legible to users through physical form. The following study aims to formally evaluate the impact that diversity of uses has on the vitality of neighborhood centers: College Street and Solano Avenue in Berkeley and Piedmont Avenue in Oakland. Our findings, though limited by time and scope, support our
hypothesis. Through pedestrian counting and behavior mapping, design element analysis, diversity indexes, and both street and mail surveys, the project team found that Piedmont had the greatest diversity of uses, the highest intensity of use, and the greatest satisfaction expressed by residents near the center.

Perception of Centrality, 2004

Luiz Barata, Jacob Licht

Our research was designed to test the relationship between how people perceive neighborhood centers and the physical nature of those centers, which we describe and measure as singular “urban rooms.” Following the cognitive mapping techniques of Kevin Lynch, and his broader theories on how people make the city “imageable” in their minds, we were interested in determining whether or not a good “urban room” could lead to greater shared perception of a neighborhood center. Thus, we created the following hypothesis: Perception of centrality is strengthened by the presence of a legible urban room.

To test the hypothesis, we selected three neighborhood commercial centers in San Francisco, California, each with varying physical qualities affecting the legibility of their “room”-ness. Additionally, we distributed 300 surveys requesting residents and other users of the center to “map” their perception of the focal point and boundary of their particular neighborhood center. The results of these cognitive maps, in addition to other survey information, partially confirmed our hypothesis. The best urban room was associated with the strongest shared perception of the boundary of the center, although our results were less clear with respect to the center’s focal point.

From this, we can conclude that to create or strengthen centers, at least at the neighborhood scale, designers should consider the physical space of those centers, particularly through the lens of our “urban room” metaphor. We can assume that through greater shared perception of centers, city-dwellers will be more inclined to gather at that location, adding to the vibrancy and character of the neighborhood and city as a whole.

Urban Design and the Perception of Health, 2006

Lucas Griffith, Patrick Hood-Daniel, Marlon Maus, Chun Chun Tao

The Social-Ecological Model proposes that we live our lives within several broad spheres of influence. Each in turn affects the other. Whenever we are trying to intervene so as to improve the health of individuals, this model suggests that individual behavior choices as well as the situations within each sphere can influence health behaviors. An important factor that influences behaviors includes the built environment and the policies, laws, codes and regulations that shape it.

Three sites were tested in the bay area: Filmore, Rockridge, and Solano, all having similar socio-economic qualities. Mail-in surveys, interviews, quantitative statistics, and qualitative observations summarize our research methods. At this time there is strong evidence that decreasing car dependence while promoting physical activity by designing an environment that includes local shops, services, and attractive destinations for pedestrians results in improved health behaviors and possibly health(5). What this study suggests is that it is very important to connect the design strategies to the perceptions of the residents. Based on our results we suggest that to be truly effective in improving healthy behaviors, urban designs must occur in the context of the active
involvement of residents in the development and implementation of such designs. Although somewhat inconclusive, urban areas that encourage physical activity and discourage automobile use have healthier populations.

The best urban room was associated with the strongest shared perception of the boundary of the center, although our results were less clear with respect to the center’s focal point.

**Topography and Mastery, 2006**

*Calder Gillin, Sutter Wehmeier, Josh Kent*

This is a study that investigates topography in an urban setting as it relates to pedestrians’ memory and orientation of a particular place. Our hypothesis is: Streets on slopes offer pedestrians a greater sense of mastery than flat streets do. Mastery is defined in this study as both orientation – awareness or understanding of where one is and has been – and recall – the conscious, discerning, and usable memory of physical and visual characteristics.

Research was conducted in two areas in Noe Valley in San Francisco: 1) a route through the steep hillside north of 24th Street that extends up to Dolores Heights, and 2) a route through the level valley floor south of 24th Street.

The survey was conducted as an organized walking tour through these two routes, and consisted of questions relating to memory, orientation, and cognition. The results indicate no conclusive correlation between topography and the respondents’ performance on tests of orientation and recall. However, respondents claimed a stronger sense of recall and preference for the hilly route.

**Bicyclists and Traffic Calming Measures: Friend or Foe?, Fall 2006** (Prof. Bosselmann on Sabbatical)

*Vinita Huang, Rebecca Sanders, Rebecca Whitney*

**Pedestrian Bridges: Measuring the effectiveness of design to overcome the freeway barrier in urban areas, 2007**

*Nicole Cousino, Holly Drabal, Mike Ernst*

Our project is a field-based research analysis of the design and functionality of the pedestrian bridge in the Bay Area. Using two conventional public works projects in San Francisco and the new Berkeley Marina overpass as our sites, we tested our hypothesis of whether good design can diminish the perception of a freeway barrier and reconnect divided neighborhoods. Based on surveys and field measurements, we conclude that while none of the sites fully overcome the barrier created by the freeway, users had a preference towards using the new, more elaborately designed Berkeley bridge. It was the most successful at creating a unique, inviting destination, and thus the most successful at increasing connectivity across such fragmented terrains.

**Vitality and Pedestrian-Oriented Design along San Pablo Avenue, 2007**

*Kristin Maravilla, Sebastian Petty, and Allie Thomas*
San Pablo Avenue (California State Route 123) is a high volume, four-lane arterial running through the East Bay that has recently become a focus for infill development and intensification of uses. Our study provides an entry point into thinking about the role of urban design in transitioning a high traffic, auto-oriented street into a more pedestrian friendly environment. We hypothesize that the presence of pedestrian-oriented design has a positive effect on observable levels of pedestrian vitality. We tested this hypothesis linking pedestrian-oriented design and pedestrian vitality at three commercial nodes along San Pablo Avenue; one in Albany, one in Berkeley, and one in Emeryville. We measured and mapped various aspects of the built environment at each site, observed pedestrian behavior, and administered both a passby survey to site users and engaged a group of students as an expert focus group. The results of our analysis broadly confirm our hypothesis. Berkeley had the highest quality pedestrian oriented design and also the highest observed level of pedestrian vitality. Emeryville followed with a more moderate pedestrian-oriented design score and a fairly high level of observed pedestrian vitality. Albany came in last, with a lower pedestrian design ranking and a clear lack of pedestrian vitality.

Telegraph Avenue: Physical Design & the Vibrancy of Neighborhood Commercial Centers, 2007

Alissa Kronovet, Stacey McLean, Anja Wodsak

We believe that the nature of public life in a neighborhood and its level of vibrancy is an amalgam of numerous interdependent factors, including macro- and microeconomic forces, particular land uses, and climate conditions. We also recognize that our understanding of vibrancy is influenced by our own culturally derived values. However, the findings presented in this study of three neighborhood commercial centers along Telegraph Avenue in Oakland, CA suggest that urban design is one important component in this kaleidoscope and can help foster an active street life. Planning and design that encourages density and variety of uses, a strong anchor business and social nexus, continuous and transparent storefronts, and landscaping, among other variables, can positively affect people’s perceptions of a neighborhood, their sense of safety, the amount of time they spend in a particular urban setting, and the overall quality of their urban experience.

STREET TREES

Trees, Traffic and Livable Streets, (2 copies) 1998

Michael Carroll, Seuling Chan, Jonathan Mason, Stefan Thuilot

The goal of this study was to show a relationship between the enclosure provided by street trees and the traffic perceptions in residential neighborhoods. The group chose three sections of Marin Avenue for conducting their study: between Cornell and Talbot Streets, between Curtis and Peralta Avenues, and between Tulare and Modoc Streets. They controlled for traffic volume, speed, noise and demographic factors (excluding income). The findings showed that as the level of enclosure increases, trees do register at higher levels in residents' street image and possibly offset the overall importance of traffic. However, the study indicated that enclosure provided by street trees does not specifically mitigate residents' perceptions of traffic impact.

Majestic Street Trees: A Tree Desirability Study, 1999

Janet Gracyk and Leslie Shieb
This group studied the desirability of mature, uniformly planted street trees. Their hypothesis expected property owners to value the trees, despite the nuisance they often cause in the form of debris and sidewalk damage. The group studied two streets in Berkeley with large street trees, the 1400 block of Hearst Street and the 1800 block of Acton Street, and two blocks of Albermarle Street in El Cerrito, both without regularly planted street trees. The study found that on all of the streets, residents preferred large street trees supporting the hypothesis. However, most residents did not want their street to be planted uniformly—in species and in spacing—going against the hypothesis.

A Community With Trees, 1999  
Junichi Imanishi and Alexander Williams
This group examined the relationship between street trees and feelings of community. Their hypothesis linked tree canopy and uniformity in planting to the sense of community of residents on a block. Two streets in the Rockridge area of Oakland, Hillegass Avenue and Benvenue Avenue, both located between Woolsey Street and Alcatraz Avenue, were chosen as study sites. The group established a strong link between street trees and a sense of community, after controlling for such factors as neighborhood demographics, street type, and some basic community characteristics. Traffic was a significant variable that was not strictly controlled, but the levels were not expected to have much effect on community sentiment.

Street Trees and Seasonal Change in their Urban Envmt, (2copies) 2000  
J. Dinh, H. Kiers, N. Kozier
Abstract being updated.

Street Tree Spacing Study, 1991  
Tom Benjamin, Jordan DeStaebler, Jasmine Kaw

Street Vegetation and Livability: A Study on the Positive Effects of Street Vegetation on Residents  
Cristina Bracho, Carey Knecht, Scott McCarey

TIME

Kronos in the Marina: Scale and the Perception of Time, 1999  
Matthew Adams, Fei Li, Hiroyuki Sasaki, Ying-Ling Sun
This study examined the perception of time in the Marina district of San Francisco. They hypothesized that the perceived time of a walk is directly proportional to the scale of the urban environment. The group examined physical elements of the streetscape, including sidewalk width, sidewalk elements, and characteristics of the building facades. The group chose three walks in the Marina district, Union Street, Lombard Street. The group found that perceived scale (i.e. the mental image constructed by the relative importance of different elements) has a greater influence on perceived time than the actual physical scale of the objects when taken in isolation. The results of the investigation supported the hypothesis that the greater the perceived scale of a street, the longer a walk will be perceived to take.

The Perception of Time, (2 copies) 2000
Allegra Bukojemsky, Carlo Mezzino, Jeffrey Longhenry, Manish Shirgaokar
Abstract being updated.

Memorable Residential Streets, 1987
Henry Hilken, Kurt Nagle, Margot Rosenberg, Rula Sadik

Elements of Street Memorability: A Study of Grant and Stockton Streets in San Francisco's Chinatown, 1996
Francesca Gambetti, Mark Wolfe, Anne-Marie Broudehoux

Memorability & Cultural Space, 2001
Salvador Davila, Candace Koo, Daniela Tavares

TIME ON THE CAMPUS: A study of visual elements and the perception of time, 2004
Yu Cao, Kai-Feng (Emelie) Cheng
Understanding the relationship between the perception of time and visual elements provides a better basis for urban design. Through the study of two roads in Berkeley campus, this research aims to test that the perceived time of a walk is directly proportional to whether pedestrians can see the destination. Though the result shows that seeing the destination does not really influence the perceived time, this research provides other factors, such as, the linearity complexity of the road, making stronger impact on the time walkers perceived.

Large-Scale Design: Modifying the Pedestrian Experience of Time, 2004
Anne Martin, Ted Steinemann
In the South of Market (SOMA) district of San Francisco there has been tremendous change in the built and social environments in the past fifty years. Previous studies of the pedestrian perception of time have shown that time is experienced as passing quickly in fine-grained environments; however, the time seems long in remembrance due to the richness of experience. We were curious; could large-scale buildings, like in SOMA, although generally considered large-grained, be designed in a way that they could provide a pedestrian experience visually distracting from the awareness of time passing? We selected three streets in SOMA to compare pedestrian perceptions of time: Shipley Street between 4th Street and 5th Street, Clara Street between 5th Street and 6th Street, and Minna Street between 6th Street and 7th Street. We studied the physical elements and traffic conditions of these three streets, then conducted walking trials of each street to determine whether pedestrians would perceive a difference in time between the streets. Our hypothesis stated: large-scale building design significantly impacts the pedestrian’s experience of the passage of time; the passage of time is remembered as longer when transparencies provide multiple points of physical and visual access on the lower floors.

From the pedestrian trials we found that the compound effect of the mixture of ages, mixture of uses, as well as an active and engaging street life can offset the effect of large-scale buildings on the pedestrian’s perception of time, even more than transparencies alone. Creating a rich pedestrian experience that is quick in passing, but long in remembrance is not necessarily a question of scale or grain; we found that Minna, the street with the most street frontage of large-scale buildings, provided the most visual and experiential complexity.
More visual information and complexity in the built environment, in addition to a more active street life, leads to a pedestrian perception of time where the time is long in remembrance due to the richness of the experienced environment.

**VIEWS**

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<td>Vistas and Street Memorability, (2 copies) 2000</td>
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