

CPLA C241
Research Methods in Environmental Design
Summary of Student Research Projects

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BART/MUNI**Ashby BART Station Study, (2 copies) 1984****BART 1***Marsba 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, (currently missing) 1995**BART 2***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**BART 3***Joon Bhang, Autumn Buss, Kevin Dwarka, & Richard Walking*

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

A Study of the Pedestrian Environments at Two Suburban BART Stations, 2003**BART 4***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**BART 4-1***Pooja singh (supplementary to BART 4)***Bus and Rail: Appeal and Mode Preference in San Francisco, 2001****BART 5***Matt Haynes & Doug Johnson*

(No abstract available; excerpted by GSI from final document) The main physical difference between the train and the bus is the presence of rails. We expect these rails to offer a smoother, more comfortable ride than the bus. Buses must deal with potholes and steeper grades than rail service. Trains are typically grade-separated, meaning other modes [cars, trucks, bikes, pedestrians, etc.] do not share their route (i.e. tunnel under downtown). Grade separation increases travel speeds with these inter-modal conflicts eliminated. Given these major differences between bus and light rail, we developed the following hypothesis to examine the preference for light rail over bus service: The greater sense of comfort, attractiveness, and permanency of light rail transit enhances its appeal over bus transit.

The Well Connected Ferry Terminal: A Study of Connectivity, and Sense of Place, (currently missing) 2003

BART 6

Jeff Carney, Yuteki Dozono, Laura Mezoff, Marc Pfenninger, & Pablo Undurraga
(Abstract unavailable)

Amenity Access and Public Interaction at Three BART Stations, (2 copies) 2006

BART 7

Vijo Cherian, John Miki, & Jennifer Olsen

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 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, (2 copies) 2007

BART 8

Paul Supawanich, Eric C.J. Liu, Hong Lee, & Caroline Chen

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.

The Integration of BART Stations in their Surrounding Neighborhoods: An Analysis of 24th Street, Glen Park, and Orinda Stations, (2 copies) 1996

BART 9

Joseph Ferrucci, Carrie Hamilton, & Ellen Miramontes

What urban design elements can make the area around a transit station into a focal point of neighborhood activity and community life? This study explores the hypothesis that “a transit station is integrated, or perceived to be integrated, with its surrounding neighborhood when there is proximity of built form, rather than parking or undeveloped land.” It examines the neighborhoods around three transit-stations of the Bay Area Rapid Transit (BART) District in the San Francisco Bay Area: 24th Street, Glen Park, and Orinda Station. The neighborhoods were surveyed for their physical opinions of the transit station area. While no direct correlation is found between the urban design elements of the neighborhoods and the transit station’s actual or perceived level of integration in the community, this study nevertheless offers insights into the role of transit stations in their neighborhoods, and it suggest numerous topics for future study.

Walking to BART, 2009

BART 10

Hyungkyoo Kim & SeungYen Hong

The hypothesis of this study is “the vitality of streets promotes walkability in transit-oriented developments.” We examined the built environment, mixture of activities, and socio-economic characteristics in Glen Park, San Francisco and Rockridge, Oakland, two of the best-performing transit-oriented neighborhoods served by BART. We measured and observed the built environment, observed and followed people, and conducted surveys. We found that walkability is attributed by the vitality of streets which is determined by the built environment and the mixture of activities on street. The results provide implications for design of future transit-oriented developments.

Walking to Muni: Station Integration and Pedestrian Experience, 2010

BART 11

Warner Brown, Melanie Curry, Erik Jensen, Bob Masys, & Yujiang Mou

This study explores connections between location and design of underground Muni stations and the experience of walking to transit: specifically, did the station's location and design improve pedestrian experience? If so, how? We hypothesized that a station that is well integrated into its neighborhood would promote walking and improve walking experience. Five underground Muni stations were examined: Van Ness, Church, Castro, Forest Hill, and West Portal. We defined "integration" and measured aspects of these five stations that influenced it, including visual connection, unobstructed pedestrian access, surrounding mixed use, and elements of neighborhood walkability such as topography and block size. We then surveyed Muni riders who

walked to the stations about their walking experience. Our results confirmed that, to some degree, a well-integrated station will improve pedestrian experience. However, our results indicated that pedestrian experience is most influenced by the nature of the people and public space surrounding the station area.

The Disconnect: Urban Infill and BART Ridership, 2012

BART 12

Michelle Gonzales & Kushal Modi

The Senate Bill 375 has outlined certain planning measures that encourage the “densification” of urban centers especially near transit stations which would decrease car usage and increase ridership by public transit. The specific purpose of this study is to investigate whether this guideline about locating urban infills near transit station has direct relation to the increase in transit ridership. Our case studies - Fruitvale Transit Village & Uptown Apartments - in Oakland are located within a 5-minute walk from their respective BART stations. We commence this study by analyzing secondary data about demographics and site features. This is followed by an on-field observation. We collate and compare the results to draw implied assumptions that lead us to believe in the disconnect that exists between the increase in BART ridership & Urban infill. After our survey investigation, we test our assumptions, which further help us draw important conclusions, e.g. the reach of BART being an important factor in locating urban infills and the stress on safety by residents & BART users. The study also makes us aware of certain drawbacks in our initial methodologies which we summarize in the Future Considerations section.

CLIMATE

Sea Level Rise and Perceptions of Risk in Alameda, 2013

CLMT 1

Carline Au, Julianne Chou, Swati Sachdeva

The Bay Area is blessed with a comfortable climate. Unlike other large metropolitan areas, extreme temperatures are rare. However, the Bay Area will be affected both directly and indirectly by rising sea levels in the foreseeable future. Climate scientists say that coastal erosion, flooding, and increased storm surges might cause serious damage to habitats as well as property damage and threats to major infrastructure.

The City of Alameda will be one of the first to experience serious destruction from inundation. Neighborhoods near Alameda Southshore have been built on landfill, which puts them at risks as water levels change in the Bay.

Our study used mail-in surveys and field interviews to examine how two neighborhoods of Alameda's Southshore perceive their risk due to sea level rise differently, depending on their locational setting to a lagoon or shoreline. The study revealed that despite the lagoon residents' lower elevation and more immediate susceptibility to flooding, the bayview residents had a more heightened perception of risk due to their closer proximity to the ocean and direct observance of king tides. One can conclude that differences in landscape conditions and relationships to bodies of water (the ocean vs. a controlled, man-made lagoon) can influence one's perception of risk.

Sea Level Rise and Perceptions of Risk around Mission Creek, 2013

CLMT 2

Mariel Steiner, Eden Ferry, Loosine Vartani

Since the mid-19th century, the Mission Bay area of San Francisco attracted a wide variety of would-be settlers, imaginative speculators, and visionary planners (Olmsted, 1986). The area was a center of shipbuilding and a major portal for shipping and trade (Olmsted, 1986). It was also an important hub for industry with the construction of the railroad on 3rd Street at the turn of the 20th century. Today, Mission Bay continues to be an object of speculation by real estate developers and the city itself, with 6000 residential units built within the last ten years in an area that had been formerly derelict (abandoned industrial facilities). Further construction is planned for retail, offices, and major expansion of UCSF's Mission Bay Medical Center.

As part of this current wave of development, parks, promenades and other public amenities have been designed to highlight *Mission Creek* as an amenity rather than a necessity or an eyesore. However, the area's waterfront location and low elevation make it vulnerable to flooding and subsequent property damage, especially with the specter of global sea level rise in the next century. So far, these risks (sea level rise and inundation) do not seem to be perceived as threats to developers or buyers, which leads to the subject of our study, awareness and perceptions of risk related to sea level rise around Mission Creek. The objective of the study was to determine whether residents are aware of tidal flux and if so, whether that has any correlation to their perceived risk associated with flooding and sea level rise. As designers, we are curious to what degree elements of the built environment make people aware of fluctuations in natural cycles and how we might apply this in future public spaces.

We hypothesized that residents living closer to Mission Creek both by distance and elevation, houseboat residents, would be more aware of tidal fluctuations, sea level rise predictions and potential threats to their property than residents living further away who have less regular contact with the creek. Our results informally confirmed our hypothesis, but were not statistically significant.

Multi-Hazard Urban Risk: International Blvd, Oakland, 2014

CLMT 3

Emma Ding, Jennie Bernstein, Marcy Monroe

Due to the region's geographic and ecological contexts, a variety of environmental risks face residents in the San Francisco Bay Area, including: earthquakes, droughts, flooding, and prospective sea level rise. In a climate change era, the importance of assessing where these risks are likely to manifest in physical damage, and who is most likely to bear the burden of such impacts becomes critical.

For urban planners, landscape architects, and urban designers working in the Bay Area, we feel that attention must be turned towards mapping out the densely populated urban areas where a combination of geographic, geological, and structural conditions contribute to a higher cumulative risk for the area's residents. The following report outlines a research design approach and preliminary application of the methodology to assess projected risk, and risk perception of multi-hazard risks in the area near International Boulevard, adjacent to Lake Merritt, Oakland.

A Rising Tide, 2015

CLMT

4

Lu-Ming Lee, Marine Oudard, Mario Rodas, & Xinni Zhang

The global climate change has grown to be severe over one hundred years so as in the future. As part of the impact from global climate change, the Bay area will be affected by the rising sea level in the foreseeable future. This research study will focus on the perception of sea level rise risk among residents living along the Alameda and Marina District shorelines, due to their similar physical

conditions and projected sea level rise risk. This study will use a survey questionnaire as the main method to retrieve resident's feedback, which will try to identify the factors that influence the perception of sea level rise risk.

COMFORT

Stockton Street Comfort Study, (year unknown)

CMFT 1

Authors unknown

(No abstract available; excerpted by GSI from final document) This study begins with the premise that people have a need to be physically comfortable. Physical comfort is determined by a number of factors, including wind, sunlight, temperature, and humidity. These factors work together to produce a wide range of climatic conditions. We are interested in the climatic conditions experienced by individuals at street level.

Within an urban environment, the form of that city will influence the climatic conditions experienced by individuals at street level. More specifically, within an area, the number of buildings, the relationships of these buildings to one another, and the geometric shapes and sizes of these buildings will together produce shade and wind conditions which in turn affect people's comfort. We believe that to some extent, people's behavior will be directed by and reflect a need to be comfortable. The purpose of this study is to examine the relationship between climatic conditions as determined or modified by the built environment, and people's behavior. Stockton Street in San Francisco has been chosen as a site for study to test our hypothesis that such a relationship exists. If indeed it can be found that people determine their behavior according to climatic conditions, this may have implications for urban design.

Comfort in Urban Open Spaces, (2 copies) 1984

CMFT 2

Shih-Cheng Chung, Heidi Schless, David Shaw, & Sam Ziegler

(No abstract available; excerpted by GSI from final document) Livable cities need usable open space. Factors known to influence people's use of open spaces are seat availability, aesthetics, other people, location, landscaping and view, as well as wind, sun and temperature. This is a study of comfort in two urban open spaces, Union Square and Sydney Walton Square, both located in downtown San Francisco, California. Our purpose was to determine how comfort areas are defined and how they affect the way people use public open space.

Sutter Street Comfort Study, 1984

CMFT 3

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

CMFT 4

Christopher Castorena & Lewis Kraus

(No abstract available; excerpted by GSI from final document) This study was undertaken to replicate and validate the findings of the Sun, Wind, and Comfort study of Dr. Peter Bosselmann.

This study selected specific sites in the city and simulated the effects of a changing skyline on it. The authors participated in a class concerned with the replication of previous city planning efforts in order to determine their timelessness throughout seasons as well as epochs. Dr. Bosselmann's efforts took place in early 1985, and continued through to the opening of Boedekker Park in May. In order to replicate his study, the methodology in this study will mirror that used in the park, both studies take account of the physical and environmental variables, as well as the behavioral responses of the park's clientele in relation to those variables and thus to their desire for comfort. Additionally, this study was able to validate through field testing some measurements generated in a laboratory setting which were done by Dr. Bosselmann to predict the comfort of an area (and therefore the behavior of those using the area).

Huntington Park: Comfort and Microclimate Study, 1987**CMFT 5***Teresa Babich, Christine Gimmler, & Ephaim Leon-Guerrer*

This study was designed to determine how comfort areas and the built environment are defined and how they affect 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? (2 copies) 1989**CMFT 6***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 B. 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: Comfort in Recreational Urban Open Spaces, (2 copies) 1993**CMFT 7***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**CMFT 8***Chris Thomas & Shenglin Chang*

(No abstract available; excerpted by GSI from final document) The Portsmouth Square Comfort Study set out to evaluate interrelationships between physical and psychological comfort of users in

an open space set within a highly urbanized community. The open space is Portsmouth Square in San Francisco's Chinatown. The hypotheses are: 1. Relative degrees of physical and psychological comfort modulate one another in the users' location within, and use of, a public open space; and 2. Physical and psychological comfort are defined differently according to the personal characteristics of the users, and the purpose(s) of their visits.

Microclimatic Factors and Its Effects on Use: A Study of Pier 7 and the Embarcadero Promenade, 1996

CMFT 9

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

CMFT 10

Micha Hoy & Katie Stockhammer

(No abstract available; excerpted by GSI from final document) We are interested in the issues of the design of public spaces. Specifically, we are interested in how the microclimate affects the ways that open air spaces are used. It is valuable for designers to know how the collection and analysis of microclimate data might inform decisions about the design of public spaces. This project was structured to provide us with experiences in the process of preparing a thesis, gathering field data, preparing a survey, evaluating the findings and developing conclusions.

One observation confirmed by this study is that the microclimate in downtown Oakland was fairly pleasant. However, microclimatic differences between our study areas and our observation of human behavior patterns suggest that people are aware of their comfort within the larger plaza when they make their choice about a specific seat. This was confirmed through the survey. Further, we found that there was a significant difference in people's responses when it was a sunny versus an overcast day. There were also marked differences between choices of a resting place when responses from three sites were compared.

The findings suggest that designers need to consider the variety of personal preferences in terms of microclimate issues as well as psycho-social issues such as quiet, calm spots, landscaping features and interesting activities to watch when developing the site as well as when considering finish materials and furnishings.

Comfortable Pedestrian Space, (2 copies) 1999

CMFT 11

Shinichi 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': The Climate Influence on Base Point Selection by the Creek,

(2 copies) 2000**CMFT 12***Chao-ti Chen, Eli Ilano, & Chia-ning Yang*

Outdoor climate condition is identified to influence the behavior of the outdoor urban environment. There are a number of factors that influence how people select a spot for sitting. This study chose three sites along Strawberry Creek on the UC Berkeley campus to discover how climate, among other factors, influences base-point selection at creek side areas. We hypothesized that climate is one of the main factors that influence the base-point selection for stationary activities, and that climate dominates when climate conditions are extreme. Behavior mapping and on-site surveys were conducted on days with different climate conditions. The effect of climate was analyzed in relation with the sunshade pattern and seating type. Other factors including accessibility, sense of enclosure, and sound and view of creek are also analyzed.

The results partially supported our hypothesis, and revealed insights on the complexity of the behavior base-point selection.

Stockton Street Comfort Study: Chinatown San Francisco, (2 copies) 1985**CMFT 13***Alan Harris, Ahn-Ming Hsia, Kai-Tai Lin, & Patricia McCormick*

(No abstract available; excerpted by GSI from final document) The height and bulk of building create shade and wind conditions, at street level, producing a microclimate that may or may not affect pedestrian behavior. This study hypothesizes that the climatic conditions in San Francisco will influence people's behavior. This study will try to quantify the effects of the microclimate on two blocks of Stockton Street in Chinatown.

Investigating Solar Comfort in San Francisco Perimeter Blocks, 2012**CMFT 14***Lingyue Anne Chen, Daniel Collazos, Gabriel Kaprielian, & Carlos Recarte*

This study focuses on the relationship between perimeter block orientation and solar comfort. We investigate three perimeter blocks with three different orientations in San Francisco based on their similarities in terms of density, building heights, income level, micro climate, tree canopy, elevation, and air space. By means of physical observation, solar irradiation modeling and simulation, and surveys, this study investigates the following hypothesis: San Francisco city blocks where all block sides (angled blocks) receive direct sun exposure have greater solar comfort compared to blocks with and east/west or north/south orientation. Solar comfort is defined as a condition or feeling of pleasurable ease, well-being, and contentment in relation to solar insulation. From the data compiled throughout the course of this study it is evident that angled blocks, or blocks that receive direct sunlight on every side, receive a higher level of sun exposure and have a higher level of solar comfort in comparison to the east/west and north/south orientations.

Market Street Intersections: A Study of Pedestrian Sense of Comfort, 2013**CMFT 15***Takataro Ando, Mark Dreger, Edward Graves, Leah Stockstrom*

San Francisco's Market Street cuts diagonally from the waterfront on the edge of the Financial District to the foot of Twin Peaks, near the geographic center of the City. It is considered San Francisco's "Main Street" and is its most important multi-modal transportation corridor. A major undertaking, dubbed the "Better Market Street" project, is currently being conducted by five city agencies and community partners to improve the corridor. To inform the on-going Better Market Street planning efforts, this study examines the perceived sense of comfort from a pedestrian perspective of Market Street's irregular north-side intersections to inform improvements to intersection design.

The team hypothesized that: Pedestrian crossings at complex intersections are perceived as less comfortable, and; Pedestrian refuge islands with key design elements cause pedestrians to perceive an increased sense of comfort. After selecting a subset of intersections based on type, the team conducted field measurements and a pedestrian intercept survey on comfort. The findings from the measurements and the survey support the hypothesis. The less complex an intersection, the more comfortable a pedestrian feels. This informs the re-design of Market Street by suggesting design interventions that favor less complex intersections are better for pedestrians. If Market Street is truly to support a fully multi-modal corridor, design interventions such as building out plazas or curb extensions are needed.

Larkspur Underwater, 2016

CMFT 2016

David Koo, Raniah Odeh, Myra Messner

While the many draws of the San Francisco Bay Area include a comfortable, mild climate and stunning water views, these attributes are also vulnerable to climate change. Notably, climate models have predicted a 1.4 meter rise in sea level in the Bay Area by 2100. Climate change may affect the Bay Area not only with rising sea levels but with storms and extreme high tides as well. Thousands of homes and many infrastructural works are located within vulnerable areas. The city of Larkspur in Marin County is one area that will be affected by climate change. Neighborhoods in Larkspur contain former houseboats residences and residences built on land ll, both of which lie a few feet above the Corte Madera Creek. As the Corte Madera Creek features changes in water level due to both tides and heavy rain events, these Larkspur neighborhoods are at risk of a changing climate.

This study uses mail-in surveys and in-person interviews to research how neighborhoods perceive their risk due to sea level rise differently, depending on the nature of their built environment. Our study compares the responses of those living in homes built on stilts with those residing in homes on landfill facing a lagoon and on landfill facing the Corte Madera Creek. We also analyzed the effect of mandatory flood insurance on the perception of risk due to sea level rise.

DENSITY

A Study in the Perception of Density, (year unknown)

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 25th 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, (currently missing) 1986

DENS 3

James Richard Bergdoll, Jr.

(A Proposed Research Agenda) 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: A Study of Physical Characteristics of Suburban Neighborhoods and Their Effects of Perceived Density and Satisfaction, (oversized copy) 1987

DENS 4

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, (2 copies) 1987

DENS 5

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

DENS 6

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

DENS 7

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, (oversized copy) 1992**DENS 8***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**DENS 9***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, (oversized copy, 2 copies) 1994**DENS 10***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 Ashby). There was no correlation found between homogeneity and the perception of density.

Recognizable Boundaries and Their Effect on Perceived Density, 1994**DENS 11***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**DENS 12***Kaori Tokunaga, Kim Nitayangkul, 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

DENS 13

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

DENS 14

John Bentler, 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 (currently missing) 2000

DENS 15

Kevin Aaron, David Davis, Neil Hrushony, Khushru Irani, Amit Patel, Stefan Pelligrini, & Steven Shum
(Abstract unavailable)

Perceived Density & Sense of Community: A Study of Relationship between Perceived Density and the Sense of Community on Three Residential Streets in San Francisco, 2001

DENS 16

Kartika Rachmanavati, 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, (oversized copy) 1989

DENS 17

Carl maxey & David Alumbaugh

(No abstract available; excerpted by GSI from final document) The concern of this study is to evaluate the significance of a limited number of visual elements that are suspected to be the most influential in the perception of density. The field research resulted in several conclusions about people's perception of density in San Francisco. First, that of the many visual clues tested for, the ones most frequently mentioned by those interviewed as being influential in their perceptions of density on Filbert, Green, and Jackson Streets in Dan Francisco are the number of windows and doors, the height of the buildings, the area of building facades, and the width of the street.

**Fitting In: Acceptability of Infill Development in Two East Bay Communities,
2004**

DENS 18

Susan Moffat & Jason Hayter

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: The Relationship between Architectural Design and
Perceived Residential Density, (2 copies) 2004**

DENS 19

Jennifer Cutler, Christopher Janson, 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, (2 copies) 2006

DENS 20

Corrina Hartnett, Eva Huang, Selina Lam, & Haien Lee

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 & Neighborhood Amenity Study, (2 copies) 2006

DENS 21

Julia Abbassi, Terri O'Connor, & 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.

Perception of Density, 2001

DENS 22

Bradley Flamm, Petree Knighton, Darin Ranelletti, & Jose Valdes

(No abstract available; excerpted by GSI from final document) The concept of density is fundamental to the fields of land use planning and urban design. Traditionally, density is defined as the number of people per unit area. Planners and designers apply this concept to buildings, neighborhoods, and regions because it allows them to regulate the intensity of uses in an area which has a large impact on the character of that area.

Based on Rapoport's theory regarding the perception of density and the notion that people often dislike higher levels of density, we tested our hypotheses and found that: on residential streets of similar physical density: 1. Visible yard does will influence the perception of density in that streets with more visible yard space will be perceived as less dense; and 2. The lower the perceived density, the higher the satisfaction of residents and visitors.

A Study of Perceived Density, 1988

DENS 23

Jim Bergdoll & Rick W. Williams

(No abstract available; excerpted by GSI from final document) The purpose of this study is to explore people's perception of density in urban residential settings: How people feel about it, what physical characteristics affect people's perception of it, how these characteristics affect satisfaction and livability, and ultimately what might be done to make necessarily high density urban areas more attractive.

Densification and Sense of Place: A Study on the Relationship between Densification and the Loss of Sense of Place in Neighborhood in San Francisco's Richmond District, (2 copies) 2008

DENS 24

Jessica Look, Brinda Sengupta, Jassu Singh, & Dario Schoulund

(No abstract available; excerpted by GSI from final document) We chose to explore the relationship between densification and sense of place and prove our common belief that densification need not lead to a loss of sense of place if done in an appropriate way. We hypothesized that densification does not lead to a loss of sense of place when the process of densification occurs gradually over time, involves the local community, and when there is no perceived loss in the original physical character of the area. Our study shows that often people do now perceive a higher density if there is no loss in the physical character. Thus design can significantly contribute in making density palatable by working with building types and landscapes that have a sense of continuity with what was before.

Density and Livability in the Marina District of San Francisco, 2009

DENS 25

Anna Robinson, Kenya Huezo, & Steven Lee

There is a widely held belief that density and livability have an inverse relationship – that is, as residential density increases, livability decreases. This study challenges that notion by hypothesizing that density and livability are not inversely related. We tested this hypothesis by comparing two residential city blocks in the Marina District of San Francisco, one of which has twice the density of the other. We assessed the livability of each block by taking measurements of five “livability indicators”: traffic, availability of parking, noise, crime, and maintenance. We also surveyed the residents of each block to confirm our measurements and observations. In the end, our measurements and survey results generally supported our hypothesis – we found that availability of parking, noise, and maintenance were quite similar between the two city blocks despite the significant difference in density. We did, however, note a considerable difference in traffic volumes between the two blocks, suggesting a correlation between density and traffic. Our data on crime was inconclusive. Survey responses demonstrated that residents on the higher density block perceive their block to be just as livable as residents on the lower density block.

Design + Density and the Relative Influence Each Has in Determining Housing Preference, 2009

DENS 26

Joe Akman, Bobby Glass, Jeff Ream, & Jonathan Rogers

This study seeks to identify the relative importance of design quality as opposed to perception of density in formulating housing choices.

We hypothesize that attractive block design has a greater influence than a block's density when people formulate their opinions about housing preference. Defining factors that contribute to attractiveness in block design is an important sub-hypothesis that was identified during the study development. Analyzing the results of both the main hypothesis and the sub-hypothesis finds several important conclusions. The results could impact how blocks, neighborhoods, and cities are designed in order to encourage people to live in denser, less auto-dependent locals.

A total of six blocks (a pair of blocks in three different residential neighborhoods) were selected in San Francisco in order to carry out this study. Each of the subject blocks were analyzed through common variables in order to better understand the streets and categorize them in terms of their overall design quality. The streets were then self-ranked in terms of density, attractiveness, and overall preference. A written survey was developed from the rankings and carried out with a group of 10 non-residents to ascertain the perceptions of people unfamiliar with these selected blocks. Survey results were analyzed separately and then compared to our initial rankings to prove or disprove our hypothesis and sub-hypothesis.

The results conclude that there is a direct relationship between street attractiveness and preference. Of equal importance is the discovery that several design elements are determined to be most impactful on people's perception of attractive block design. These design elements are of

particular importance in people's perceptions of design quality, which overshadow the influence of density in their housing preference.

Topography, Density and Livability, 2004

DENS 27

Don Vebige, Kit Wang, & Adam Weinstein

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 firsthand 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 Matters: Vitality vs. Livability, 2011

DENS 28

Brian Chambers, Mahammad Momin, Michael Newton-McLaughlin, & Deepak Sohane

This is a study that explores the relationship density has on vitality in transit related neighborhoods. Comparing three neighborhoods, Castro, Mission, and Rockridge, our research measured the affects that density is having on cultivating vitality along a commercial street. By keeping all other factors constant except density our measurements and observations were able to isolate the factors that contribute to vitality and then compare those affects on people's perception of livability.

How Will Resident Values Guide (Sub)Urban Form, 2011

DENS 29

Matthew Brill, Karla Kingsley, & Jessica Zdeb

Discovering ways to increase density in Bay Area suburbs will become an increasingly important goal as planners seek to accommodate growth in the coming decades without perpetuating the negative externalities of sprawling development in the last decades. Any changes to increase both the density and livability of these communities must start with a baseline understanding of resident values so that changes will be acceptable to current residents. This study examines Piedmont and Orinda, a "streetcar suburb" and a "bedroom community" to better understand how residents conceive of livability in their communities and what aspects are most important to them. With this baseline, the study then examines whether residents would be receptive to changes that increase density their neighborhoods. Findings indicate that residents of the two types of suburbs have differing values in terms of walkability, privacy, proximity to amenities, and lot size, but that residents of each neighborhood highly valued safety. The study also found that residents of both neighborhoods are mostly opposed to changes that would increase density, such as new multi-family housing, or subdivision of lots to create more homes, but that a portion show some level of acceptance of neighbors adding second units. Furthermore, they may be accepting of density elsewhere in their cities (outside their neighborhood) and of other changes that increase livability such as the addition of sidewalks or pedestrian connections.

Perception of Density in Haight-Ashbury Perimeter Blocks, 2013

DENS 30

Hyun Young Jin, Marta Gual, Sam Maurer, Alejandra Orellana & Justin Richardson

This study explores the relationship between access to and qualities of backyard space and perceptions of density in perimeter block housing configurations. We investigate four perimeter blocks with two different interior yard configurations in the Haight-Ashbury neighborhood of San Francisco based on their similarities in terms of population density, socioeconomic status, topography, building height, building type and housing units per building. Through field measurements, remote measurements and surveys, this study explores the following question: what characteristics of perimeter block open space might offset the potentially negative effects of moderately high density? Our strongest findings are that residents with access to a private backyard have substantially lower perceptions of the number of people living in their block, as do residents who receive more light through their rear windows.

Urban [In]fill: The VMT success and failures of SB 375, 2014

DENS 31

Justin Kearnan, David Cooke, Yue Fu, Weining Cao

This report considers the impact that SB375 has had in reducing VMT within San Francisco. In order to define the field of research a question was proposed: “Are residents of new Urban Infill Projects, encouraged by SB375, lowering their net VMT?” From this question there are four main research categories that were used to test this question, these are walkability, affordability, transit and amenity.

Three buildings within in San Francisco where selected as study buildings, these buildings where located in areas that had undergone recent urban infill based upon their proximity to transit. The buildings where located in the areas of Glen Park, Dog Patch and King Street.

Through primary and secondary desktop research methods and by undertaking a written survey and interviews of residents of these buildings we were able to tabulate our findings and broadly confirm that our research question was true. That residents within these urban infill projects are reducing VMT. Upon closer inspection of the results the reports was able to draw a conclusion that the quality of neighborhood amenity has a greater impact on reducing VMT than transit and urban infill alone. The report than proposes possible adjustments in the delivery and implementation of SB375 in order to more closely link transit and amenity in terms of future urban infill planning. Based upon the report’s findings, such an adjustment will have a greater impact on reducing VMT and achieving the aims of SB375.

Accessory Dwelling Units and the Perception of Density in North Berkeley, 2014

DENS 32

Sonia-Lynn Abenobar, Alberto Benejam, Tamar Nativ

This project analyzed whether Accessory Dwelling Units (ADUs), defined in this study as detached secondary units on the same property as a larger primary residence, have any effect on how density is perceived. The study area is located in North Berkeley, and the project was inspired by recent proposals to the Berkeley City Council that would streamline the application process for ADUs. These changes would be likely to increase the prevalence of ADUs if adopted. The project compared data from site observations, satellite imagery, and census data with surveys conducted on six North Berkeley blocks. These blocks were separated into 3 categories based on the number of ADUs on each block (high, medium, and low), and were otherwise as similar to each other as possible. The same surveys were carried out in all six blocks and our group failed to find any statistically significant correlation between the number of ADUs on a block and how dense the neighborhood was perceived. Overall, respondents had very positive impressions of the quality of their neighborhood and were more likely than not to believe ADUs were beneficial and unobtrusive. Our findings suggest that area residents would generally support the proposed changes to the ADU approval process, with only one area of concern. Many residents expressed the area has a lack of parking, and there was a strong correlation between parking availability and

perceptions of crowdedness. We suggest the City Council and the Planning Department of the City of Berkeley spend revisit and reevaluate the proposed changes regarding parking to ensure maximum neighborhood support.

Urban Infill Development and the Effect on VMT in San Francisco, 2015

DENS 33

Sara Alharbali, Andrew Toth, & Yueyue Wang

This study analyzes the impact of urban infill development in San Francisco on transportation as it relates to the Senate Bill 375. The Senate Bill 375 encourages urban infill development close to public transit in order to increase public transit ridership and reduce greenhouse gas emissions. The study hypothesizes that residents of urban infill development with greater transit availability and access to a variety of amenities will have a lower amount of vehicle miles traveled.

Three urban infill developments were chosen for the study. The three sites were chosen based on the transit availability and amount of nearby amenities. Sites have a range of public transit availability. One site has many transportation options, one has a few transportation options and the other site is in between. All sites were chosen to have a similar amount of nearby amenities.

An analysis of secondary data, primary data collection from field observations and surveys provides the basis to draw conclusions on the impact of urban infill development on transportation. Findings show that urban infill development is effective at reducing vehicle miles traveled and increasing public transit ridership. An important finding from the study is that none of the survey respondents rely on their car for major trips such as work trips, going grocery shopping or going out to eat so it is assumed that vehicles are used for leisure trips on the weekend. Developers can build less parking and take advantage of shared car services such as Zipcar. A reduced parking ratio for urban infill development can be an incentive to developers to lower the cost of construction.

VMT and the Urban Context: Comparing El Cerrito and Oakland, 2015

DENS 34

David Amos & Yasir Hameed

The negative impacts of global climate change prompted the California legislature to pass SB 375, a bill designed to reduce California's greenhouse gas emissions through the integration of transportation and land use planning to reduce vehicle miles (VMT) traveled at the regional level. Transit-oriented development (TOD) is seen as a way to reduce VMT, but does it matter if the TOD is located in a dense urban area or a suburban area? This study examined that question through a survey of residents in two TODs, one in downtown Oakland and another in El Cerrito. Both sites had similar transit access, but very different neighborhood contexts. The results of the survey were somewhat inconclusive, as a low response rate made policy conclusions impossible. The results showed that household VMT per week was lower for residents of the El Cerrito TOD than the Oakland TOD, though confounding variables such as income and age are a more likely explanation than TOD context.

Perception of Density and Place Attachment of Mission District Perimeter Blocks, 2015

DENS 35

Hyokyung Ryu, Gautam Sachdeva, & Mariana Torres Salomao

Perimeter blocks and the perception of density in Perimeter blocks have been studied for CP/LA C241 in the past. This report tries to test the relationship between urban canopy in and around the perimeter block with what the people who live in the block perceive the density to be. In addition to the perception of density our hypothesis also tried to test the relationship between urban canopy and the degree of attachment to the backyard space in a perimeter block. To approach this

research we performed collected secondary data using various sources available online, primary research data by going in the field and recording relevant data and finally conducted a resident survey to understand what it is to live in each block chosen for the study. We did not receive back as many surveys as we thought we would and had to depend on our primary and secondary data to prove our hypothesis, but from whatever surveys we did receive back, we did manage to prove the first part of our hypothesis that higher greater urban canopy in perimeter blocks reduces the state of being crowded or the perception of density. For the second part of our hypothesis which was that higher urban canopy in a perimeter block increases attachment to the backyard/perimeter block, we were not able to find any relationship between that. This report also tries to explain the low rate of return on the resident survey and suggests methods for improving resident surveys for similar research topics.

Reducing VMT: Measures Beyond Proximity to Transit and Amenities, a Case Study of Three East Bay Residences, 2016

DENS 36

Tadao Fujinara, Anup Tapase, & Logan Woodruff

Decreasing our dependence on automobiles to reduce carbon emissions is a high priority in California. Transit-oriented housing developments, at least in theory, enable residents to rely more on public and active transit modes. In fact, development of urban infill housing, which is financially incentivized by SB375, is based on the assumption that residents will drive less if they have higher access to public transit and amenities. However, are these residents really lowering their net vehicle miles travelled (VMT) by auto?

Our research focused on three such transit-oriented developments in El Cerrito, Oakland, and Hayward, near BART stations in the East Bay. We determined transit accessibility of the residents of these developments by understanding the options available to them, measuring how far they could travel in a given duration, and how this compared against driving. We analyzed walkability of the neighborhoods by measuring sidewalk, street, and traffic characteristics, and recording observations on building typology, facades, street-signs and safety, focusing on three trips: to the BART station, a healthy foods grocery store, and an open space. We also captured demographic characteristics of the residents as it correlates to travel patterns. Finally, a mail-in survey of the residents revealed their travel patterns for various routine activities and sentiments regarding various transportation options, which we correlated with our findings on transit accessibility, walkability and resident characteristics.

We conclude that residents of transit-oriented developments do lower their VMT by auto, but this is hinged on a few factors. Public transit needs to be competitive with driving for high transit accessibility. Walkability of the neighborhoods, enhanced by interesting streetscapes, gathering spaces, and infrastructure investments, is critical. The magnitude of the VMT decrease is also influenced by demographic factors such as age and presence of children in the household. Additionally, design of the developments for higher density, and limiting parking availability at home and the workplace further enhances the effect in VMT. The success of transit-oriented and urban infill housing projects is contingent on such factors. Towards this, SB375 should be followed up by policies that incentivize higher density, remove parking minimums, encourage smaller unit sizes and stimulate construction of mixed-use developments.

NEIGHBORHOOD PATTERNS & SOCIAL INTERACTION

Subdivision Guidelines and Standards for Residential Subdivision Streets and Their Impact on the Suburban Environment, (currently missing, year unknown) NPSI 1

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: A Study of Commercial Land Use and Population Change, 1978 NPSI 2

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 NPSI 3

John Steere & Yoshi Asanoumi

(No abstract available; excerpted by GSI from final document) This study examines a possible attribute of that sense of place: perceived enclosure, so as to find out what role, if any, it plays in the making of a neighborhood as a place. The major research issue is the correspondence between the amount of enclosure and the sense of territory, security, and comfort experienced in a neighborhood with a hypothesis: Does the experience of physical enclosure contribute significantly to a sense of place in a neighborhood?

Subdivisions Surrounded by Walls: Nouveau Feudalism? (2 copies) 1989 NPSI 4

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: A Study of the Relationship between Accessibility and Vitality in Community Shopping Districts, (2 copies) 1991 NPSI 5

Jodi Ketelsen-Johansson, 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, (2 copies) 1992

NPSI 6

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, (2 copies) 1992

NPSI 7

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

NPSI 8

Jonathan P. Kazmar, Leora S. Elazar, & Maria K. 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

NPSI 9

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

NPSI 10

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

NPSI 11

Bruce Appleyard, Marcus Diederich, & Vijay Jayachandran

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

NPSI 12

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

NPSI 13

Yung-Teen Chiu, 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

NPSI 14

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

NPSI 15

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

NPSI 16

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

NPSI 17

Mohamed Abdel-Kader, Sharon Danks, & Corrina Kveskin

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 & Neighborhood Continuity, 2000

NPSI 18

Tom Evans & Jonathon Kass

(No abstract available; excerpted by GSI from final document) This research project was designed to look into the non-automotive effects of traffic calming devices in residential neighborhoods. We were interested in changes to street livability resulting from traffic calming devices. Based on our observations of traffic and pedestrian behavior at various intersections on Berkeley, we developed the following hypothesis about how traffic devices would impact neighborhood continuity: Intersection traffic calming devices affect neighborhood continuity; diagonal diverters disrupt continuity while traffic circles promote continuity. Understanding that traffic calming devices impact individuals differently depending on their mode of travel, we added the following subhypothesis: This distinction between diagonal diverters and traffic circles is especially pronounced for automobile users.

Urban Creeks and Livability: A Study of the Relationship between Urban Creeks and Their Neighborhoods, 1996

NPSI 19

Seth Cornell & Pamela Bodie-Schwarz

(No abstract available; excerpted by GSI from final document) This study is an attempt to analyze the effects of open creeks on the livability of urban neighborhoods. The nature of the creek's channel and the way it is addressed by the surrounding urban fabric dramatically influences the way in which the public feels about the creek. Therefore, we conclude that physical conditions of a creek, particularly those related to increased visual accessibility, are crucial as to how an urban creek is perceived by the surrounding neighborhood. Those perceptions decide whether or not the creek enhances the livability of the neighborhood.

A Highway Ran through It, (2 copies) 2003**NPSI 20***Claire Hilger, Karen Mauney-Brodek, & Rodrigo Orduna*

(No abstract available; excerpted by GSI from final document) We were interested in the linkages within neighborhoods, the continuity within an area that makes the area “connected,” and to see how those things work and impact livability. By choosing to study the “empty” spaces that were occupied for decades by the Central Freeway in San Francisco, we had the opportunity to study an area, which we hypothesized functioned as a break, i.e. a definite and abrupt discontinuity in the neighborhood fabric. We hypothesize that: The spaces along Octavia Street that were once beneath the Central Freeway create a perceptual and habitual divide between two districts within the area bounded by Market Street, Webster Street, Golden Gate Avenue, and Van Ness Avenue. Based on our analysis, it appears that a habitual and perceptual divide was potentially developed along the scar of the former Central Freeway. It seems that through land use, crosswalks and the placement of the “scar,” we can make a barrier such as this more or less difficult to overlook/overcome.

The Contribution of Experiences of Nature along the San Francisco Waterfront to Community, Livability, Civic Identity, and Urbanity, (2 copies) 2003**NPSI 21***Justin Doull, Anchi Mei, & Marie Sorensen*

The waterfront is an important if not the most important attribute of San Francisco’s urban form. Surrounded on three sides by water, the ocean and bay are San Francisco’s greatest limitations as a growing city yet arguably its greatest asset in an age of sprawl. Waterfront awareness, development, and redevelopment have become an increasingly prominent focus in city planning and design both in the Bay Area and the world over.

We chose places along the San Francisco waterfront as a departure point to further study the social and personal effects of nature in urban context. We chose three places – Crissy Field, Marina Green, and the Embarcadero – that had varying degrees of nature. By nature, we meant it in both ecological and design terms – the amount of vegetation in the place as well as the way the place was designed to meet the water, for example the hardscaped promenade of the Embarcadero compared to the restored estuary at Crissy Field.

History and Imageability: A Comparison of Two San Francisco Neighborhoods, (2 copies) 2004**NPSI 22***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, (2 copies) 2004**NPSI 23***Marilyn Yu-Li & Benjamin Bross*

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, (2 copies) 2004

NPSI 24

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 affect 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, (2 copies) 2006

NPSI 25

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: Evaluating Freeway Underpass Design and its Relation to

Neighborhood Connectivity, (2 copies) 2006**NPSI 26***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 gauge 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, (3 copies) 2004**NPSI 27***Garlen Capita, Sheila Hakimipour, & Aditi Rao*

(No abstract available; excerpted by GSI from final document) As urban designers, we are concerned with creating identity. As Kevin Lynch states in *Image of the City*, clarity and legibility – the ease with which the parts of a city can be recognized and organized into a coherent pattern – are important to the way that inhabitants perceive their physical environment. In addition to the physical factors, there are a number of cultural, social and historical factors that contribute to a sense of identity. Although designers may not be able to control the social and cultural forces that influence identity, the vision of a designer guides the physical aspects of place making. Washington Square's strong physical character is the key to its identity. The Square, a park frames by streets with older buildings highlighted by the Church of St. Peter and St. Paul, holds a strong mental image. Our team theorized that the physical shape of the Square contributed to this strong mental image, and we set out to test how the physical form of a place relates to its sense of identity and contributes to the mental image that users have of that place. This led to our hypothesis: neighborhood centers with a distinct physical form will have a greater identity than those without a distinct form. To test our hypothesis, we settled on Washington Square; Lakeshore Avenue in Oakland, which has an irregular form; and the Rockridge area of Oakland, a neighborhood center that runs along a linear corridor. Our initial assumption was that Washington Square's distinctive physical form would have the highest level of identity. Our site analysis, observations, and user descriptions were consistent with our hypothesis. Washington Square because of its strong edges, paths, landmarks, and nodes has a physical structure that is clear and recognizable by almost all survey respondents. Lakeshore, which had clear landmarks and nodes but weaker edges and paths still had a high degree of identity among users. While Rockridge with fewer nodes, weak landmark features, and no edges along its two ends did not have a strong form among its users. Thus we proved our hypothesis that: Neighborhood centers with distinct physical form will have greater identity than those without a distinct form.

UC Village: Designing Courtyards for Active Use in Family Housing, (2 copies) 2007**NPSI 28***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, (2 copies) 2007

NPSI 29

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 s 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

NPSI 30

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.

Vibrant Neighborhoods: The Role of Mixed Use Design, 2001

NPSI 31

Jun Kato, Michelle Spencer, & Stephanie Tencer

This study explores the relationship between mixed-use development and neighborhood vibrancy in areas with varied socio-economic conditions. Three neighborhoods in San Francisco are studied and findings indicate that mixed-use creates vibrant neighborhoods independent of socio-economic conditions and dependent on the design and distribution of the mixed-use elements.

Teenage Townscape, 1981

NPSI 32

Allen D. Green

(No abstract available; excerpted by GSI from final document) My report involves a group of 12 and 13 year-old kids in Albany, California. I want to understand what relationships they are seeking to establish with their environment, beyond the supervised domains of home, school, sports, etc. What uses do they invent, related to their own necessities and desires, and what places support those activities?

Teenage Use in Downtown Berkeley, 1983

NPSI 33

Diane Jones

The following study was done in downtown Berkeley, California. The study area was Shattuck Avenue between University Avenue and Bancroft Way. Mapping was done in the total area but later was concentrated in three places: Bank of America Plaza, Berkeley Market, and the BART Station entrance. A hypothesis that teenagers are attracted to downtown Berkeley and affect the social environment there was formulated after observation. An interview was also designed to get at feelings people have about downtown Berkeley and what activities they participate in. Twenty interviews were done. Interviews were done at the same three locations that were mapped and observed. It was found that teenagers are among the most frequent users in downtown. There was also a clear separation in use areas between teenagers and other users.

Venues & Values of Teens: A Study of Teen Use in Urban Areas, 1984

NPSI 34

Carla Cicero, Patsy Eubanks, & Michael Fitzgibbon

The purpose of this study was to look at teen use in urban areas and to investigate what aspects of these environments are important to teens. Berkeley and Walnut Creek were chosen for study because they are sufficiently different to allow analysis of common uses among all teens, and yet are sufficiently similar to permit valuable comparisons. The three main objectives of the project were: (1) to determine what attracts teens to a place; (2) isolate similar use patterns between different teens; and (3) use the findings to develop policy recommendations.

The first step in the study was to survey the area in close vicinity of the main high school in each city. There preliminary observations determined high concentrations of teen activity. In both cities, a commercial area where teens were seen most frequently was chose for more detailed study. Land use plans and aerial photos of the study areas were obtained from the respective planning departments.

Hypotheses regarding teen use of commercial areas were formulated and appropriate research methods were established. The research methods used were: secondary data collection,

environmental quality measurements, behavior observations, teen interview, and merchant interview.

Findings: (1) uses within an area are very important to teens but not are necessarily the most important quality of place; (2) the presence of other teenagers, as well as other people, is a critical variable shaping teen behavior; (3) history of teen use also appears important, but the extent to which this is true is uncertain; (4) teens appear to be price sensitive in the choice of their stores; and (5) male and female teens appear to have some fundamental differences in how they use a place.

Park Merced Towers and Open Space Study, 2008

NPSI 35

Rachel Edmonds, Erin Macbell, & Brendan Stewart

This study examined the relationship between open-space amenities and sense of community in a residential tower-in-the-park neighborhood at the historic Park Merced housing development in San Francisco, CA. The study site consisted of four residential towers situated around a large central lawn, a small community garden, and a weekly farmer's market. Using field observations and a resident questionnaire, we tested the hypothesis that a greater sense of community would be associated with shared open space amenities when residents have: a visual connection from their dwelling units; an awareness of the amenities; and opportunities to interact along their commute or recreational routes. Our findings were inconclusive, partly due to a low survey-response rate. However, three key findings stood out, inviting further study on the topic: 1) respondents express strong affinities for their shared open space, which is unusual in a tower-in-the-park neighborhood; 2) the community garden and farmer's market each play different roles in terms of creating a sense of community in Park Merced; 3) the residents of lower tower floors, when compared to residents of upper floors, report markedly different social behavior, but similar relationships to and usage of open space.

Vitality and Open Space in Affordable Housing: Valencia Gardens and North Beach Place, (2 copies) 2008

NPSI 36

Nicolette Mastrangelo, Alexis Smith, & Kimberly Suczynski

This study examines the relationship between vitality and open space typologies in public housing developments by studying two Hope VI housing developments, North Beach Place and Valencia Gardens, in San Francisco, California. The sites were chosen for their similarities in density, building articulation, income level of residents, and residential transition zones, and for their varying typologies of open space: North Beach Place's residential courtyard / communal open space and Valencia Garden's public street / public open space.

Through physical and behavioral observations and surveys, this study tests the hypothesis: In affordable housing developments, public open space leads to greater vitality than communal open space components. The study concludes that the communal open space component of North Beach Place is more vital than the public open space component of Valencia Gardens.

Neighborhood Connectivity and Auto Dependency: Santa Clara, 2009

NPSI 37

John Corcoran, Conor Henley, & Robin Kim

This study examines the effects of compact and efficient neighborhood design on levels of auto-dependency. A compact neighborhood is one that has a greater density than that with which it is being compared while the area and shape of the neighborhoods remain near constant. Compact neighborhoods are further defined as having higher proportions of private land in use as homes and higher proportions of rights of way dedicated to promoting non-automobile travel. Efficiently designed neighborhoods were defined as those which have good connectivity within and to their

surroundings and space dedicated for multiple travel modes. Hypothesizing that compact developments with good internal and external connectivity for automobiles, bicycles, and pedestrians would serve to lower automobile dependency, the authors studied two neighborhoods with similar proximity to a Safeway grocery store in Santa Clara, California. The Rivermark neighborhood was initially judged to be more compact and efficiently designed than its counterpart, the Montague neighborhood. Based on observations, physical and behavioral measurements, and a survey of residents, the researchers determined that compact and efficiently designed neighborhoods only influence intra-neighborhood trips but not regular inter-neighborhood trips. This is the result of workplaces scattered throughout the region and the location of the grocery store nearby but more well-connected to one of the two neighborhoods. It was shown that the better-connected neighborhood had higher levels of internal walking and bicycling. The results of the study imply that citywide and regional planning are necessary in order to bring residents nearer their places of work but that neighborhoods displaying characteristics of Rivermark should form the building blocks with which more closely connected regions are constructed.

Neighborhood Design and Automobile Dependency: Measuring Internal and External Connectivity in Suburban Neighborhoods, San Ramon, California, 2009 **NPSI 38**

Jeffery Farrington & Crystal Ward

This study examines the relationship between neighborhood design and automobile dependency. Traditional sprawl development is characterized by its gratuitous use of cul-de-sacs, long blocks, large lots, and inefficient use of space. Some new suburban developers attempt to break this mold by building neighborhoods with higher density, well-connected street grids, and less unnecessary landscaping. This study hypothesizes that such compact and efficiently designed neighborhoods, even in a suburban context, reduce automobile dependency. The hypothesis was tested on two newly constructed neighborhoods in San Ramon, California. The neighborhoods are equidistant to nearby retail amenities yet have distinct differences in design, compactness, and internal street connectivity. Initial observations suggested that the neighborhood (N1) with closely clustered housing and a well-connected street grid would encourage its residents to drive less than residents in the neighborhood (N2) with large lots, cul-de-sacs, and infrequent pedestrian connections. The research hypothesis tested negatively – residents in both neighborhoods prove to be equally automobile dependent. This is most likely due to the fact that net residential density actually differed very little between the study areas and that any benefits conferred by a well-connected street grid (in N1) were overshadowed by the general lack of pedestrian-friendly design within the greater regional context.

Mobilizing Street Food: Cognitive Impacts of Social Media on Urban Space, 2010 **NPSI 39**

Molly Franson & Ginette Wessel

Street food is not new to the vitality of outdoor urban spaces, and for centuries has shaped urban social life in virtually every culture. In San Francisco, Los Angeles and Portland, street food is transforming into a highly mobile service dependent on transportation and social media to accommodate hungry customers in various locations. Based on this contemporary mobile food truck phenomenon, our project aims to explore the impacts of a highly mobile and technologically equipped food enterprise on the use and locations of outdoor urban spaces.

William Whyte's well-known 1980 analysis of urban plazas, set in place a discourse focused on human social activity in public urban space. In his observations, food, pedestrian activity, vegetation, seating, sunlight and shade proved to be essential factors to the social life of urban plazas. Using Whyte's elements as the basis of our work, we examine how these elements have

varying degrees of contribution to one's sense of place. For our purposes, sense of place refers to those characteristics that make a place unique, promote a sense of authentic human attachment and are easily remembered.

Since the 1960s, society has witnessed a technological revolution that has impacted the way people access urban spaces in a multitude of ways. From locating a restaurant online to navigating with a global positioning system, information technology is significantly impacting urban life. More recently, social media networking websites, such as Twitter and Facebook, gave rise to web-based communication virtually anywhere with the use of a digital device.

These modern conventions of online communication and transportation combined with the convenience of fast service street food have propagated the mobile food truck industry. Food truck vendors now broadcast the latest menu items and their current location instantaneously online through messaging and tweets. Conversely, lunchtime crowds find it convenient to access social media, on the go, to receive up-to-date information on the location of their favorite food.

While social media, in this context, links communication with mobility, it may also be detaching its online users from a sense of physical urban place. As customers no longer rely on regular visits to specific locations or face-to-face communication to locate food services their personal attachment, use and dependency upon their urban surroundings is becoming less important. In this sense, social media can potentially change the way in which people are acquainted with and perceive urban spaces. In addition, the mobile food trucks make use of urban space such as parking lots, urban plazas and neighborhood streets for short lived periods of time multiple times per day. This temporary use of space is forming technology-driven transient spaces that act as a circuit rather than fixed locations. In these urban spaces, social activities are performed with little dependence on their surrounding context for a short amount of time.

Combining fieldwork and social research, this paper examines social media-based users and those who do not use social media to access food trucks in two comparable outdoor urban spaces. First, these two participant populations are measured for their cognitive differences among Whyte's elements of social urban space. Second, methods of spatial recall, adjective categorization and rank order analysis are performed through a series of questions that target customer experience, use and access to food truck locations. These efforts demonstrate the way humans perceive, use and are attached to urban space can be impacted by the dynamics of social media and mobility. The study also examines the locations that food vendors target on a daily basis. By tracking the Tweets of mobile food vendors and observing stationary vendors we expose a new form of temporary urban condition through an allocentric simulation.

Legible Neighborhood Centers: A Study of Neighborhood Identity and Sense of Place, 2010

NPSI 40

Maulik Bansal, Anisha Gade, Paul McGehee, & Justin Viglianti

This study attempts to understand the relationship between the identity of a neighborhood, and the legibility of its center. To that end this study compares Fourth Street in Berkeley and Solano Avenue in Albany. Through an analysis of both streets' physical characteristics as well as a survey of user groups/residents the study measured the effectiveness of designed elements in the built environment in increasing legibility and creating a sense of place. The study concludes that a more legible center with a uniformly designed aesthetic improves the ability of user groups and residents to identify the greater neighborhood, despite the center's functional significance to user groups.

Planning Infill to Reduce VMT: Looking Beyond Density, 2010

NPSI 41

Andrew Kosinski, Jennifer Settle, & John Urgo

This study examines the influence of different infill development types on travel behavior. In particular, we examined the influence of built environment characteristics associated with street connectivity, walkability, and proximity to shops and services on non-work vehicle miles traveled (VMT) and trip frequency. Results from surveys gathered suggest that a nearby major supermarket can substantially lower VMT for grocery trips for infill residents; destination offerings appear to dominate over built environment factors; and a well-integrated, walkable environment supports frequent neighborhood walk trips. In the context of California's Senate Bill 375 and efforts to reduce VMT through infill development, the results suggest greater attention should be given to the quality of neighborhood amenities when locating infill for emissions reduction purposes.

Stairways + Open Space: Evaluating the Social and Ecological Utility of Corridors in San Francisco's Golden Gate Heights Neighborhood, (oversized copy) 2011 NPSI 42

Richard Crockett, Kelly Janes, & Kenjiro Kito

San Francisco's Golden Gate Heights neighborhood has a unique urban structure overlain hilly topography. The combination of the two spatial elements informal open space and stairways in this neighborhood enhance connectivity both socially and ecologically. Socially, they are important in fostering a sense of neighborhood identity, accessibility, and legibility. Ecologically, these spaces are a critical element in the ecological network acting as corridors and patches for an otherwise disconnected matrix of formal open spaces. This study explores the importance of these two elements in this neighborhood through a series of ecological and social methods.

Examining Livability at the El Cerrito BART Plaza Neighborhood, 2011 NPSI 43

Alessandra Davidson, Warren Logan, & Alene Pearson

This is an in depth study of "livability." Research was conducted in the El Cerrito-Bart Plaza neighborhood in El Cerrito, California. The hypothesis is centered on the concept that livability could be improved by enhancing the pedestrian connections, encouraging independent retail, increasing green space, bolstering neighborhood identity, and providing gathering spaces. The hypothesis was measured through initial observations, primary measurements, and surveys (both intercept and mail-in). The results of the study are in line with the hypothesis in that the identified variables influence the community members' perception of livability; however, the neighborhood prioritization of these variables is different from that of the hypothesis.

Perceptions of Regional Identity in the San Francisco Bay Area, (oversized copy) 2011 NPSI 44

Hugo Corro, Naomi Canchela, & Qinbo Liu

This survey-based study explored the characteristics by which the San Francisco Bay Area region is recognizable or known by its residents. For the first of 2 surveys, respondents were asked for locations of residence, work, regional landmarks, and places of personal significance to compare perceptions of regional identity from different subregions of the San Francisco Bay Area. A second survey focused on a comparison of perceptions of the San Francisco Bay Area identity from the perspectives of East Bay and South Bay residents. Contrary to the study hypothesis that resident perceptions of San Francisco Bay Area identity vary by the subregion in which Bay Area residents live, many of our survey results indicated a more closely shared sense of regional identity than expected.

Perimeter Blocks: Analysis of the Ideal Layout for an Urban Housing Block, 2011 NPSI 45

Mariana Colibri, Karlene Gullone, Leo Oliver Hammond, & Yeonil Kim

This study looks at the quantity and quality of open space within housing blocks and examines the impact on density, livability, and sense of community. Four blocks within San Francisco's Mission District were selected for analysis, based on their similar building heights and block area, yet varying typologies of open space and entrances. A two-part hypothesis prompted the study: First, equally high densities can be achieved in a traditional perimeter block with central garden courtyards as on a block with communal open space, buildings, a street, or parking in the center. Second, the open garden space and street-front entrances of the traditional perimeter block, enhance livability and the sense of community in high-density neighborhoods. To test these hypotheses, physical site visits, measurements, and resident surveys were conducted. The conclusion revealed that while higher densities and equivalent sense of community is possible within a non-traditional perimeter block design, the traditional perimeter block design is preferred. The traditional perimeter block offers its residents better livability and greater overall satisfaction with their living space.

Octavia Boulevard: Reconnecting the Hayes Valley Neighborhood, 2011

NPSI 46

Kenneth Farrell & Marisa Ideta

This study builds upon two previous studies, "A Highway Ran Through It" (2003) and "Octavia Boulevard: Healing an Urban Scar" (2006). The 2006 study found that the remnants of the former Central Freeway scar continued to serve as a barrier within the Hayes Valley neighborhood, although the recent creation of Octavia Boulevard had helped to mitigate that barrier to a certain extent. In our study, we hypothesized that differences in the quality of the pedestrian environment have contributed both to the persistence of the scar north of Hayes Street and the healing of the scar south of Hayes. In particular, we were interested in examining how Patricia's Green and the temporary activation of certain vacant lots along the southern portion of the scar may have contributed to the healing of the neighborhood. Our analysis incorporated direct measurements and observations of the built environment, traffic and noise measurements, cognitive and behavior mapping, mail-in surveys, and intercept surveys. Our findings suggest that the slow pace at which vacant parcels have been developed into housing and the dominance of large parking lots continue to pose a barrier along the northern section of the scar. To a lesser extent, a barrier appears to persist along the southern portion of the scar as well—due in part to the high levels of traffic on Octavia Boulevard, the difficulty of walking across the boulevard, and the continued presence of undeveloped parcels along the boulevard's eastern edge. However, improvements to the pedestrian experience, such as the creation of Patricia's Green, the development of the street trees along Octavia Boulevard, and the temporary transformation of former Central Freeway parcels into actively used spaces have helped contribute to the ongoing healing of the southern portion of the scar.

The Qualitative Effects of Perimeter Block Configuration, 2012

NPSI 47

Tani Elliott, Alexandra Stoelzle, & Craig Toohecke

This study seeks to analyze resident perceptions of privacy and density in perimeter blocks of various shapes and sizes. Our study area, five adjacent perimeter blocks in the Cole Valley neighborhood of San Francisco, provided a unique opportunity to hold a number of factors constant. Through field observation, site measurements, and a resident survey, we found that rather than size and shape, certain characteristics of the living unit itself more strongly influence perceptions of density and privacy. The remainder of the study constitutes conclusions we have drawn based on unit orientation, unit floor level, and type of residence.

Livability in SLR (Service - Light Industrial / Residential) Zoning Neighborhoods in

San Francisco: Dogpatch and West SoMa Neighborhoods, 2012**NPSI 48***Alana Sanders, Maria Sitzoglou, & Ariel Utz*

It is becoming a more popular trend to see the integration of different land uses within cities, how they interact with one another and how they add to the overall character of any given neighborhood. At one point in time it was traditional to separate different functions such as residential, commercial, and light industrial land uses, but it is a highly desired mixture in this day and age. This study investigates how the presence of light industrial and residential land uses are integrated into the fabric of a city, the awareness of residents living in the area and how it affects the overall livability of their neighborhood. We assessed the livability of our site boundaries for each location by taking measurements of six main livability indicators: traffic, vegetation, facades, crime, sound/noise and street activity. Furthermore, we conducted surveys with residents living in the neighborhood to either confirm or disprove our measurements and observations. In the end, our results, measurements and surveyors responses helped us confirm our hypothesis.

Analyzing Islais Creek Daylighting, 2012**NPSI 49***Ben Caldwell, Mia Docto, & Daniela Peña Corvillon*

In the United States, modern society has not been gentle to our streams, river and waterways. As cities have evolved, we have polluted, diverted, straightened, confined and buried our streams. As a result many communities have lost their connection to their watershed. However, these practices are beginning to change. Water laws have made dramatic improvements to water quality. Water regulations are now giving diverted water back to aquatic ecosystems. Policy makers, planners, landscape architects and developers are increasingly recognizing the value of maintaining natural drainage patterns and including water features in public spaces.

Creek “daylighting” is an example of the profound shift in the attitudes and approaches we now are taking towards water management. The term “daylighting” refers to the practice of bringing a buried creek back to the surface – exposing it to the daylight. This phenomenon is relatively new, and its effects on society have not yet been studied in great detail.

This report is an investigation of the effects daylighting an urban creek in San Francisco could have on the surrounding community. In particular, we were interested in researching the potential influence daylighting a portion of Islais Creek, in the city of San Francisco could have on improving the surrounding communities’ connection to and understanding of their watershed, and on improving connectivity between neighborhoods.

Octavia Boulevard: Hayes Valley Livability, 2012**NPSI 50***Bin Cai, Ben Han, & Rue Panglao*

This study was designed to better understand the impact Octavia Blvd has had on the social and economic livability of the Hayes Valley Neighborhood. The process for this study was framed to explore the livability of the Hayes Valley neighborhood on two fronts. First, a site analysis of our site area was done to objectively measure aspects of the project that would affect the area’s livability, such as pollution (noise, air), land use, perception of traffic, and observe interactions/behavior within the area. Second, a survey was conducted both via mail-in surveys and in person at Patricia’s green. The goal for this survey was to understand people’s satisfaction with the urban design elements of Octavia Blvd, the land use of the site area and the opinion on the overall social/economic improvements of the Hayes Valley neighborhood since the elevated freeway was removed. Our results show that there is a very strong agreement that a) the redesign of Octavia to a boulevard has improved the livability of the surrounding Hayes Valley neighborhood and b) the Hayes Valley neighborhood has made social and economic improvements since the removal of the elevated freeway. This can be seen in our survey

respondents' positive response to the neighborhood's open space and kid friendliness; overall perception of public safety and belief that the pop-up stores along Octavia are an asset.

Codornices Creek Corridor: Ecology and Community, 2012

NPSI 51

Arijit Sen & Aiga Stokenberga

The Codornices Creek forms an Ecological Corridor in the Northern part of Berkeley and is among the most visible and publicly accessible creeks in the East Bay. The Creek corridor is highly diverse, both socio-economically and ecologically, and therefore provides a good testing ground for the relative influence of various factors on the perceived ecological benefits of the Creek as well as the role the Creek could play in creating a sense of community. The specific purpose of the current study is to examine the comparative influence of individual-level socio-economic conditions, awareness of- and involvement in Creek restoration activities, daily exposure to- and use of- the Creek areas, and the existing Creek-related land use regulations on the Creek area residents' sense of community, perception of the local biodiversity, and awareness of the area ecology. Based on the qualitative and quantitative data collected through field measurements, online search, and survey of the Creek area residents, the study finds that the respondents' exposure to the Creek Land Use Ordinance, a key land use regulation in the Codornices Creek area, is among the most important factors affecting their awareness and knowledge of the area ecology, while the comparative impact of socio-economic conditions, such as household income, appears to be much less important. On the other hand, the survey results indicate that the role of the Ordinance is minor in the respondents' sense of community – in contrast to socio-economic conditions. Similarly, the study also finds the respondents' use of the areas along the Creek, such as the Live Oak and Codornices Parks, to assert a strong influence on their awareness of the area biodiversity and ecology, although not their sense of community. Lastly, the results showed that the respondents' past and current involvement in Creek restoration initiatives does not have a significant influence on either their sense of community, perceived biodiversity, or awareness of the Creek area's biological and ecological characteristics.

LEED for Neighborhood Development: Does it Capture Livability?, 2012

NPSI 52

Miriam Aranoff, Hannah Clark, Ethan Lavine, & Kanokwalee Mam Suteethorn

LEED for Neighborhood Development (LEED-ND) is a fairly new system for rating neighborhoods on the sustainability of their design and planning. This study examines LEED-ND's criteria for Neighborhood Pattern and Design, starting from the hypothesis that these standards fall short of capturing the livability of a place as perceived by its residents. Noe Street in the Duboce Triangle neighborhood of San Francisco serves as the study site. Field measurements show that Noe Street is ineligible for LEED-ND certification. Survey results show that a majority of residents find it highly livable, nonetheless. When asked to consider life on their street, residents put different emphasis on what makes a neighborhood livable than the LEED-ND standards do. Research Question: How do residents in highly livable neighborhoods rate and rank the 15 criteria used in the LEED-ND Neighborhood Pattern and Design scoring system?

Hypothesis: LEED for Neighborhood Development criteria for Neighborhood Pattern and Design fall short of fully capturing the livability of a place as perceived by its residents.

User Response to the Perceived Naturalness of Ecological Corridors, 2013

NPSI 53

Caroline Acquistapace, Kevin Lenhart, Jing Ma, Patrick Webb

This study focuses on the effect of ecological density and the perception of naturalness on visitors at three sites along the historic path of Temescal Creek. Our group hypothesized that visitors to parks along the Temescal Creek Corridor would respond positively to increased

ecological density and perceived naturalness, regardless of whether the conditions they are responding to are artificially created. We selected three sites to test our hypothesis- FROG Park, Temescal Creek Park, and the Bay Street shopping complex. Each site is a place where people congregate, and Temescal Creek flows through each site in various conditions: at FROG Park, the water is both culverted and pumped to the surface; at Temescal Creek park, the water is culverted and referenced in name; at Bay Street, the water is open to the air and subject to tidal flux, but contained in a concrete channel. To gather data, we conducted field observations and measurements of conditions relating to the people and ecological conditions present at each site. We also surveyed visitors to learn about their response to each site. The results of our study indicate that people are likely to have a positive response to ecological density, but that they are equally likely to respond positively to other factors present at each site, including safety, cleanliness, and social activity. Furthermore, we determined that awareness of artificiality of natural features did not compromise the positive experience visitors derived from their interaction with them.

Octavia Boulevard: Bridging the Barrier, 2013

NPSI 54

Rishi Dhody, Rana Haddad, Hussein El Sherbiny, Fabrizio Prati, Maria Luisa Vela

The purpose of this study is evaluating the impact of Octavia Boulevard on the neighborhood and whether or not it has represented an improvement on the area. This way, building up on the previous studies that since 2003 have focused on the division or “scar”, the present report continues to evaluate if this cut has been attenuated. There is a difference in the site boundary, because our interest was more in the Boulevard than in the larger scale scar. The hypothesis: *After almost a decade, the design intent of Octavia Boulevard was a success in attenuating the East / West division of the Hayes Valley Neighborhood, previously separated by the elevated highway*, was subsequently studied through eight variables. Traffic, noise, pedestrian activities, land use, future developments, orientation and typology of buildings and sense of place were all different aspects evaluated through measurements, observations and interviews mainly with residents. After developing an in depth analysis with these methods, we could conclude five essential insights related to the initial hypothesis. First, that traffic is indeed the main variable that impacts negatively the pedestrian experience of the neighborhood. Second, that the activities surrounding Octavia Boulevard and Patricia’s Green are attenuating the neighborhood division and enhancing pedestrian crossing. Third, we discovered that pedestrian crossing is done when there is a need for services in either side of the boulevard, and avoided when related to leisure. Fourth, that the removal of the elevated highway was probably the first factor in attenuating the division. And finally, we hope that further research in years to come will hopefully measure the impact of future developments on the area, which at the moment of this report are still in progress.

The Eighties, 2013

NPSI 55

Brandon Harrell & Julian Collins

The research at hand deals with an empirical study concerning fear of crime in East Oakland, specifically the disinvested Castlemont neighborhood, also referred to as Census Tract 4097 but popularly known as The Eighties but residents and locals. Using a mixed-methods approach, we analyzed census data and administered a survey among 20 residents and non-resident workers, which revealed a pattern in experienced perceptions of community and fear of crime. It was our understanding that the perception of crime, poverty and the consequential lack of diversity fan the flames of social prejudice and segregation. A thorough analysis of neighborhood profile statistics will lay the groundwork of social indicators; not to include the actual expressed fear of crime. Fear of crime and the associated issues will be measured by way of identifying American standards and holding them parallel to the local standards of Castlemont. Distinguishing between experienced

fear and expressed fear where experienced fear captures the characteristics of risk perception, emotion and a behavioral reaction whereas expressed fear only embraces the latter. Experienced fear hardly exists among residents whereas expressive fear scores fairly high scores, meaning that residents are more desensitized to actual crime but express fears in their behavior. In general, the level of fear of crime is high in The Eighties however, no isolated explanatory model can be found. A mixed-methods approach reveals an interplay of different factors to be responsible for expressive fear.

LEED-ND and Livability Revisited, 2013

NPSI 56

Geoff Boeing, Daniel Church, Haley Hubbard, Julie Mickens, & Lili Rudis

This study expands on a 2013 study published in the Berkeley Planning Journal study examining LEED-ND's criteria for Neighborhood Pattern and Design. LEED-ND is a system for rating neighborhoods on the sustainability of their planning and design. We hypothesize that these Neighborhood Pattern and Design standards do not accurately capture livability as defined by residents, nor can a single set of prescriptive design guidelines reflect the diverse values and desired amenities of different communities. Our study areas are the Temescal District, a neighborhood in North Oakland, and the Promenade, a New Urbanist neighborhood in the suburban town of Hercules. Neither Temescal nor the Promenade could achieve LEED-ND certification due to technical disqualifications, but residents of both neighborhoods rated their livability very highly. Furthermore, residents consistently rated and ranked livability characteristics differently than did LEED-ND, calling into question its validity as a universally codifiable rating system.

Exploring the Idea of Place Attachment and Place Identity, Case: Mission District, San Francisco, 2014

NPSI 57

Allison Jacobson, Robit Tak, Stacy Flores, & Xinyu Liang

The Mission District in San Francisco, California is known as the historic epicenter of Latin culture, and has been experiencing the effects of gentrification since the start of the dot-com boom in the late 1990's. This shift in the neighborhood has caused a physical change in the appearance of the Mission District as well as migration of the long-term residents to other communities. We seek to examine how gentrification can influence the perception of place identity and place attachment through the examination of long-term residents, new residents and visitors.

The research is carried out using conventional survey method and social media. The results revealed that gentrification in the Mission District influences the user's imageability because long-term residents were mostly attached to long-standing businesses whereas; short-term residents were attached to recently established businesses. Residents and visitors perceive the identity of the Mission District as primarily a combination of character-based attributes and physical locations. However, the long-term residents place more emphasis on personal/emotional attachments than the other user groups."

(Key Words: Place identity, Place attachment, Imageability, gentrification)

Twin Peaks Bio-Region and Its Neighbors: A Study on the Perception of Ecological Functions and Services, 2015

NPSI 58

Genise Choy, Shengqian He, & Angela Mimica

The Twin Peaks Bioregion is the area around the Twin Peaks hills in San Francisco, which includes many zones of natural habitat that are home to the endangered Mission Blue butterfly and central to the migratory paths of birds as well as mammals. This area has an intrinsic natural value defined

by its *ecosystem functions*, but it also provides *ecosystem services* in terms of the benefits it offers to human residents and visitors. This study examines the interactions between the bioregion and the urban area, and the relationships between physical and visual conditions of the border and the ecological awareness of neighboring residents. In order to test the hypothesis—that residents who live directly adjacent to or have a direct view of the wild landscape of the Twin Peaks bioregion are more aware of the region’s ecological functions and services than those residents who do not.—the research team analyzed the physical and visual conditions of the border between residents and the bioregion, and conducted surveys to better understand residents’ perceptions and knowledge of the bioregion’s ecological functions and services.

The results of our study indicate that there is indeed a positive relationship between the variety and amount of nature one can see from their house and their perception of ecological functions and services—especially functions. However, it does not appear that being directly adjacent to the bioregion (without physical barriers separating house from nature) has any discernible impact on perception of ecological functions or services. Other factors of possible importance include sense of safety, the degree of slope in front of and behind one’s house, and knowledge of or participation in restoration efforts. However, further research should be conducted with a larger sample size and modified survey questions to confirm the suggested correlations from this study.

Thresholds of Urbanity: Structure, Vitality, and Transparency in Uptown and Fruitvale, 2015

NPSI 59

Micaela Bazo, Stephanie Lin, & Xiuxian Zhan

Is there a threshold value of urbanity? We selected two neighborhoods, Uptown and Fruitvale in Oakland for our study. Both of them are close to BART and were annexed to the City of Oakland due to the migration of people from San Francisco after the 1906 earthquake. This study aimed to investigate whether access to urban infrastructure alone was enough to render a place urban. If access to public transportation helps foster urbanity and urbanity exists along a spectrum, what makes a place more urban than the other? What are the most determinant variables for urbanity?

The study employed four major methods to understand structure, vitality, transparency, and sense of both Uptown and Fruitvale - census data research, site measurement, site observation, and intercept surveys. Results showed that Fruitvale is generally finer-grained in comparison to Uptown. In conclusion, we found that Fruitvale is marginally more urban than Uptown, confirming our assumption that urbanity exists along a spectrum. Measurements and survey responses show that the largest discrepancy occurs in structural character, suggesting fine-grained structure is the most determinant variable for urbanity.

A Study on the Threshold Values of Urbanity, 2015

NPSI 60

Arezoo Besharati, Irene Ho, Rama Husamddine, & Sonali Prabaraj

This study investigates the attributes of city neighborhoods that are perceived as urban, and identifies the threshold values of urbanity that make a place seem more urban. The research is conducted in a three-block area in three different San Francisco neighborhoods – Clement Street, Hayes Valley, and Noe Valley. These neighborhoods commonly evoke a general perception of urbanity, despite their varying features. This research attempts to define the features/characteristics that make them distinct from one and other, thus achieving varying degrees of urbanity. Through field observation, site measurements, on-site intercept survey, and focused group survey, several

factors have been tested, and proven to influence the perception of urbanity. This research studied vitality, transparency, and enclosure as thresholds of Urbanity.

Identity and Place Attachment on Lake Merritt, 2016

NPSI 61

Hasti Afkham, Niki Xenia Ahyizou, Xingyue Luma Chen, & Christelle Robaut

The density and cultural context of Oakland provides an opportunity to study local people's attachment to their city. In favor of that, we chose to look into a natural component within the context of this urbanised landscape. Lake Merritt is an inland estuary that connects portions of downtown with its many diverse neighborhoods. Having the Lake as the centre of our scheme, we tried to measure its impact on its surroundings, by comparing two different edges. Moreover, the physical geometry of Lake Merritt as well as social and cultural background of users, their experience and design intention were analysed. A combination of outcomes and their critical analysis would respond to our hypothesis based on the different social-economical background of the neighborhood. The enclosed design component of the Northern site encourages more active social interaction, especially for the residents, while the linearity of the Southern part encourages passive individual use of site. Ultimately, Lake Merritt promotes physical activity, socially oriented recreational activity as well as individual user experience. Finally, there are various methods of interaction based on design outcomes, connection, network, cultural background, age and race of users, access and frequency of events nearby as well as many other variables.

An Ecological Corridor in the Urban World: How the physical characteristics of Codornices Creek influence its perceived value for neighborhood residents, 2016

NPSI 62

Junpei Asai, Ian McRae, Stephen Pye, & Mark Wessels

Codornices Creek is a seasonal stream that extends from its headwaters in the Berkeley hills through an urbanized landscape of residential, commercial, and industrial constructions before emptying into San Francisco Bay near Interstate 80. Along its path, many residential communities surround the channel to the north and south. In some areas, the creek is exposed to the surface, offering recreational opportunities and usable space where the channel is managed as park space or natural habitat. In other areas, the creek snakes between houses and behind fences, and offers little obvious evidence of its presence to those who live nearby. The transition of the corridor from well-kept open space to neglected lots and decrepit bands of dense vegetation is readily apparent as one follows the creek from the hills to the Bay; a facet of this urban creek that often coincides with the apparent wealth of neighborhoods through which it passes. This research analyzes this dynamic in access and features, and seeks to understand how the different compositions of the corridor affect the perceptions and values that residents across the socioeconomic spectrum have of Codornices Creek as an element of their respective neighborhoods. Through conducting qualitative site analysis of corridor characteristics and a survey of local residents, this research offers answers to the hypothesis that the creek has a largely positive effect on local perceptions and values where it is accessible and well kept, and that it is largely viewed as a negative element of the neighborhood where there is no access and the corridor is not well maintained. We find that awareness is not determined by access, but that in fact, awareness remains high across the study site despite a great disparity in access and amenities. We find that vegetation and level of maintenance do impact perceived value, but that values are still largely positive throughout. What does change, however, is the desire for improvement or "activist voice" that appears in neighborhood where there is little access to the creek. We therefore conclude that although awareness and perception are fairly constant, the desire for improvement

and change in areas with limited access and maintenance is far higher than in areas that currently do not offer public space on the creek corridor.

Perceptions of Urbanity Along the Webster Street Transect, 2016

NPSI 63

Lauren Bergenholtz, Thomas Gonzales, & Jason Prado

When can a place be considered urban? What aspects of physical form as well as non-physical attributes of a space contribute to urbanity? While of social policies may establish a numerical threshold of urbanity based on density of residential population in a given area, the phenomenon of urbanity is also related to subjective experience and perception. With the expectation that perceived urbanity is influenced not only by people and activity in a given space, but also by the physical form and dimensions of the space, we investigated three sites in the city of Oakland, California to understand how physical form and human interaction impact the experience of urbanity. Through field observation, site measurement, and focused group survey, we tested our hypothesis that the threshold of urbanity exists along a gradient.

Our findings indicate that vitality, permeability, and informality influence a person's perception of relative urbanity. Enclosure did not appear to have a clear or consistent relationship to the perceptions of our survey groups. Human activity and interaction as well as informal or temporary uses of space showed a dominant influence in creating a perception of urbanity, while visual permeability of building fronts played a lesser role. The strong correlation between perceived urbanity and perception of informality, especially a "sense of chaos," appears particularly deserving of more attention in future studies.

Exploring the Idea of Place Identity and Place Attachment in Chinatown, 2016

NPSI 64

Natali Ovalles, Faranak Ahmadi, Ying Tan, & Yue Pan

As international students, we are interested in how a foreign community was established and how its identity is affected by the immediate context, in this case, we selected Chinatown in San Francisco. We observed the aging population and high density in this area, which raises the questions of who will take care of Chinatown in the future and how the generational succession of Chinatown affects the place identity or the user's attachment to the place. We anticipated that younger generation has lower level of cultural and emotional attachment to Chinatown and residents perceive Chinatown's authenticity different than visitors. The methods used in this research are: Interview different user groups in Chinatown, survey for different user groups, site visit and observation at different times and connect with family association in Chinatown.

As we expected, there is a differentiation of cultural and emotional attachment between generations in Chinatown, in addition, we found other factors affecting the attachment level such as income, sanitary and community amenities. Opposite to our anticipation, we found the majority of residents think Chinatown is authentic while visitors consider it is influenced by American culture.

PARKS

Busy Places are Safer Places: A Study of the Sense of Security among Park Users in Mountain Lake Park, San Francisco, 1987

PARK 1

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

PARK 2

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, (currently missing) 1989

PARK 3

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

PARK 4

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: A Critical Report on Feelings of Attachment towards Building with Connected open Spaces, (2 copies) 1997

PARK 5

Alma DuSolier, Michael Wirsching, David L. 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: An Environmental Design Study of Three San Francisco Urban Parks, (2 copies) 1997

PARK 6

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

PARK 7

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 Verdesse 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

PARK 8

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.

Climate and Activities in Open Spaces of Hill Tops, Valleys and Waterfronts, (oversized copy, 2 copies) 2003

PARK 9

Anne Deutsch, Dipti Garg, & Marianne Stuck

We examined the correlation between the climatic conditions and the resulting activities in the selected open spaces of hilltops, valleys and the waterfront. In our hypothesis we stated that thermal comfort is directly related to these natural geographic features and sunny sheltered open spaces encourage more diversity of activities than those that are shaded and unsheltered. Our research entirely supported this hypothesis. It also revealed some interesting relationships of the activities within the park itself. The different climatic conditions created within the park at different times of the day and its influence on the activities and the patterns of use was an interesting revelation. This investigation provided insight into the usability of these distinct geographic spaces in relation to the climatic data.

Neighborhood Park Adaptability, (2 copies) 2003

PARK 10

Ally Bechtel, Shannon Cairns, Wendy Moshetti, & Julia Sanchez Viamonte

This study of three neighborhood parks in Berkeley, California addresses a gap in the literature on parks by studying the specific attributes of parks that allow or accommodate diverse uses, thereby resulting in a park that is adaptable to diverse neighborhood uses. This study analyzes neighborhood park adaptability through: (1) the use of physical mapping of the spatial structure of

the parks, including open spaces, enclosed spaces, and barriers; (2) field observations of park activities; and (3) a park user intercept survey. The results support our hypothesis that neighborhood parks designed with few barriers and obstacles that partition activities and designed with a complementary relationship between unstructured open spaces and defined enclosed spaces will be more adaptable to diverse neighborhood uses than parks that do not have these characteristics.

**Livability of Urban Parks: Visitor Perception of Natural Elements,
(oversized copy) 2003**

PARK 11

Iorraine Maldague, Rosalyn Stewart, Timothy Strand, & Eric Zhang

This study addressed how natural elements affect the livability of the urban setting. We sought to understand the sense of retreat and relief provided by urban parks – as a venue for lunchtime respite for the urban workforce – as well as the effects of natural elements used in their design. We hypothesized that the incorporation of natural elements in urban parks provides a sense of relief and retreat to the urban workforce, with preference for the abstract (or man-made forms) as opposed to replicated (or natural materials) representation of these natural elements. We used site analysis, behavior mapping, and survey questionnaires to test our hypothesis. Results showed that there was a strong correlation between the sense of retreat and relief in parks with natural elements. When testing for the preference of abstract versus replicated elements in these parks, we found that there was a two-sided appreciation: people seemed to like abstract elements for seating, while they preferred to watch and observe – to be surrounded by – replicated elements. Thus we concluded that lunchtime users of urban parks often came for relief and retreat. Overall, there was a common appreciation for elements of nature, whether they were abstract or replicated.

**Perceptions of Accessibility and Biodiversity - A Study of Three San Francisco Parks,
(2 copies) 2004**

PARK 12

Mara Baum, Shay Boutilier, Duane DeWitt, Rosey Jencks, Doug Kot, & 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 of 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 user's 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, Oakland,
(2 copies) 2006**

PARK 13

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, (4 copies)

2006

PARK 14

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.

San Antonio Creek Restoration: Public Perception of Natural Features in Urban Environments, 2009

PARK 15

Javier Amaro & Pedro Pinto

The San Antonio Creek, interchangeably also known as the Oakland Estuary and, more recently, Lake Merritt Channel, connects Lake Merritt with the Oakland Inner Harbor and the San Francisco Bay. The river's current problems, with lack of longitudinal connectivity, restricted access and poor environmental quality, affect the way the neighborhood relates to the river. In order to test our hypothesis - that perception of a river corridor would influence positively identity and environmental awareness - we conducted surveys and asked the respondents to draw mental maps of the area. We determined that there is a correlation between perception and awareness of such natural features in urban areas, but that there is a clearer relation between awareness and identity (knowing the river or being able to assign it a name) or between identity and perceived environmental quality. No evidence of a direct relation between proximity and awareness was found, possibly due to fact that most respondents lived far from the area. There were indications, however, that the lack of connectivity along the river corridor and access to it, and difficult visual

perception of the Channel's unity led to a generalized difficulty in mapping the river. Respondents were clearly favorable to a full restoration of the river to take place, but were mostly unaware that such a project had already been approved by Oakland residents.

Vitality of Urban Neighborhood Parks, 2009

PARK 16

Gar-Yin Lee, Erin Murray, Alexis Steiner, & Xiao Wu

Observations of neighborhood parks in Berkeley, California suggest that large expanses of un-programmed open areas, adaptable for many uses, positively influence the vitality of those parks. In an attempt to quantify and verify those observations, the authors utilized many research techniques - including: locational mapping, activity tracking, user and residential surveys - in a comparative study of 3 parks with varying amounts of un-programmed space to more accurately determine the truth of its impact. Reported here are the results of those studies, which indicate that relative to one another, the park with the largest amount of un-programmed space consistently showed the most use, diversity of activity and popularity. This study thus positively proves the hypothesis that "Vitality in urban neighborhood parks is related to the amount of un-programmed space offered."

Finding Community in Community Gardens, 2010

PARK 17

Alex Schuknecht, Mengxi Wu, & Yaou Zhang

In the following study we begin to answer the question of whether the placement of a community garden within public parks can influence the degree to which it can act as a community-building entity. We hypothesize that the degree of integration of a community garden into its surrounding environment (ie. Park or community) is positively correlated with park users and neighborhood residents' sense of belonging. While the evidence tends to support this claim, it is also clear that one's sense of belonging to a place is wrapped up in many characteristics of their neighborhood apart from either the garden or the community park. We looked at three gardens located within public parks in Berkeley and Oakland, California, each physically integrated to varying degrees with their surroundings, and conducted surveys to gauge neighborhood residents' sense of belonging based on the integration variable. Among other things, findings suggest that the more integrated a community garden is with its surrounding public park, the more value the garden will have in developing a sense of belonging in nearby residents to that park, in addition to its value in building neighborhood social bonds. These results have the potential to influence future park and community design, though more research is still needed to conclusively remark on the utility of community garden integration.

Improving Accessibility, Vitality, and Safety at the Park Edge: Two Case Studies of Parkside Promenades in San Francisco, 2011

PARK 18

Aziz Albarrak, Whitney Berry, Lauren Ivey, JaYoung Kim, & SeWoong Kim

This study investigates whether parkside promenades support increased safety, vitality, and accessibility in two large public parks in San Francisco, while also exploring the different design possibilities that such a space could provide. /city edge is examined and analyzed at each park. Our research findings indicate that parkside promenades can somewhat increase safety, vitality, and accessibility at the park edge, and that Golden Gate Park and McLaren Park serve as comparable case studies, and a 1/3-mile stretch of the park existing park amenities and the design preferences of residents in surrounding neighborhoods must be key factors informing any promenade design.

Maintenance and Place-Making, 2013

PARK 19

Cacena Campbell, Alana MacWhorter, Monica Way

The urban infrastructure of neighborhood parks provides San Francisco vital social and ecological services. Groundwater recharge, wildlife habitat, air filtration, public commons and recreational provision are all the work of neighborhood parks. To sustain these services, routine weekly maintenance is required. In 2012, San Francisco invested \$70 million maintaining its 220 parks. The City conducts quarterly park assessments on neatness and aesthetic metrics, yet no ecological or social performance assessment protocol exists. The Landscape Architecture Foundation recently published ecological sustainability metrics, which remains ripe for further investigation as they are outside the scope of this study. This study explores the impact of the perception of the absence or presence of maintenance and care within San Francisco neighborhood upon park users' perception and appreciation of the parks themselves, and further investigates a potential correlation between users' appreciation of maintenance and a sense of stewardship and responsibility. Using two historically and programatically intensive parks within the Eastern Neighborhood District, Franklin Square and Jackson Park, the research supported our hypothesis that park user's perception of maintenance and care does influence their perception and appreciation of parks as well as a greater sense of responsibility for the park.

Heron's Head: Watching the Human/Wildlife Interface, 2013

PARK 20

Daniel Prostak, Siyue Chai

Ecological parks must balance park user access, recreation, and learning opportunities with the intrinsic needs of the park's wildlife in order to limit disruption of its habitat. This study explores how designed boundaries at Heron's Head Park, along San Francisco's eastern bay shore in Bayview-Hunters Point, performed at physically separating park user activities from protected wildlife-only areas. The 24-acre urban park is known to have over 100 species of birds sighted in its surroundings, of which many, such as the American Avocet, nest in the protected wildlife areas. Disruption of the birds and their nests by park users and/or their pets could stress or drive these birds from the park.

This study, based on field observations of park users, bird wildlife, and measurements of field conditions, as well as user surveys, indicated that the existing rope line fence boundary at the park, while favored by users for its aesthetic unobtrusiveness, is less than fully effective at preventing users and their pets from disturbing wildlife habitat. These findings challenge designers to consider employing alternative boundary typologies that more effectively protect wildlife ecology, yet without detracting from the park users' vibrant aesthetic and educational experience.

Park Edges: Mosswood Park, Oakland, 2014

PARK 21

Beki McElwain, Ken Hirose, Siyu Liu, Kushal Lachhwani

This research was designed to better understand the importance and influence of urban park edges on usability and visibility. The focus of our study was Mosswood Park, located at the intersection of Broadway Blvd. and MacArthur Blvd in Oakland, CA. This quadrilateral park exhibits four different edge characteristics due to its location and surrounding land use. This study measured and analyzed the physical and visual accessibility of these edges.

Initially, we hypothesized that design of the physical edge of a park has more influence over its visual accessibility than its perimeter edge by helping to make a park more inviting. To test this hypothesis, we conducted a number of field measurements and administered a comprehensive resident survey on our selected site. In our field measurements, we conducted auto, bicycle, and pedestrian counts on weekdays and weekends along the park's edges to find out how busy the streets were. To assess visual accessibility we documented the physical edge conditions and tree canopies inside the park. To evaluate noise, we monitored decibel levels at various selected locations. To gauge the physical accessibility and usability of the park, we mapped entrances, pedestrian flow, and

activities inside park. In our resident survey, we collected basic demographic information as well as perceptions about park edges in relation to mode of transport used for access, user entry points, and any social factors that prohibit or encourage people to use the park to its full extent. After all of the research was conducted, we found that two of the three distinct edges of Mosswood Park were preferred despite greater pedestrian activity on the third, least preferred edge. While we could conclude that physical and visual accessibility does aid in drawing people into park, physical and social characteristics of the perimeter edge were found to play an equal role. We found that factors, such as a lack of pedestrian crossings, busy streets, and antisocial elements, ultimately prohibit people from using the park. In addition, the land use and volumetric in vicinity of the park also governed the usage of park. We found that the low height residential fabric along the preferred perimeter edges of the park contributed the higher number of users accessing the park from those sides.

Ecological Functions and Social Values of Parks: Panhandle Park and Glen Canyon, San Francisco, 2014

PARK 22

Serin Park, Vincent Chen, Natalie Yim

We compared ecological functions and social values of two distinct urban parks in San Francisco; one is Panhandle Park that is artificially created park and the other one is Glen Canyon Park that is naturally formed park. Our hypothesis is that ecological functions in naturally formed park are perceived higher than that in artificially created park, while social values in artificially created park are perceived higher than that in naturally formed park. In order to test our hypothesis, we designed our study by combining field observations and measurements, secondary data analysis, and survey completed by neighborhood around the park. We were able to prove our hypothesis based on data we collected. However, we found that the discrepancy of social values and ecological values between two parks is not significantly high. Since they serve different values, both parks are important to meet the needs of people and the environment. Therefore, Panhandle Park and Glen Canyon Park are complement of each other.

PLAZAS

Downtown Open Space, (year unknown)

PLAZ 1

Robin E. 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

PLAZ 2

Bob Merrill, et al

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

PLAZ 3

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, and it is the extremes that make a difference.

What Effects (sic) How People Use Urban Open Space? (currently missing) 1989

PLAZ 4

Corey Alvin, Ann Cotter, & Andrew Vessolinovitch

(Abstract unavailable)

Alameda Waterfront Memorability Study, (currently missing) 1994

PLAZ 5

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, (2 copies) 1995

PLAZ 6

Akoni Daniels, 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.

A Study of the Success of Urban Plazas in San Francisco, Appendix 1995

PLAZ 6-1

Akoni Daniels, Taichi Goto, Billy Rhyne, & Clark Wilson

Enclosure and Sense of Territoriality in Campus Plazas, (2 copies) 1996

PLAZ 7

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

PLAZ

8

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

PLAZ 9

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

PLAZ 10

Eric Ostb, 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, 2000

PLAZ 11

Susan Chivaranond, Emily Rylander, Egon Terplan, & Jess Wendover

(No abstract available; excerpted by GSI from final document) In this study, we are interested in studying how the marginalized groups interact and share plaza space with more traditional users. We specifically explore how design features can be used to reduce potential conflict between these different user groups. We found that the variety among the three contiguous plazas – Embarcadero Plaza, Justin Herman Plaza, and Waterfront Plaza – in terms of design features, allows the area to serve a wide range of needs. If any one of the plazas were located in isolation in a city, marginalized users would be more affected by being pushed out of the space. In this case, the high density of traditional users in Justin Herman Plaza simply forces over-flow to the contiguous plazas.

The Relationship between Plaza Features and Their Uses: A Study of Two BART Plazas, (2 copies) 2006

PLAZ 12

Ying Hao, Bei Jiang, Ivan Lopez, & Mahesh Waghdhare

(No abstract available; excerpted by GSI from final document) The focus of our is urban plazas. We chose this topic with a strong intention of understanding about urban spaces in busy downtown areas and to study its multi faced uses in relation to the physical elements present in it.

We wanted to see how attractive or successful an urban space like a downtown plaza is. We started off with applying Kevin Lynch's performance dimension of 'Fit' to our thought process. Is that urban space (in our case an urban plaza) a Fit in its setting? We observed and measured the patterns of use in two downtown BART plazas: Downtown Berkeley BART Plaza and the 12th Street Oakland BART Plaza. We hypothesize that: A well-used plaza having multiple features offers a flexibility of space that motivates people to use it more often and spend more time. Comparing both plazas, we think that our hypothesis is somewhat supported by the collected information, as the survey results are very concordant and supportive to our field observation. This is especially clearer when we divided the plazas into different zones based upon the existing features to know about the place where the activities were developed. The people who stayed the most and go more frequently tend to occupy the zones with more features, where we usually saw large groups using them. At Oakland, from the high responses related to the pace as a well maintained and clean one, we can infer more than the feature by itself, it's about how their condition and qualities support a better sense of good environment.

Designing for a Strong Sense of Place: Urban Plazas in Downtown San Francisco, 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.

Public Art + Sense of Place, 2009 **PLAZ 14**

Alamira Reem Bani Hashim, Brenda Snyder, & Eduardo Guerrero

(No abstract available; excerpted by GSI from final document) On the premise that public art contributes to sense of place throughout the strengthening of identity and way-finding, and following selection of appropriate public art sites in downtown San Francisco, we hypothesized that an artwork's contribution to sense of place varies depending on the type of public art, be it static, kinetic, or performance. This study is a comparative analysis attempting to quantify characteristics of public art which contribute most strongly to a sense of place and way-finding. We further hypothesized that in a downtown setting, performance art contributes more strongly to sense of place, identity, and way-finding than static art and kinetic art.

The Death and Life of Great Chinatown Squares: Determinants of Vitality in San Francisco and Oakland Urban Squares, 2010 **PLAZ 15**

Yasser Albakbani, Lisa Chen, John Doyle, & Norma Guzman

What makes an urban park full of vitality? This study explores the hypothesis that “a strong perception of safety, the wide availability of social activities, and a diversity of design elements all contribute positively to vitality within Oakland and San Francisco Chinatown urban squares.” This report analyzes the dynamic interaction between people and the safety, activity and design features of Lincoln, Madison, Harrison, and Portsmouth Squares. To explore this interaction, we collected primary and secondary data in the form of observations, interviews, and surveys. Our measurements did find that accessibility, safety, density, surrounding land uses, and the diversity of design elements and social activities were positively correlated with vitality, although other features, such as traffic, did not appear to be supportive. We also found that park user perceptions varied depending on personal backgrounds and that their perceptions sometimes conflicted with the findings from our own observations. Nonetheless, the study offers valuable insight into importance of open space within urban Chinatown communities and offers suggestions for possible park improvements.

Natural Surveillance and Sense of Safety in UN Plaza, 2012

PLAZ 16

Yunwon “Ina” Choi & Chaewoo Rhee

In this research, the relationship between natural surveillance and sense of safety is studied. With the crime data, field research, survey, interview and analysis, we came up with a conclusion and based on that, this research will give recommendation of new design options. By increasing the natural surveillance in the UN Plaza with new design, we were hoping to improve the sense of safety in the UN Plaza.

Public Appreciation and Recognition of Stormwater Management in Small Urban Open Spaces of San Francisco, 2012

PLAZ 17

Amna Alrubeili & Wilasinee Suksawang

Appreciation and recognition of the ecological functions of the design elements is an important issue because they are capable of increasing people’s awareness of their environment and the environmental crisis. While others have found that education is a pivotal component of increasing awareness regarding sustainability issues, there are several key questions that remain unanswered – including whether people appreciate and recognize the ecological functions of these design elements, and what design aspects are likely to enhance people’s recognition and awareness, particularly in terms of designs that deal with stormwater management.

Accordingly, the aim of this project was to examine people’s perceptions – in terms of appreciation and recognition – of stormwater management practices in small urban plazas in San Francisco. The specific research question was whether people appreciate and recognize stormwater management of the small urban plazas, and what visual clues make people appreciate and recognize this kind of urban design. Mint Plaza and Jessie Square were the areas selected for this study, as they are urban plazas that are located in the heart of San Francisco and are very close to each other. Importantly, the former location was designed by implementing sustainable stormwater management practice or LID (Low Impact Development), while the latter was not.

The research survey, which included measuring the sites’ physical conditions, observing users’ behaviors, interviewing users, and asking users to fill out the questionnaires, was conducted at both sites during the fall of 2012. The results revealed that the stormwater management design has the ability to evoke aesthetic appreciation, but falls short of enhancing people’s recognition of stormwater management. Additionally, the results showed that grass, pavers, planters, and ponds were both desirable and perceived as effective elements for dealing with storm water management. However, there was a controversy regarding the desirability and the perceived effectiveness of a trench in terms of stormwater management, since a trench was not considered desirable, but was

perceived as an effective element. Of the tested elements, the tank got the lowest score in terms of both desirability and perceived storm water management effectiveness. These research findings provide understanding and information regarding visual clues design that professionals can use to enhance people's appreciation and recognition of sustainable stormwater management in public, urban, open spaces of San Francisco.

Characteristics of Usability in Privately Owned Public Open Spaces, 2012

PLAZ 18

Katie Fitzmahon, Marvin Nettles, & Ari Takata-Vasquez

This study investigates how design properties and characteristics impact the frequency of use of privately owned public open spaces in San Francisco. The research conducted focuses on six selected privately owned public open spaces adjacent to Market Street in San Francisco's Financial District. To assess specific design features, the study looks at quantitative measurements of the space's physical design elements, and user-group use counts. Additionally, End-user intercept surveys provide better qualitative understanding of people's perceptions of privately owned public open spaces, and how design features influence their use. Both quantitative and qualitative findings provide insight into primary characteristics of privately owned public open spaces that influence use and preference.

SAFETY

Mission Night Environment Study, (3 copies) 1992

SAFE 1

Nicholas Ancel, Malini Krishnankutty, & 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

SAFE 2

Kathleen O'Day, Jessica Perez, Samantha Schweitzer, & Jake Tobias

(No abstract available; excerpted by GSI from final document) To address the issue of safety in urban parks, park designers often design parks to be open to the neighboring streets and buildings. A low level of physical and visual closure affords easy views and passage through the park. The belief is that less enclosed parks feel safer and therefore attract more users. A more highly used park, in turn, is safer, as a high level of "appropriate use" deters criminals and "undesirables" from entering the park. The purpose of this study is to test the belief that less enclosed parks feel safer to park users. However, our results did not support our hypothesis. They do show that enclosed areas within parks feel less safe than open areas.

Perception of Safety in the Tenderloin, (currently missing) 1999

SAFE 3

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 **SAFE 4**

Anat Bichovsky, Anna Forsberg, & Simone Le Grange

(No abstract available; excerpted by GSI from final document) We set out to discover the effects that urban design can have on the lives of people. We discovered that personal safety was an issue which was important to people. We then set out to find out which urban design principles can contribute to a feeling of safety. While doing this, we realized we should look at neighborhood parks as much neighborhood activity takes place here. We decided to study two parks in the city, Duboce and Precita Park. We chose these parks because they were surrounded by similar densities, by similar building typologies and scales, and by similar demographics. These parks differed in terms of our hypothesis. They had different mix of uses surrounding them, they were located at different distances away from centers of activity, they were designed differently, and they had different amounts of people able to monitor the park visually from surrounding streets and houses. Our studies have shown that overall, Precita Park is the park which is perceived to be safer, and the crime statistics from the Police Department show that this perception is grounded in truth.

Park Safety at India Basin, San Francisco, 2006

SAFE 5

Ria Hutubarat, Brinda Mehta, Hagu Solomon, & Kate Tollefson

This paper explores the hypothesis that perceived safety, generated from access and design features, enhances the use of waterfront parks. The hypothesis is explored through physical observation, activity observations and mappings, in-person pedestrian surveys, and informal interviews at or around three waterfront parks in the India Basin area of southeast San Francisco. This area is characterized by low-income minority communities, with residential land uses abutting superblock industrial and distribution sites such as the Hunters Point Shipyard and US Postal Service distribution centers.

From this research, three themes emerged as key factors corresponding to increased levels and different types of park use: visibility, connectivity and amenity. We found that visibility within the parks tends to correspond with levels of park use and perceived visibility, particularly for women. We also found that connectivity in and around the parks correlated with pathways of park use and modes of arrival at each of the parks. Finally, we found that variations in the quantity and style of amenities correspond with types of use. Overall, users valued all amenities, especially water view. The study also undertook preliminary work to validate the assumption that these elements correspond with perceptions of safety in each of the three parks.

Notwithstanding potential improvement in accuracy and validity, the findings suggest that park use and perceived safety may improve through increased visibility, connectivity and design features within each of the parks. The findings also suggest the potential benefit of linking the parks physically and visually to key destinations in the surrounding neighborhood using thoughtful building design, pedestrian paths and wayfinding, including future efforts undertaken as part of the

PG&E, Aurelious Walker, Shipyard and Blue Greenway developments. By improving design features, connectivity and visibility, it may be possible to enhance the use of India Basin parks in a manner which leverages the strengths of each park while contributing to urban vitality and optional activity within the neighborhood.

Parks, Safety & Intrigue: An Analysis of the Factors Affecting Perceptions of Safety in Bushrod, Mosswood and San Antonio parks in Oakland, California, 2010 **SAFE 6**

Stephanie Hagar, Greg Minor, Daniel Romero, & Ariel Strauss

Our study focused on Bushrod, Mosswood and San Antonio parks, three Oakland parks with similar crime rates, amenities, and acreage, in order to isolate the factors that make people feel safe and unsafe in parks. We hypothesized that parks that invite a diversity of uses will be perceived as less safe because users will feel less able to discern the intentions of other users. We tested our hypothesis by surveying park neighbors and observing park usage, using the level of structure and activity of park usage as a proxy for diversity.

We found that use patterns generally conform to presumed design intention, and while survey response rates varied greatly, the results suggest that users feel most safe in areas encouraging high levels of structure and high-exertion activities. However, racial breakdown, gender balance, the presence of children and groups, and the expansiveness of viewshed in particular are confounding factors that impede causal conclusions and merit further study.

Crime Prevention Through Environmental Design: Perceptions & Limits in the Public Landscape, 2016 **SAFE 7**

Catherine Schlitz, Peter Trio, & Praveen Raj

Safety in public landscapes is largely defined through theory, statistics and perceptions. A well-known crime prevention organization has formed over the past few decades known as CPTED (Crime Prevention Through Environmental Design). This approach assumes that crime can be reduced by adhering to a strict set of design principles. Although, it is logical that a relationship exists between the physicality of the built environment and safety, a generic set of guidelines has a limit to success. This study synthesizes CPTED into a set of classifications and then tests the ranking of those classifications against user's perceptions and reported crime data. Three neighborhood parks in the city of Berkeley were selected in which had similar program, demographics, and size but radically different physical environments. Each park was then ranked for CPTED classifications, utilization and engagement of park users. Results show a strong relationship between high CPTED scores and low park utilization. Though parks following strict CPTED guidelines may be designed to be more safe, strict adherence can become detrimental to utilization, leading to less engaged park users. Though CPTED guidelines intend to improve the safety of the user, they prioritize surveillance at the expense of comfort to the individual. It is predicted that this in turn may have an indirect effect on the safety of users as a decrease in comfort, and autonomy leads to a decline in park utilization.

STREETS

Is This a Good Street? (currently missing, year unknown)

STRT 1

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, (year unknown)

STRT 2

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 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 Street, (2 copies) 1985

STRT 3

Bimal Patel, Chuan-Sheng Chiao, & I-Jung Chin

(No abstract available; excerpted by GSI from final document) Our study was structured to enable us to identify and analyze some characteristics particular to memorable streets. We surveyed by field observation a number of streets in downtown San Francisco, and select a set of streets that we felt were memorable and some that we felt were not. We then studied some of these in detail to identify common physical characteristics that we found on memorable streets and contrasted them with those that we thought were not. We found that though physical features do facilitate it, the nature of the activity on streets is a primary element in determining memorability. We suggest that this and a further understanding of what people perceive in the street, be the focus of other research in analyzing the elusive qualities of memorable streets.

Street Corners, 1997

STRT 4

Dan Glaser, Ben Grant, Devyani Jain, & Jennifer Kao

(No abstract available; excerpted by GSI from final document) Street corners are significant loci of public activity. They are also one of the most heavily modifies portions of a typical streetscape. We set out to investigate the relationship between the physical structure of corners and the degree of public activity to be found on them. We selected corners at five commercial intersections along College Avenue in the Rockridge and Elmwood districts. This area was selected because it presents a long series of commercial intersections along a single street with only relatively minor changes in character.

Our analysis does not conclusively support the hypothesis that the physical elements of commercial street corners can enhance public life. However, public life correlates most strongly with the presence of popular businesses, especially cafes. Asked to select the most appealing corner of a given intersection, survey respondents showed a strong tendency at all four intersections surveyed to select the corners with active businesses. This suggests that it is as much the presence of active businesses on a corner as its physical components that contribute most strongly to public life.

Upper Market Street: The Pedestrian Experience of Sequence, 1993

STRT 5

Jennifer Avery, Thomas Kronmeyer, Craig Meyer, & Mark Reilly

(No abstract available; excerpted by GSI from final document) This study attempts to measure the effects of poorly differentiated spaces on pedestrians within a larger sequential experience. Would a perceived gap in continuity discourage an experience of the larger sequence? What effect does a weak link have on the overall perception of the sequence? We hypothesized that: An experience of sequence along a street is disrupted by poorly defined segments which weaken the sense of connectedness and discourage pedestrian movement. Based on the preliminary findings of the study, the first half of the hypothesis, “poorly defined segments weaken a pedestrians sense of connectedness,” was approved.

Which Block Would You Rather Walk on? The Shattuck / Adeline Pedestrian Study, (2 copies) 1993 **STRT 6**

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.

Livable Streets Study, (year unknown) **STRT 7**

Authors unknown

(No abstract available; excerpted by GSI from final document) In this study, we replicate Donald Appleyard’s initial research on the impacts of light, medium, and heavy traffic on three neighborhood streets in San Francisco. We look to test his original hypotheses to see if his findings remain valid. To do so, we conduct a number of procedures designed to provide us with the necessary information with which to test our hypotheses.

Belden Street Report, 1983 **STRT 8**

Judy Chess, James Hynes, & Sandra Kapsiotis

(No abstract available; excerpted by GSI from final document) This study examines how people use Belden Street and how the surrounding restaurants contribute to their usage, using measurements of behavior observation, interviews, environmental elements (sun, light, wind, air), and physical scale elements (street width, building height, etc.).

Commercial Street Case Study: Preserving an Alley between Chinatown and Downtown San Francisco, 1983 **STRT 9**

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, (currently missing) 1984 **STRT 10**

Elena Eger, Threse Brekke, & Natalie Macris
(Abstract unavailable)

Livable Streets, 1986

STRT 11

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, Ash by 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

STRT 12

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

STRT 13

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, (2 copies) 1987

STRT 14

Connie Goldale, Julie Isbill, Julia McCray, & Liz Newman

(No abstract available; excerpted by GSI from final document) Transition zone is perhaps one of the most important, but least well understood aspects of street design. Both the road and the building envelope adjacent to it are designed to meet certain established criteria, but the connection between the two is left to chance. Clearly, the transition zone is more than merely a spatial separation between two realms, but what are the elements which create a successful transition zone? And when these elements are present, do they actually support the kind of neighborhood community? These questions led to the hypothesis that: The transition zone between the street curb and the front door affects the sense of community.

We chose two adjacent blocks of 25th Street, Castro to Noe and Noe to Sanchez, to examine and compare what we considered to be a block defined by a rich transition zone and another block

defined by deficient transition zone. We selected these blocks because we believed they would be comparable in terms such as income level, ethnicity, sun exposure and climate, and traffic volume.

College Avenue / Rockridge Memorable Street Study, (2 copies) 1988

STRT 15

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

STRT 16

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

STRT 17

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

STRT 18

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 affect 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

STRT 19

Preeti Chopra, Maria Sanders, & Aditya Advani

(No abstract available; excerpted by GSI from final document) We studied a street in a residential area, so as to separate the physical elements of memorability, from the activity occurring on the street. A commercial street is oftentimes memorable for how much it is used and for the type of activity that occurs on it, rather than how it is built. We chose to study three sections of Marin Avenue. This street runs east to west, starting in the Berkeley Hills, passing through the town of

Albany and ending at the I-80 freeway. Our hypothesis is that: From a driver's perspective, the amount of closure on a residential street is proportional to its memorability.

Street Livability Study, (currently missing) 1991

STRT 20

Albert Lopez, Martha Goodavish, & Jeffrey Woo

The focus of this study is to understand how traffic affects 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 Eighth 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, (2 copies) 1992

STRT 21

Alfonso Fillon, Emi Mizuno, Patrick Lane, & Setu Shah

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

STRT 22

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

STRT 23

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

STRT 24

John Cu, Curt Pham, & Marvin Yee

The original Memorable Street Study conducted in 1984 by Patel, Chiao and Chin examined the physical components of three street sections in San Francisco. They concluded that memorable streets: (1) were "willfully designed" by architects, urban designers or merchants; (2) have a high number of entrances per block; and (3) were more likely to have a highly a communicative edge. Canopies and awnings, special paving, and the transparency of a street were evaluated to coincide with the Memorability Street Study conclusions. Indeed, these physical elements were found on

Clement Street as well, which in our minds is a memorable street. Yet Patel, Chiao and Chin recognized that “the nature of the activity on streets is a primary element in determining memorability” and that people’s perception of a street should be further studied. In continuing this line of thought, this Clement Street study was conducted with the hypothesis that the most influential determinants of street activity were the business themselves, specifically the mix of business types.

The most popular commercial section of Clement Street was observed to occur east of the park strip connecting Golden Gate Park to the Presidio; that is, from Funston Avenue to Arguello Boulevard. Yet within this section of Clement Street are various levels of street activity. Given this observation, we scouted for two seemingly similar 2-block sections on Clement Street in terms of the physical environment, one appearing very active and the other less so, between Funston Avenue and Arguello Boulevard to test our assumption turned hypothesis. After several informal observations, we selected 4th to 6th Avenues as being a more memorable part of Clement Street due to a high volume of pedestrian traffic, and 9th to 11th Avenues being comparatively less memorable due to low pedestrian activity.

Enclosure and Sense of Place, (2 copies) 1993

STRT 25

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, (oversized copy, currently missing) 1993

STRT 26

Jennifer Cooper, Andrew Delaney, Lynn Harlan, & Heather Hensley

The focus of this study is 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

STRT 27

Iris Cheng, Robert Hewitt, & Keiro 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, (oversized copy) 1994 **STRT 28**

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, (2 copies) 1996 **STRT 29**

Arne Elliot, Clara Irazabal, & Sadakuni 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: Camlelita, 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 Boulevard and Clement Street in San Francisco, 1996 **STRT 30**

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, (oversized copy) 1997 **STRT 31**

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 A venue 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

STRT 32

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**

STRT 33

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**

STRT 34

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, (currently missing) 1998

STRT 35

Karen Murray & Mukul Malborta

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 fmer 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,
(currently missing) 1998**

STRT 36

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 A venue 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 reduces the sense of place.

The Use of Seating and Activity Patterns on Commercial Streets, 1998

STRT 37

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

STRT 38

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.

Memory of Paths, (2 copies) 2000

STRT 39

Kris Agardi, Justin C.S. Huang, & Madeleine Zayas Mart

(No abstract available; excerpted by GSI from final document) The main hypothesis of this study is that: A walk will be more memorable if it contains elements of surprise. The intensity of the surprise is measured against the elements of proportion, enclosure, light, rhythm, texture, and background views. By comparing three paths on UC Berkeley campus, the study concludes that the variables have a strong impact on creating a memorable experience.

Repetition, Design, and Place: The Role of Repetition in the Creation of Identity and Sense of Place, (3 copies) 2000

STRT 40

Lev Yacov Kushner, Nicolas Larco, & Gabe Meil

(Introduction) The idea for this study was sparked by the recent redesigning of the western end of Solano Avenue in Albany, CA. While the eastern end of the street, in Berkeley, has no coherent design, the City of Albany recently, spent a substantial amount of time, energy, and money in redesigning the western part of the street to create a coherent, repetitively designed space. They replaced old sidewalks and added attractive lampposts, planters, and benches at regular intervals. We wondered how this would affect the site's users – if the refurbished physical space would cause a change in how the place was perceived. We thought that this was just one of the ways in which a

street or area could be redesigned and wanted to explore the effects of different design intentions/philosophies on the creation of place.

Aspects of Street Memorability, 2001**STRT 41***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 descriptives 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, 2001**STRT 42***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**STRT 43***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**STRT 44***Christine Ferracane & Lauren Hertel*

The research presented here evaluates pedestrian activity in Emeryville, California. The city has several of the elements deemed undesirable by pedestrians, including high traffic volumes and independent "island-like" land uses. However, as revealed by observation and by traffic counts, people are walking in Emeryville.

This research seeks to understand how pedestrians are currently using the environment and to discern lessons from those patterns that will assist the city to develop its pedestrian network more efficiently and effectively in the future. The research found a positive connection between perceived convenience and pedestrian activity. People how perceived it more convenient to walk in Emeryville did so more frequently. There seems to be a connection between pedestrian activity and purpose of travel. But this investigation was not able to make that connection. No relationship was found between frequency of walking and the purpose of a walk or in the destination of a walk. Imageable elements did not seem to play a major role in either selection of path or choice of walking over driving.

Vibrancy & Physical Design, (oversized copy) 2003

STRT 45

Meredith Burnley & Andrea Urbiel Goldner

In this study, three neighborhood-commercial streets in San Francisco, California are compared and contrasted in an effort to determine whether there is a correlation between physical design elements of neighborhood-commercial streets and their level of vibrancy. Findings support the hypothesis that physical design characteristics promote or inhibit vibrancy of neighborhood commercial streets.

The Social Life of Residential Streets: The Effect of the Transition Zone, 2001

STRT 46

Nina Creedman, Nicholas Papaefthimou, & Wei Yan

(Introduction) It is the aim of this study to bridge these gaps: to explore the role of the “transition zone” in the social life of a street, and to analyze the residential street as a small urban space in Whyte’s terms, using his own guidelines – sitting space, food, trees, wind, sun, and water – as a departure point for our analysis. Similar to Whyte’s conjecture that the presence of his elements creates a “successful” small urban space, it is our hypothesis that: the presence of transition zones fosters social activity, and thus neighborliness, on a residential street.

Scale and Streets: A Study of the Relationship between Scale and Neighborhood

Integration of Local Commercial Streets, 1990

STRT 47

John Hamilton, David Lee, Peter Owens, & Admasu Tegegne

(No abstract available; excerpted by GSI from final document) With an intention to look at the relationship between parcel size, block size, and sense of community, we examined commercial strips within residential communities. The three districts we chose were: College Avenue (between Keith and Manila), Lakeshore Avenue (between Rand and Mandana), and Solano Avenue (between The Alameda and Ensenada). Our findings from the analyses generally support our hypothesis that a successful integration of a commercial street into a neighborhood community is a function of elements that contribute to the perception of a smaller scale environment.

Perception of Urbanity, 2001

STRT 48

Ayelet Zamir, Joost Beunderman, Leor Lovinger, & Liat Chiel-Nuri

(No abstract available; excerpted by GSI from final document) We focused on the definition of urbanity as a perception, with a hypothesis of: The urbanity of a commercial street, as perceived by local users and visitors, depends upon the centrality of the place and the diversity of uses and users. We chose to do our study in the city of San Francisco, studying 3 commercial streets that are perceived as urban: Haight, Chestnut, and Columbus. We used objective field measurements, subjective observations, and surveys which included 60 people. The analysis shows that the hypothesis is not supported by our findings.

Livable Streets, 1988**STRT 49***Laura Patterson, David Guyer, & Pat McGovern*

(No abstract available; excerpted by GSI from final document) Using Appleyard's research design and measurement criteria, we replicated his 1969 study, and tested his hypothesis on three streets in San Francisco: Franklin, Octavia, and Gough. While replicating Appleyard's study, we were struck the similarity of results almost 20 years later. It seems that Appleyard's hypotheses stand the test of time.

Street Design & Pedestrian Activity: A Neighborhood Study of the Duboce Triangle Area in San Francisco, 2001**STRT 50***Jenny Henry, Darrin Nordahl, Satyaki Ragbunath, & Sarah Treubhaft*

(No abstract available; excerpted by GSI from final document) Our study of street design and pedestrian activity in the area around the Duboce Triangle in San Francisco attempts to answer the question of whether streets that are purposefully designed to accommodate pedestrians actually attract and encourage more pedestrian activity than streets that have no such intentional design. We hypothesized that pedestrian-friendly street design does not directly lead to increased pedestrian activity. Although our initial observations showed that there was more activity on the streets south of Market – the non-pedestrian-friendly streets – field observations of activities on three different days disproved the hypothesis.

Transition Zones and Communicative Edges on Commercial Streets, 2003**STRT 51***Brijesh Bhatha & Swapneel Patil*

(No abstract available; excerpted by GSI from final document) Our study was to find out the relation between Transition zones, communicative edge, and social interaction on streets. In order to test our notions, we measured a few physical characteristics on Polk Street, in San Francisco, between Clay and Washington, and between Union and Filbert. We also interviewed diverse group of people to determine whether they shared a similar response to our findings. We found that the social interaction on commercial streets is dependent on transition zones and communicative edge.

Central Diversity: Diversity of Uses and the Success of Neighborhood Centers, (2 copies) 2004**STRT 52***Erica Spaid, Peter Frankel, Culley Thomas, & Devon Williamson*

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 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, (2 copies) 2004**STRT 53***Luis 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

broad 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, (2 copies) 2006

STRT 54

Lucas Griffith, Patrick Hood-Daniel, Marlon Maus, & Chunchun 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 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.

Topography and Mastery, 2006

STRT 55

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? (2 copies) 2006**STRT 56***Vinita Huang, Rebecca Sanders, & Rebecca Whitney*

As a bicyclist, one has to share the road with automobiles, yet at times it may seem less like sharing and more like encroaching on another's territory: automobiles dominate the streets. In the city of Berkeley, CA, traffic calming measures have been implemented on particular streets in order to discourage automobile speeding or to completely restrict automobiles from entering onto a street. These calming measures are a variety of physical measures intended to reduce the effect of motorized vehicle traffic in urban areas, allowing for more bicycle-friendly streets. For the purpose of this study, we have examined a traffic calmed street with traffic diverters and traffic circles. There are several types of diverters in place today in Berkeley – semi-diverters (closing half the street) and full diverters, which either create a cul-de-sac or are placed diagonally across an intersection and force vehicles to turn the corner. Most full diverters have a gap between the bollards and a low steel under-carriage device, which is supposed to allow only passage of fire trucks and other high-clearance vehicles. Nearly all diverters allow bicycles to pass through on the street, while a few require bicycle passage on the sidewalk.

Traffic circles sit in the center of an intersection and are designed to force vehicles to slow down and turn right around them in order to proceed. They may be simply a cluster of bollards or a fully reconstructed and landscaped land.

This study aimed to determine whether or not these traffic calming measures were actually benefitting bicyclists. To determine this, we formulated a method to gauge cyclists' perceptions of safety and enjoyability on different streets. This led to our hypothesis: the presence of traffic calming measures at an intersection increases cyclists' perception of safety and enjoyability.

In order to test our hypothesis, we chose four intersections, two located on a traffic calmed street and two located on an un-calmed street. Throughout our case study, we gathered data on cyclists and automobile counts, observed cyclists behavior, surveyed a number of cyclists, and spoke with cyclists. After analyzing our results, we were led to the conclusion that traffic calming does increase cyclists' perception of safety and enjoyability.

Pedestrian Bridges: Measuring the Effectiveness of Design to Overcome the Freeway Barrier in Urban Areas, (2 copies) 2007**STRT 57***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, (2 copies) 2007**STRT 58**

Sebastian Petty, Allie Thomas, & Kristin Maravilla

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, (oversized copy, 2 copies) 2007 **STRT 59**

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.

Lingering in Commercial Transition Spaces, 2008

STRT 60

Marie Aaberge, Tamar Cooper, Patrick Race, & Xibing Yang

While it may seem self-evident, the relationship between vitality and sidewalk amenities within the commercial transition zone is fairly complex. The tendency for people to linger in these spaces may hinge upon other factors independent of the physical configuration of the sidewalk.

This study investigates the commercial transition zone as defined by the space bounded by the entrance of an establishment to back of street curb. We hypothesized that while commercial activities draw people to a place, it is the type and amount of amenities within transition spaces that cause people to linger. We investigated three sites in the Rockridge neighborhood of Oakland with three different levels of observed activity. An inventory of site amenities was calculated and normalized based on site length and served as a basis on which we recorded further site observations and pedestrian and traffic counts. In-person interviews were also conducted to get a qualitative sense of why people come to the space, what the space had too much of, and what the space was lacking.

As we hypothesized, physical amenities cause people to linger and corresponded to the amount of amenities per linear foot. As evidenced by responses to our survey question regarding the adequacy of sidewalk space, tension may exist between demand for spaces to linger and space available. However, social interaction plays a key role in encouraging people to linger. Hence, physical

amenities most likely are not the only elements necessary to cause people to linger.

Walking to Commerce, (2 copies) 2008**STRT 61***Monica Altmaier, Rebecca Finn, Chris Ganson, & Stephanie Hill*

(No abstract available; excerpted by GSI from final document) Our primary goal is to test four “truisms” of walkability: a person will walk rather than drive if the route distance was less than ½ mile; he/she felt safe from the traffic and crime along the route; the route is attractive; and, real or perceived parking pressure exists at the destination. Based on our study on Solano Avenue, Berkeley, and Piedmont Avenue, Oakland, the results indicate that while there is a complex mix of environmental and personal influences that contribute travel behavior, walking shows a significant potential as a mode of local travel. People in the Solano and Piedmont neighborhoods enjoy walking to the commercial district for a variety of purposes and at a variety of times during the week. People are very willing to walk to commercial destinations during their leisure time.

Perceived Walkability of Two Neighborhoods, 2008**STRT 62***Cliff Sorrell, Nicholas Curtis, & Chris Fullmer*

Walkable neighborhoods offer benefits to our physical health, social well-being and the environment. Numerous studies have shown that people who walk are less likely to suffer from weight related illnesses. Neighborhood walks promote interaction with neighbors and therefore, increase social capital. If more people chose to walk instead of taking fossil fuel driven modes of transportation, we would see a reduction in greenhouse gases and global warming. The Walkability to Services Group (WSG) researched the perceived walkability of two neighborhoods. The hypothesis that we set out to prove was that the perceived walkability to services from communities of comparable size and proximity will differ based on connectivity.

The Ohlone Greenway Study, 2008**STRT 63***Ellen Davis, Nicola Szibbo, Troy Reinhalter, & Chris Moi*

The Ohlone Greenway provides a car-free transportation route connecting the cities of Berkeley, Albany and El Cerrito. In theory the greenway can also serve as an eco-corridor, providing a migration route for plant and animal species to move between larger greenspaces in the city. In order to function well as an ecological corridor, the vegetation of the greenway must be well-connected, providing a continuous linear greenspace within which plants and animals can move between resource patches.

We hypothesize that this physical connectivity, which is essential for ecological function, is also beneficial for human users. Our study took a Brunswikian approach in attempting to correlate physical measurements of greenway conditions and human users’ perceptions of the greenway experience. Our findings provide weak support for our hypothesis, because through conducting surveys with users and neighbors of the greenway, we discovered a number of confounding factors that make our findings somewhat inconclusive.

Mandela Parkway Study, (oversized copy) 2008**STRT 64***Supaneat Chantanaphan, Robert Douglas Lemon, & Eliza Pratt*

(No abstract available; excerpted by GSI from final document) We studied whether the Mandela Parkway, a linear park, has become a joiner for West Oakland, a neighborhood that was separate by an elevated free-way for approximately 50 years. We found that Mandela Parkway is not yet a joiner for West Oakland. Boundaries, patterns, and perceptions of residents on the east and west side of the neighborhood do not overlap as much as they would if the parkway was joining the neighborhood together. However, we observed that the overlapping intersections where residents

from both sides of the parkway cross represent potential areas for reuniting the neighborhood.

Pedestrian Vitality on College Avenue, 2009

STRT 65

Beth Pederson Harrington, Jolee Hui, & Lisa Liu

This study attempts to investigate the impact of traditional big-box retail form on observable levels of pedestrian vitality in three different sites along College Avenue. We hypothesize that the presence of a traditional big-box retail s⁷

store, which is usually associated with non-transparent, auto-oriented open-lot building configuration, has a negative effect on pedestrian vitality. Our test compare auto-oriented design elements, pedestrian-oriented design elements, traffic conditions and pedestrian vitality in three commercial areas: the first with small, independent shops, and two sites with big-box retail stores. Respectively, the three study areas are as followed: "Ashby" (on College Avenue bounded by Russell Street and Webster Street), "Safeway" (on Collage Avenue bounded by Alcatraz Avenue and Claremont Avenue) and "Trader Joes" (on College Avenue bounded by Harwood Avenue and Miles Avenue). Data include the measurements of various urban design qualities, the mapping of different elements of the built environment, categorically recorded pedestrian activities, and the administration of both pedestrian passerby and local business owner surveys. We found that the area, without big-box retail form, is the site with the highest level of pedestrian vitality, while the Trader Joe's study area had the lowest level of pedestrian vitality. The Safeway area, where pedestrian-oriented design elements were immediately juxtaposed with auto-oriented design elements, has a mixed level of pedestrian vitality.

Residential Street Frontages: Life and Community on the Street, 2009

STRT 66

Mishkat Ahmed, John M. Francis, Cliff Lau, Hsing Chih Lee, & Alice Phillips

This study examines the role that residential street frontages play in promoting livable and community-oriented neighborhoods. In light of recent attention to the issue of residential street frontages as well as San Francisco residential design guidelines encouraging articulated building frontages, we explore whether transition space between public and private realms provided by building articulation affects livability and sense of place. Comparing residential blocks dominated by articulated and flat frontages in two San Francisco neighborhoods, we test the hypothesis that livability and sense of place are negatively impacted by flat street frontages. Site measurements, direct observation, and resident survey results suggest that articulated blocks are both more livable for residents (pleasant for walking and living), and offer a greater sense of place, as demonstrated through residents' attachment to the neighborhood.

Berkeley Bowl Bicycle Access, (2 copies) 2009

STRT 67

Brian Gould, Daniel Miller, & Eliot Rose

Cities around the U.S. are engaged in efforts to promote bicycling as an alternative to driving in order to improve public health and safety and reduce congestion, pollution, and land consumption due to motor vehicle use. However, few dedicated sources of federal funding for bicycle infrastructure exist, and the majority of residents who travel by car demand a large share of flexible transportation funds. At the same time, the majority of research on bicycling behavior focuses on recreational bicycling, not the utilitarian trips those are vital to increasing bicycle mode share. This leaves planners with little money to spend and little factual basis to determine how best to spend it. This study is an attempt to inform better bicycle planning for utilitarian trips. We intercepted cyclists at a grocery store in Berkeley, CA, and had them complete a mixed stated and revealed preference survey so that we could examine how different groups of cyclists value different bicycle facilities for shopping trips. Our hypothesis was that bicyclists, especially those who are carrying

groceries and those who ride less frequently, tend to choose routes with bicycle facilities or wide curb lanes and tend to avoid streets with high volumes of fast motor vehicles, and our study showed this to be true. More importantly, our results provide insight into the choices that these cyclists make between different bicycle facilities and routes, and may be useful to planners and policymakers looking to increase bicycle mode share in their cities.

The Impact of Street Design on Livability, 2009**STRT 68***Jordan Klein, Taylor Reiss, & Lucas Woodward*

For decades, researchers have studied the negative impacts of vehicle traffic on various aspects of residential life, including safety, comfort, and socialization. This study is an examination of whether improvements in the design and configuration of streets can help mitigate those negative impacts. The purpose of the study was to test the hypothesis that streets designed to accommodate multiple modes of transportation are more livable, independent of car traffic volume. While the research group was unable to conclusively prove the hypothesis, the study does show that by increasing the balance of the right-of-way, achieved by reducing the number of vehicle lanes and repurposing that portion of the right-of-way, it is possible to reduce the perceived impact of traffic, even when actual traffic volumes remain constant. Additionally, the research group determined that design quality and building type have a greater effect on social indicators of livability, such as interactions with neighbors, than do street design.

Urban Living: The Effect of the Transition Zone, 2010**STRT 69***David Ghosh, Sarah Moos, & Marita Skorppe*

Designed to analyze a component contributing to urban living, this study measured the impact a street's transition zone has on livability. The transition zone exists as the space between the building wall and the street curb, acting as both a private and public space along the street where activities and interaction can occur. By isolating the transition zone as the single variable, the study surveyed how an increased transition zone complexity – or number of elements present within the transition zone – will increase the livability for residents on the street. The study sites consisted of two separated blocks on Lexington Street, between 18th and 19th Streets and 20th and 21st Streets, in San Francisco, California. Working as an updated version of a 1987 study, Urban Living: The Effect of the Transition Zone attempted to comprehend the effect of the transition zone on urban living for the present time. In relation to the newly mandated ordinances put forth by the city of San Francisco in the "Better Streets Ordinance Plan," this study also strove to measure the validity of said ordinances.

By completing field measurements, surveys, and data analysis, the study suggested a correlation between transition zone complexity and livability, but not causality. While people enjoy the presence of street trees and plantings, and survey results indicate that residents spend more time outside on the street, know more of their neighbors, and feel more at home on the block with more complex transition zones, there are many other factors influencing overall livability. However, it is evident from survey mapping that a wider transition zone provides important space where neighbor interaction can occur, as the presence of driveways is suggestive of a greater number of acquaintances. This study concludes that neighborhood communities develop along residential streets and are both cultivated and supported by physical spaces within the transition zone where activities and interaction can occur. Promoting such spaces through city ordinances should develop livable neighborhoods within cities.

Transparency and Sense of Safety on Residential Streets in San Francisco, 2010**STRT 70***Jose Urrechaga, Xinghan Wei, & Dongwei Wu*

After seeing how the sense of safety is a problem in the streets of our cities, this research tries to demonstrate the hypothesis how transparency is directly related with the perception of safety. We analyzed three transitions zones of San similar in terms of incomes, orientation and density. The objective was to discover which of these residential streets was most transparent (the ability to see and to be seen) and to evaluate which of these streets had more sense of safety (estimated safety of an environment judged only through visual inspection). For the evaluation of the transparency, we made spatial analysis in section, elevation and 3D, and for the sense of safety we carried out surveys for pedestrians and household members. The results show evidence which in support of our hypothesis: "more transparency is equal to more sense of safety" and we put forward some challenging strategies for the design of safe streets in cities.

Memorable Residential Streets, 1987

STRT 71

Henry Hilken, Kurt Nagle, Margot Rosenberg, & Rula Sadik

(No abstract available; excerpted by GSI from final document) This study tests two questions: whether a residential street is likely to be more memorable if it has a sense of enclosure and if it evokes a sense of receptivity. We chose Benvenue and Hillegrass avenues as "good" streets and Oregon Street as "bad" street. Based on our field research and survey, our hypothesis that the "sense of enclosure" and "sense of receptivity" were essential to a memorable street, provided to be broad but appropriate.

Elements of Street Memorability: A Study of Grant and Stockton Streets in San Francisco's Chinatown, 1996

STRT 72

Francesca Gambetti, Mark Wolfe, & Anne-Marie Broudehoux

(No abstract available; excerpted by GSI from final document) This study draws upon previous study by Patel, Chiao, and Chin in 1985, which attempted to correlate street memorability and the willfully designed quality of the environment. Their main conclusion was that although physical features to facilitate the creation of memorable streets, the nature of the activity on the street is a primary element in determining memorability. We decided to take this as a point of departure, and to investigate the correlation between street memorability and non-physical features related to street activity. We hypothesized that street memorability is a product of intensity and diversity of sensory stimulation. Based on our field research in four blocks in San Francisco Chinatown, our findings strongly support our hypothesis.

Memorability & Cultural Space, 2001

STRT 73

Salvador Davila, Candace Koo, & Daniela Tavares

(No abstract available; excerpted by GSI from final document) The purpose of this study is to analyze the design elements at the intersection of Mission and 24th Streets, and survey people to examine how cultural space affects memorability of an area. The study area is located in the Mission District of San Francisco, and consists of six blocks, with an equal radius starting from the intersection at Mission and 24th Streets. In sum, the site analysis and survey results support our hypothesis that cultural elements create and identity for an area, thereby making it more memorable.

Traffic Calming in Berkeley, 2013

STRT 74

Tanvi Maheshwari, Elizabeth Schmid, David Von Stroh

This study was designed to better understand the impact of traffic calming devices on residential streets in Berkeley, California. Initially, we hypothesized that traffic calming devices create streets that are more walkable, safer and quieter, fostering a greater sense of community in

their vicinity. To test this hypothesis, we conducted a number of field measurements and administered a comprehensive resident survey on our selected site, a two-block segment of Stuart Street and Russell Street in South Berkeley. In our field measurements, we conducted auto, bicycle, and pedestrian counts during morning rush hour to measure walkability. To assess safety, we researched traffic collision data. To evaluate noise, we monitored decibel levels at various locations. To gauge the sense of community, we mapped pedestrian and bicycle activity on a weekend morning. In our resident survey, we collected basic demographic information as well as perceptions about traffic, safety, noise levels, relations with neighbors, and maintenance. After all of the research was conducted, we found that traffic calming devices do have an impact on a number of variables, including actual traffic counts, actual bicycle and pedestrian counts, street activity, the perception of safety from traffic and the perception of traffic speed. They do not have a significant impact on actual noise levels, actual speeds, actual safety, social connections between neighbors, or the reported satisfaction with the street one lives on. We conclude that traffic calming devices create a perception of greater safety and lead to more pedestrian and bicycle activity, but they do not impact noise levels or sense of community in their vicinity.

Measure M: Water vs Roads, 2013

STRT 75

Patrick Haesloop, Alexis Schaffler, & Rucker Alex

This research report investigates residents' preferences, awareness and understanding of combined street and watershed improvements in the City of Berkeley. The coupling of road repair and water quality improvements is a relatively progressive step taken by the city through the 2012 Measure M ballot, in which 73% of voters approved \$30 million in bonds to address these objectives using green infrastructure. Within this context, this report sets out to evaluate public attitudes towards road repair versus watershed improvements. The research is informed by a conceptual urban watershed configuration consisting of Upland, Network and Shoreline sites. These are defined according to both level of development and a site's relative position within the watershed. This framework informed our research hypothesis that: Berkeley's shoreline residents will be more inclined to allocate funds available through to Measure M green infrastructure than upland residents. Case studies were conducted at sites that theoretically correlated to the abstract urban watershed typologies. While this research design ultimately proved useful for exploring residents' general preferences for green infrastructure, further study is required to find a statistical correlation between the preference for roads versus water and residents of different parts of the Berkeley drainage system.

Market Street: The Effect of Bike Lanes on Commuter Behavior, 2013

STRT 76

Jennifer Liu, Marziah Meybodi, Genevieve Poist, & Toni Toscano

This study examines the effect of dedicated bike lanes on Market Street commuters of various modes. We hypothesize that the presence of bike lanes decreases the level of aggressive behavior in cyclists and increases aggressive behavior in drivers. By examining study areas near 1st Street and 9th Street, the study was able to compare two busy locations along Market Street, one with dedicated bike lanes and one without. The study concludes that the presence of bike lanes does decrease bike aggressivity. It also increases car aggressivity, but only near the midblock study area. Furthermore, the study reveals that only specific types of behavior are influenced by the presence of the bike lane and makes recommendations for further study to improve bike infrastructure design on Market Street.

Measuring Preference for the Look and Feel of the Pedestrian ROW, 2013

STRT 77

Beck Lithander, Erica Nagy, & Junice R. Uy

There are many devices in sidewalks that help ensure safety and accessibility for pedestrians of all abilities. While legal requirements set a minimum level of function for these devices, there are often many possibilities for materials, colors, and forms to meet those requirements. This study was conducted to see if there are measurable patterns of user preference for the look and feel of such devices in the pedestrian right of way. Participants were surveyed on their preferences for curb extensions (bulb-outs), paving materials, planter edge treatments, street tree treatments, and truncated domes, as well as their perceptions of whether these devices increase pedestrian safety, neighborhood beauty, sidewalk activation, and ecology in the city. The survey results from a total of 112 random pedestrians of all abilities indicate that there are user preferences for the look and feel of universal access devices used in the pedestrian right of way and that these preferences favor options that increase complexity, support multi-functionality, and/or demonstrate quality workmanship. Furthermore, this study found that participants perceive these devices as increasing pedestrian safety, neighborhood beauty, sidewalk activation, and ecology in the city.

Are Parklets Public? Perceptions of Polk Street Parklets, 2014

STRT 78

Alison Ecker & Stella Kim

Parklets are a relatively new concept within the spectrum of urban public spaces. By constructing patio-like sites on former parking spaces, these small parks can introduce an element of surprise to the regular journey down a sidewalk. They can also increase green and open space access in dense neighborhoods. On a broader scale, it is hoped that parklets can contribute to a more inviting and vital neighborhood.

For the businesses, restaurants, and organizations sponsoring these sites from across the sidewalk, it is usually anticipated that a new parklet will increase their customer or user base. Yet, when a public space is not controlled by a public entity, an important question arises: does the public actually understand the function of this type of space? Or, put another way, do people perceive parklets to be public spaces or sites reserved for patrons?

In the course of this four-month research project, we have used a variety of research methods to answer this key research question at parklets along Polk Street in San Francisco. In addition, we further examined how, depending on socioeconomic neighborhood composition, the answer to this question may potentially differ.

Our research revealed that a majority of survey respondents understand these spaces are public. Yet, over a third still believed parklets are reserved for patrons or, if they understand the site is public, still feel pressure to purchase an item from the sponsoring business before using the parklet. Further, certain factors—such as signage or parklet familiarity—were important for the “public” understanding, but neighborhood context did affect this understanding.

The Public Perception of San Francisco’s Parklets: Divisadero Cluster, 2014

STRT 79

Vincent Agoe, Alexandra Stein, & Rennie Newton

A parklet is an extension of the sidewalk into the public right of way. Parklets can take many forms - typically a parklet is a platform that extends the sidewalk and provides amenities like seats, tables, bike racks, and landscaping. The intention of parklets is to reclaim streets by converting parking spaces into recreational spaces for everyone to enjoy. After creating neighborhood profiles of four clusters of parklets throughout the city of San Francisco, we decided along with the members of the second parklet study group to comparatively examine the clusters on Polk St. and Divisadero St. As a unit, we felt strongly about the connection between socioeconomic neighborhood composition and the use of parklets. Building on this initial observation, we developed our hypothesis: Perception primarily differs based on neighborhood socioeconomic composition. Divisadero Cluster: Parklets will generally be perceived as public. To test this

hypothesis, we established our research question: Are parklets perceived as public spaces or reserved for patrons?

Through survey interviews and observational analysis, we discovered that our initial hypothesis that there would be a difference in perception of publicness of parklets based on the socioeconomic composition of the neighborhood in which the parklet is located was unsubstantiated. We did not find a substantial difference in perception of publicness of a parklet in the Divisadero Street cluster (higher median income) as compared to the Polk Street cluster (lower median income).

Parklets in the East Bay, 2015

STRT 80

Taran Aanderaa, Cristina Bejarano, Alex Yang Liu, & Francisca Peñañiel

While parklets have been gaining popularity in the San Francisco Bay Area, and around the world generally, their presence is still new in the East Bay. We chose to study the parklets in Oakland specifically, in an effort to share the data with the City of Oakland team, and to encourage the policy to move past the pilot phase.

As we documented, the parklets we studied in Oakland are located in neighborhoods that range from highly commercial to highly residential, with varying ranges of density. While we were most interested in comparing the parklets' contribution to pedestrian vitality on the street, we were also able to compare this data with the neighborhood land use types, design, and perception of comfort and safety.

Our research revealed that a parklet alone does not immediately increase pedestrian vitality, but several other factors are also involved such as street context, including land use and lively commercial corridors. However, parklets do have an immediate impact on the positive perception of the street. We believe that given more time, parklets can also have indirect impacts on pedestrian vitality by attracting new businesses and investors.

We recommend that the City of Oakland continue to encourage the creation of new parklets, especially in areas with commercial corridors that are surrounded by residential neighborhoods, similar to the 40th Street parklet configuration. To make parklets increasingly successful, the city should include design solutions that reduce the perceived noise and contribute to beautification of the streets through vegetation.

Public Perception of Stormwater Infrastructure, 2015

STRT 81

Erica Althans-Schmidt, Wesley Cogan, & Dongwan Xie

The premise of this study is to examine the public perceptions of residents living in varying proximity to stormwater infrastructure. Does the perception of the function of stormwater infrastructure increase or decrease with proximity? Does the existence of other streetscape improvements decrease or increase awareness and positive perception of stormwater infrastructure? The group hypothesized that the perception of stormwater infrastructure is reduced by the addition of other streetscape improvements but the positive reception of the project is increased. The group tested two recent stormwater infrastructure projects completed in San Francisco, one on Cesar Chavez St. and the other on Newcomb Ave. Analysis was only conducted on data from Cesar Chavez, as insufficient data was collected from surveys distributed at Newcomb Ave. The group found that residents residing further from the Cesar Chavez project perceived fewer benefits. In testing the awareness of function, they received inconclusive results.

Livability Audit, 2016

STRT 82

Sarah Abroff, Nick Aguilera, Samantha Beckerman, Annaliese Chapa, Daniel Dominguez, Hannah Greendorfer, Gene Stroman, & Qing Tian

Livability is broadly defined as the ability of urban districts to support healthy and fulfilling lives. However, the operational definition of the term is up for debate. To date, there has been no consensus in the field of urban design on a methodology that assesses livability in an urban environment.

Our team at University of California - Berkeley, in ongoing research with the Norwegian University of Life Sciences, has been testing a new method to measure livability. Six dimensions of livability - imageability, enclosure, transparency, human experience, vitality, and connectivity - emerged from a literature review around the topic. This research explored whether or not these dimensions are an accurate reflection of the livability of a street. Our teams also explored the differences between in-person and virtual perceptions of an urban environment.

This research used a livability audit as a tool to test and measure the livability of six streets in San Francisco. The research sought to develop a better understanding of which dimensions of livability contribute most to perceptions of livability and how livability is perceived differently between in-person and virtual methods. Broadly, this research investigates whether or not these six dimensions of livability are an accurate measure of livability at large.

The research results suggest that certain dimensions of livability may contribute more to an individual's perception of livability than others. The results also confirm that there are differences between in-person and virtual perceptions of place. There are promising directions for future research.

Attachment and Imageability in a Commercial Corridor, Case Study: College Avenue in Elmwood, Berkeley and Rockridge, Oakland, 2016

STRT 83

Martin Galindez, Qingchun Li, Haonan Lu, Parisa Mir Sadeghi, & Valentina Schmidt

As a team of Urban Design students in search for a better understanding of what brings into a community the sense of belonging, the team decided to work along attachment and imageability for this case study. The team focused their interest examination in how people interact with their living environment, what factors impact their attachment to places and how that environment can actually shape their emotional connections.

Therefore, a community that could display these opportunities by simple observation was preferable. Consequently, it could allow the team to further develop their concerns and assumptions of attachment and its development in a society. Certainly, College Avenue as a commercial corridor between Elmwood, Berkeley and Rockridge, Oakland as two fascinating neighborhoods in the Bay Area turned to be the perfect guide thru such processes.

The specific purpose of the case study along College Avenue in Elmwood, Berkeley and Rockridge, Oakland is to examine and compare between these neighborhoods the influence of physical characteristics of a place into the residents of it. As well as, the influence of social factors among physical characteristics as the key element to provide place identity to residents of a community as a whole.

TIME

Kronos in the Marina: Scale and the Perception of Time, (currently missing) 1999

TIME 1

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

TIME 2

Allegra Bukojemsky, Carlo Mezzino, Jeffrey Longhenry, & Manish Shirgaokar

(No abstract available; excerpted by GSI from final document) In an urban design context, a person's perception of the passage of time could influence travel patterns or their sense of neighborhood territory. While the designer may be able to create environments that alter one's perception of time passage, the designer may not be able to determine how many people or in what ways people will use the space. We hypothesized that the density and activity of people within the designed environment will affect the perception of travel time. We selected four walks on or in the vicinity of the UC Berkeley campus: a walkway on the North side of the Valley Life Sciences building, Sproul Plaza between Sather Gate and Bancroft, Telegraph Avenue between Durant and Haste, and Telegraph Avenue between Dwight and Parker. We found that the relationship between scale and perceived time is inconclusive; the perception of time is directly correlated to the amount of articulation in the environment; and the perception of time is also directly correlated to the amount of people in the environment.

Time on the Campus: A Study of Visual Elements and the Perception of Time, (2 copies) 2004

TIME 3

Kai-Feng (Emelie) Cheng, & Yu Cao

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, (2 copies) 2004

TIME 4

Ted Steinemann & Anne Martin

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, and 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.

TREES

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

TREE 1

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 Comell 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, (2 copies) 1999

TREE 2

Janet Gracyk & Leslie Shieh

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

TREE 3

Junichi Imanishi & 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 Environment, (2copies) 2000 **TREE 4**

J. Dinh, H. Kiers, & N. Kozier

(No abstract available; excerpted by GSI from final document) In this study, we tested whether people who live on urban residential streets lined with deciduous street trees are more perceptive of seasonal change than those who live on streets with evergreen trees. Our case study on several streets near University Avenue, Berkeley, we can conclude that the presence of trees on urban residential streets significantly contributes to the perceived attractiveness and identity of a street. People are highly cognizant of their street trees. Our study also found that residents who live on streets lined with deciduous trees are more perceptive of seasonal change than those residents who live on streets lined with evergreen trees.

Street Tree Spacing Study, 1991

TREE 5

Tom Benjamin, Jordan DeStaebler, & Jasmine Kaw

(No abstract available; excerpted by GSI from final document) This study examines whether there is a relationship between street tree spacing and street definition: the closer street trees are spaces, the greater the street definition. We chose Forest Street, Berkeley, Estrella Avenue, Piedmont, and Dwight Way, Berkeley, each with different spacing intervals. We found that trees play a major part in people's perception of their environments, and that trees are generally highly valued. However, we are not certain that people perceive tree spacing or that they actually relate tree spacing arrangement to their definition of a "good" street. Therefore, we do not conclude that there is or that there is not a relationship between street tree spacing and street definition.

Street Vegetation and Livability: A Study on the Positive Effects of Street Vegetation on Residents, (2 copies) 2001

TREE 6

Cristina Bracho, Carey Knecht, & Scott McCarey

(No abstract available; excerpted by GSI from final document) This study attempted to examine emotion through the lens of science. Through field observations and surveys, we looked for a correlation between the perceptions residents had of their streets and the amount of vegetation on those streets. Three study sites were chosen: Albany, Berkeley, and Oakland. For each of the three neighborhoods with high, medium, and low vegetation were selected. In the end, our results failed to support the hypothesis that increased vegetation improves livability, as defined by comfort, sociability, and sense of place. In detail, comfort, sociability, and sense of place were not demonstrated to increase when vegetation was a greater percentage of the view. Sociability may decrease as vegetation increases.

The Impact of School Gardening Programs, (2 copies) 2008

TREE 7

Nick Glase, & Seraina Jenal

(No abstract available; excerpted by GSI from final document) Schoolyard gardening programs may be a useful urban design feature that can promote environmental awareness and help mitigate against diet related health problems (such as childhood obesity and type-2 diabetes). In the Bay Area, our team has identified approximately 40-50 school gardening programs. Despite the growing number of participating schools, relatively little research has attempted to measure the effects of school gardening programs. School gardening programs may offer benefits in urban environments. Based on the assumptions of a preeminent school garden program – The Edible

Schoolyard at King Middle School, Berkeley – we tested whether the school gardening programs encourage awareness and appreciation of three significant benefits: nourishment, stewardship, and sense of place. The results show that students, who participate in school gardening programs, demonstrate significantly higher scores among all target concepts: 7th grade students at Albany Middle School experienced a 6% overall improvement while 4th graders at Dover Elementary scored 5% higher than their control school.

Forage Berkeley: Connecting People to Local Food Systems, 2009

TREE 8

Alex Harker, Josh S. Jackson, & Will Q. Smith

(No abstract available; excerpted by GSI from final document) The Forage Berkeley Fruit Tree Mapping Project is the result of the blending of two ideas. The first idea regards issues of urban agriculture, specifically the potential for edible landscapes in the public realm. The second idea deals with the ways that the Internet and digital media manifest impact the physical landscape. We merged the two concepts by creating an urban fruit tree map, using precedents to guide our work and online tools to design a variable research program.

Although our field research of trees showed that most trees had been harvested or maintained in between observations, our written survey showed that the information network based on word-of-mouth and traditional neighborhood communications was a powerful force as well. Thus we find it difficult to say that the Forage Berkeley bloc was responsible for the condition of the trees or that our hypothesis has been proven. Nonetheless, the fact that trees were added to the map and the 18 respondents to the online survey saying that Forage Berkeley helped them find food suggest that our hypothesis is not false.

VIEW

A Study of Views, (2 copies) 1983

VIEW 1

Sue Abbott, Susan Jones, & Cara Seiderman

The purpose of this study, undertaken by three graduate students in the College of Environmental Design at the University of California, Berkeley, was to determine how people perceive and use views. The study explored a four-part hypothesis: (1) people think of views as panoramic views; (2) a panoramic view is considered to be the best view; (3) people use their street views, but do not consider their streets to be views; and (4) views are important; people will create and enhance them. The investigation took place in two study areas: Grizzly Peak Boulevard between Shasta and Creston in Berkeley, and Stannage Avenue between Marin and Gilman in Albany. The Grizzly Peak area looks down out at the San Francisco Bay, while the Stannage area can see the Berkeley Hills (although not all the houses in those areas have those particular views).

The investigators made environmental observations in each area, and selected nine homes in each area on which they performed environmental measurements. Next, the residents of these homes were interviewed to test the hypothesis.

The results of the study indicate that: (1) when asked if they have a view, people will generally answer yes only if they have panoramic views; (2) in their minds, people generally think panoramic views are best, but they also like enclosed, intimate views, and they related to the views they have from their homes; (3) no conclusion can be drawn as to whether or not people enjoy their street views; and (4) views are important and people will work to create or enhance views.

Further studies to explore this topic should include: (1) an investigation of how people interpret their street views; similar streets which differ only by type of view should be used for such a study; and (2) an investigation of how views affect people's sense of place. It is further recommended that city governments explore ways to preserve views for residents without traditional panoramic views. This could be done through height restrictions or neighborhood referendum.

A Study of Views, 1987

VIEW 2

Eric Nagata & Syou Jwan Wang

The purpose of this study was to determine how people perceive and use views. The study was carried out by two students in the College of Environmental Design, University of California at Berkeley. This study explores a five part hypothesis: (1) people think of views as panoramic views; (2) a panoramic view is considered to be the best view; (3) views are important, people will create and enhance them; (4) people use their street view but do not consider their streets to be views; and (5) people prefer downward views.

The study took place in two areas of San Francisco: Noe Street between 15th Street and Henry Street, and Roosevelt Street between 15th Street and Museum Drive. In this study area, both of the viewsheds have an area which is overlapped by the other and various elements of the views from these areas are seen in both viewsheds. For example, the San Francisco Bay is seen in both viewsheds in varying degrees and a similar situation also occurs wherever Corona Heights can be seen.

In the selection of the two study area it was desirable to choose homes which afforded a wide array of views. However, in order to accomplish our task, we needed to define and categorize the types of views which were of interest to us in the study. This was facilitated by observing the various views and classifying them accordingly. In summation, we classed the views into four categories. They were panoramic, framed panoramic, street, and enclosed views.

A View Study of Crockett, (oversized copy) 1986

VIEW 3

Walter Hood, Matthew Taecker, & Mimi Vreeland

(No abstract available; excerpted by GSI from final document) The purpose of this report is to determine the perception and values that people have of view from their home. The intent behind this continuing analysis is to improve planner's and designer's understanding of the value in a "view" and to justify this knowledge by developing or strengthening methods for measuring view perception.

Vistas and Street Memorability, 2000

VIEW 4

Trent Greenan, & Roxana Vargas Hidalgo

(No abstract available; excerpted by GSI from final document) The nature of vistas, either ending with a well-defined focal element or by landscape is likely to influence the memorability of the view. The presence of a terminating vista contributes to the memorability of a street. Elements that are likely to affect the memorability of a vista are: topography, enclosure, symbolic quality, and architecture or landscape significance. Analyzing 19 places in San Francisco, Rockridge, and Gold Coast, we found that a strong sense of identity with view that have significance to the street or represent the neighborhood are found at Ferry Building with Market Street, the Fox Theater in the Gold Coast, and the Church for Rockridge.

Vistas and Street Memorability, Appendix 2000

VIEW 4-1

Trent Greenan, & Roxana Vargas Hidalgo

Perception and Value of Residential Views, 1988**VIEW 5**

C. Connor, M. Engler Efrati, & B. Sarjent

The aim of this study of views is to determine: (1) how people value and consider their residential views: what are the factors that modify the value of their views, and what are their priorities in determining how they value views; (2) how the various residential views affect the sense of orientation and mental image of the region; and (3) how residential views affect the sense of neighborhood and community.

The study took place at eight sites in the area of Albany Hill; bounded by Buchanan Street to the south, Adams to the east, Fillmore to the west, and the Albany City limit to the north. Each site maintained a certain combination of view factors. We intended to compare among these combinations in order to understand how different factor combination affect the value of a view. At each site (street), we conducted physical measurements and did a behavioral mapping. The results of the measurements and behavioral mapping showed an inconsistency between the sites and the view type they ought to represent. (For example, we found that many houses in a street that supposed to represent only a street view did have an inferior view to the East Bay Hills.) We could not also find visible distinctions among many of the groups since the variations of the view factors were too delicate. However, the results showed a clear distinction between the four uphill sites and the four downhill sites. We then divided our sites into four groups according to four main view types: (a) Superior Bay; (b) Superior Mountains (East Bay Hills); (c) Normal Bay; and (d) Inferior Mountains (East Bay Hills). Later, we conducted interviews with residents in their homes in the four sites and gathered additional information regarding their specific window views, backyards, and arrangement of interiors (living rooms).

The major conclusion of the study resulted from the interview phase. The physical measurements in this study were of minor importance, yet supportive of only some of the hypothesis. The results of the study indicate that:

- (1) The most valued factor of a view is its spaciousness, which is a combination of superior position, a panoramic scope, and distance: superior panoramic views are highly valued
- (2) View with natural elements are highly valued: views that include water are highly valued; views with intangible elements related to light and sky are valued by people
- (3) Enclosed and urban views are not valued
- (4) The most important aspect of views if the open feeling it provides (which implies a sense of control and mastery)
- (5) The most valued views are superior, panoramic, and which include the bay; less valued than 5a are views of superior, panoramic, and which include the East Bay Hills; less valued than 5a are normal, panoramic Bay views; and the least valued views are inferior views toward the East Bay Hills.

Panoramic Views, 1986**VIEW 6**

A. Ariso, J. Barnickel, & D. Stone

(No abstract available; excerpted by GSI from final document) Panoramic views are the most appreciated by people. Actually, they are the only ones considered to be views. But are all panoramic views perceived and appreciated in the same way by residents who see them from their homes? Conducting a comparative study of two areas, both with uninterrupted, panoramic views, we examined if measurable differences in view qualities and characteristics are reflected in people's attitudes and perceptions toward their views. We found that residents with views may appreciate the quality of their view better than is shown by physical measurements. We also found that not only physical but other factors of a psychological and socioeconomic nature probably affect the

attitude of individual residents toward their views; and that the way the view is experienced by residents seems to changes over time.