



# new urbanism UNCOVERED

a case study of the  
parallels between  
the *charter of the  
new urbanism*  
and the existing  
conditions of  
a new urbanist  
development

annie ryan  
city and regional planning department  
california polytechnic state university  
san luis obispo  
6.12.2009





APPROVAL PAGE

TITLE: New Urbanism Uncovered

AUTHOR: Annie Ryan

DATE SUBMITTED: June 12, 2009

Grade: \_\_\_\_\_

Umut Toker  
Project Advisor

\_\_\_\_\_  
signature

\_\_\_\_\_  
date

William J. Siembieda, Ph.D, AICP  
Department Head

\_\_\_\_\_  
signature

\_\_\_\_\_  
date





# new urbanism uncovered

a case study of the parallels between the *charter of the new urbanism* and the existing conditions of a new urbanist development

**annie ryan**

senior project  
city and regional planning department  
california polytechnic state university  
san luis obispo  
2009

# contents

## **one** introduction 8

## **two** existing literature 10

2.1 a brief history of new urbanism 10

2.2 critiques of new urbanism 14

## **three** project objectives + methodology 18

3.1 project objectives 18

3.2 methodology 18

3.3 methods + instruments 19

3.4 research protocol 20

## **four** findings 22

4.1 pedestrian orientation 22

4.2 mixed uses 34

4.3 traditional community structure 38

4.4 housing + household variety 48

4.5 cohesive urban design 56

4.6 transportation variety 64

4.7 accessibility 68

## **five** conclusions 72

5.1 new urbanism in a low-income context 72

5.2 rivermark + new urbanism 76

## **sources** 86

## **appendix** a1

# figures

4.1.1	perceived pedestrian safety areas	23
4.1.2	homes within 5-minute walk of uses	30
4.2.1	rivermark land uses	35
4.3.1	perceived rivermark center and edges	39
4.3.2	perceived sub-communities	39
4.3.3	perceived sub-communities	39
4.3.4	perceived sub-communities	39
4.3.5	formally designed sub-communities	41
4.3.6	rivermark questionnaire responses	41
4.3.7	rivermark questionnaire responses	41
4.3.8	rivermark questionnaire responses	41
4.3.9	rivermark questionnaire responses	43
4.3.10	rivermark questionnaire responses	43
4.3.11	rivermark questionnaire responses	43
4.3.12	neighbors known by first name	44
4.3.13	social network	45
4.4.1	progression of parcel values	49
4.4.2	parcel values	51
4.4.3	average street parcel values	51
4.5.1	identified urban spaces	57
4.5.2	enjoyable + unenjoyable areas	59
4.5.3	social orientation levels	63
4.6.1	trip modes	64
4.6.2	trip destinations, modes + purposes	65
4.6.3	trip purposes, modes + distances	65
4.7.1	levels of regional connections to rivermark	69
4.7.2	levels of regional connections to palo alto	69
4.7.3	rivermark street intersections	71
4.7.4	seaside street intersections	71
5.1.1	perceived pedestrian safety areas	75
5.1.2	richmond village and rivermark questionnaire responses	76
5.1.3	richmond village and rivermark questionnaire responses	76
5.1.4	richmond village and rivermark questionnaire responses	76
5.1.5	richmond village and rivermark questionnaire responses	76
5.1.6	richmond village and rivermark questionnaire responses	76
5.1.7	richmond village and rivermark questionnaire responses	72
5.1.8	richmond village questionnaire responses	77

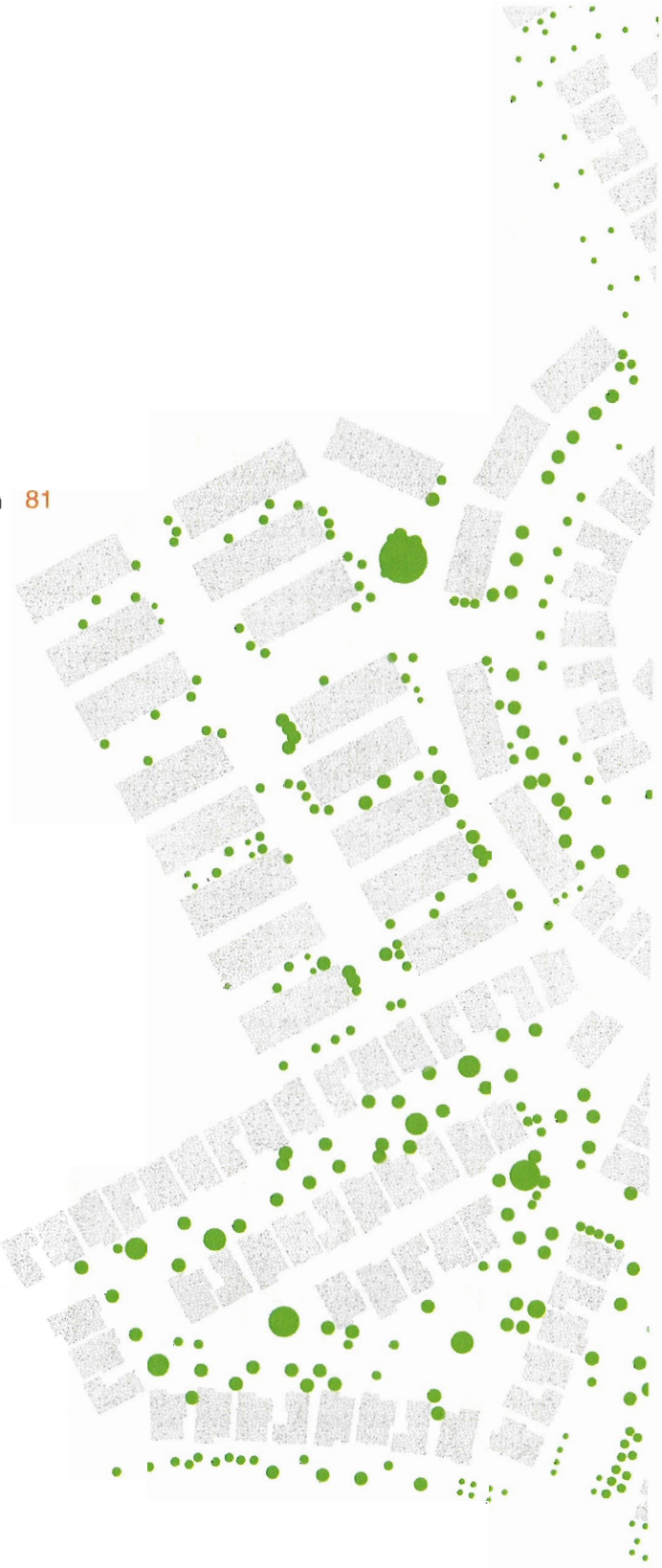


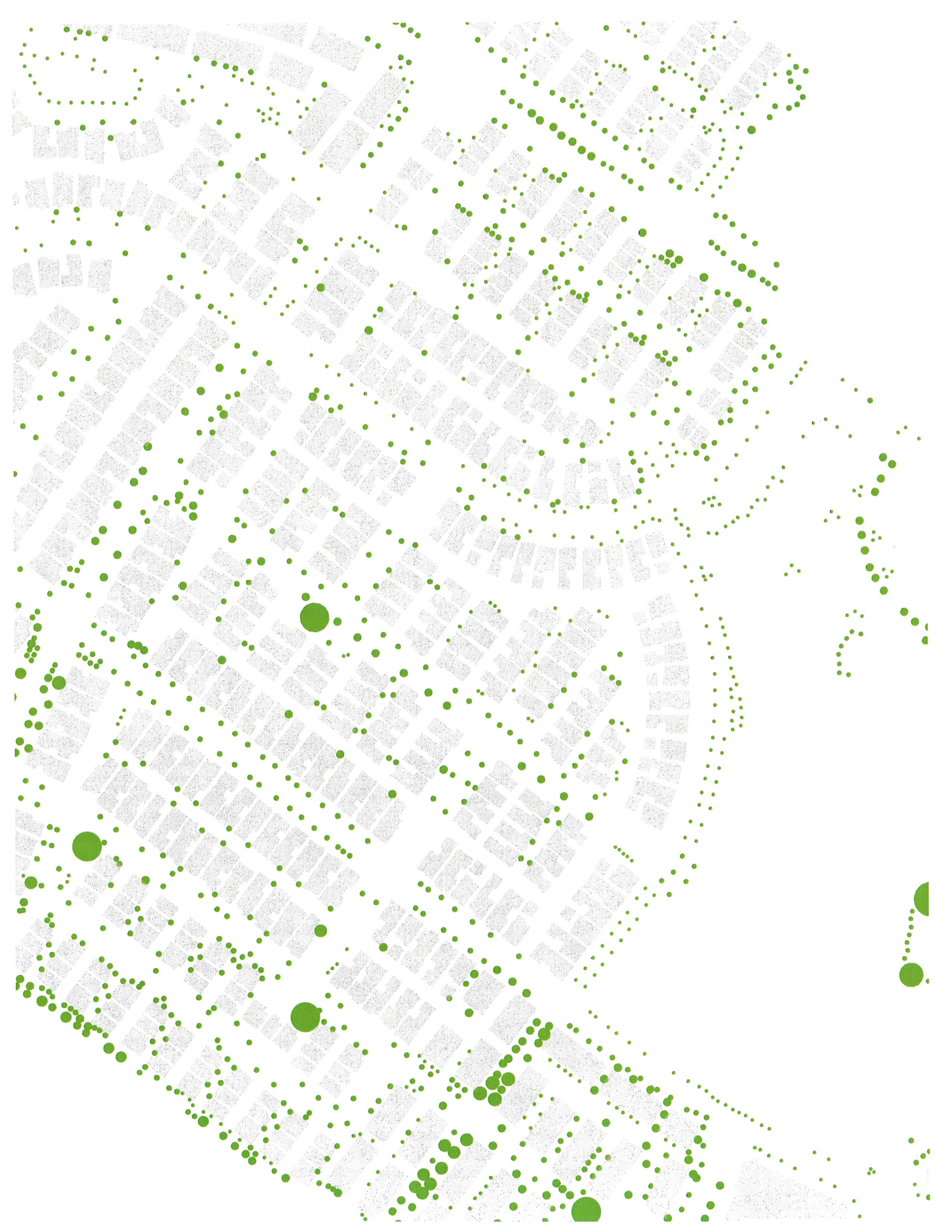
# tables

- 4.4.1 owner-occupied housing unit value comparison 52
- 4.4.2 racial breakdown of populations 57
- 4.4.3 ethnicities indicated by rivermark respondents 57
- 4.4.5 state of california income category definitions 57
- 4.6.1 hypothetical public transportation alternatives 71
- 4.7.1 neighborhood connectivity index calculations 72
- 5.1.1 richmond village respondents' income level distribution 81
- 5.1.2 owner-occupied housing unit value comparison 81

# appendix

- 1 introductory questionnaire letters a2
- 2 rivermark questionnaire a3
- 3 richmond village questionnaire a5
- 4 rivermark workshop flyer a7
- 5 rivermark workshop activities a8







**The United States is a country of suburban dwellers. Originally conceived as a solution for providing middle-class city dwellers with healthy, natural residential settings, today the American suburb is a place void of character and social vitality.**

A fervent demand for low-density, single-family homes following World War II resulted in the continuous development of large tracts of land, with little consideration of potential social ramifications. These suburban tracts were designed to facilitate the automobile, sentencing residents to a life of dependency upon their cars and major thoroughfares. Today suburban residents are victims of a thoughtless built form, with neighborhoods segregated by use and income levels. Buildings and houses lack any unique character, ultimately leaving entire cities without defining features to set them apart.

New Urbanism, a growing movement within the planning and architecture fields, has been touted as an answer to the dire condition of the American suburbs. It aims to reconfigure sprawling suburbs by turning them into sustainable neighborhoods that provide for a diverse population and a variety of transportation types. New Urbanists believe that neighborhoods and cities should harbor shared, public spaces where residents can congregate and take pride in their community collectively, and furthermore, that a modification of community design will reclaim civic deficits, social capital, and community spirit (Talen, 1999)

The *Charter of the New Urbanism* outlines the Congress' overarching goals, and provides a set of 27 specific principles for developments to incorporate. Principles within the "Metropolis, City, Town" category address the importance of clear borders and finite boundaries between areas and regions, and advocate for regional economic sustainability where cities and towns offer a wide range of





public and private uses for people of all incomes. The “Neighborhood, District, and Corridor” category focuses on the breakdown of uses, transit options, and pedestrian-friendly elements, and encourages the provision of a variety of activities, daily needs, and income groups within close proximity of each other. Lastly, the “Block, Street, and Building” category addresses the architectural and urban design schemes of the development, advocating for buildings that facilitate personal connections between users, and incorporate vernacular building practices.

Critics of the movement question the overall effectiveness New Urbanist principles. New Urbanism’s preoccupation with the “creation” of “community” through the built form is particularly troubling for some since the definition of community has no empirical basis (Day, 2003; Talen, 1999).

The purpose of this project is not to affirm the merits of the New Urbanist principles, nor is it to discount the principles as inept. Instead, this study will determine to what extent the principles of New Urbanism parallel the empirical data collected from an existing New Urbanist development, Rivermark of Santa Clara, CA. Given that Rivermark is considered a true New Urbanist example, one would assume that it displays a clear adherence to the principles outlined in the *Charter*.



## 2.1 a brief history of new urbanism

Since the late 1940s, the United States has rapidly transitioned from a nation of urban dwellers to a nation of suburban dwellers. As cities became increasingly crowded, polluted, and crime-infested, residents with means sought ways to escape their urban settings. Planners touted the concept of a “garden city” as the solution that dissatisfied city dwellers longed for (Bookout, 1992). Originally coined by Ebenezer Howard in his book *Garden Cities of To-Morrow* (1902), garden cities were intended to serve as an intermediary realm between the urban center and surrounding hinterland. Cities built under Howard’s guidelines provided green and healthy amenities, and were close enough to urban centers that residents could maintain access to the jobs and cultural elements of the cities.

Unfortunately, the housing boom that followed World War II disregarded the orderly and identifiable city design principles outlined in Howard’s book (Bookout, 1999). New towns developed into sprawling masses with “cookie-cutter” houses radiating around major highways. Urban theorists such as Jane Jacobs and Lewis Mumford criticized the rampant nature of American suburbs.

*“Nobody can be satisfied with the form of the city today. Neither as a working model, as a social medium, nor as a work of art does the city fulfill the high hopes that modern civilization as called forth – or even meet our reasonable demands”. -- Lewis Mumford (Clapp, 1984)*

Eager to curb the disorganized and leap-frogging development patterns that plagued the suburbs, during the 1960s planners coined the term Planned Unit Development (PUD). According to a 1971 definition from the Urban Land Institute, PUDs are housing projects that contain closely clustered units, allowing for sizable open spaces surrounding the development. They typically display higher densities than the traditional single-family developments, and contain nonresidential uses like shopping and employment centers (Bookout, 1999).

Beginning in the 1980s, planners argued that PUDs had simply morphed into another form of formulaic, cookie-cutter development, just as the garden city had done decades earlier:

*“Perhaps the stock recipe for planning new communities has become all too familiar: subdivide the land into self-contained development ‘pods’ made accessible by a loop collector street; develop an entry statement and architectural theme to be carried out throughout the various housing types; and build an amenity area as a focal point with appropriate facilities for a select market segment” (Wentling, 1988).*

Picking up where PUDs left off, the Neotraditional Development (NTD) sought to reclaim a sense of place within neighborhoods and cities by focusing on street and open space design, streetscape aesthetics, and historical and regional building practices (Bookout, 1999). It concerned itself with the development of small towns that facilitate pedestrian movement for all age groups, small downtowns (also known as town centers) that lie within walking distance of residences, and distinct neighborhoods that blend separate households into a cohesive community.

NTDs typically include several key design elements: Land Use Mix, Density, Street Patterns, Pedestrian Circulation, Open Spaces, Architectural Character, and Sense of Community. Bookout (1999) describes the elements as follows:

#### **LAND USE MIX**

By mixing a variety of uses within a development, residents and visitors are able to conveniently walk between their homes, jobs, and commercial services. This mixture of uses is accomplished by placing housing above commercial units, and scattering small corner-stores and offices throughout neighborhoods.

#### **DENSITY**

In order to sustain a mix of uses within a five- to ten-minute walk radius, developments must incorporate greater densities. Single-family homes are typically built on smaller lots, and townhomes and apartments are included more frequently than in typical suburban neighborhoods.

#### **STREET PATTERNS**

NTDs generally follow a grid street pattern, and reject the curvilinear streets and cul-de-sacs common in typical suburban developments. NTDs also emphasize through connections that provide travelers with a multitude of routes between two points, ultimately easing the burden on collector streets.

#### **PEDESTRIAN CIRCULATION**

Neighborhoods are designed to encourage pedestrian trips and incentivize walking over driving. Houses are built closer to the street to create perception of narrower, friendlier streets. Tree-lined streets with parallel-parked cars serve as a buffer protecting pedestrians from cars, and garages are generally placed at the rear of the house facing alleyways.

#### **OPEN SPACES**

Large blocks of open spaces are preserved to provide a variety of users with a variety of uses. Parks, town greens, and small recreation areas all serve different functions within the greater development, and are often framed or enclosed partially to create the impression of an outdoor room.



### ARCHITECTURAL CHARACTER

NTDs seek to incorporate the aesthetic and overall aura of small American towns. Planners are encouraged to allow the historic and vernacular architectural features of an area inspire the design of a new development.

### SENSE OF COMMUNITY

The incorporation of all the elements listed above will lead to the creation of a unique sense of place, according to NTD advocates. This is an elusive task, partly because time is such a key factor. Examples that neotraditionalists use as inspiration for new developments (mostly New England towns and villages) have spent centuries forming and evolving. Sense of community is also addressed through socioeconomic diversity. NTD advocates maintain that by providing housing that serves a variety of incomes, lifestyles, ages, and family structures, community is enhanced.

One of the original advocates for traditional planning design, Andres Duany, instead uses the term Traditional Neighborhood Development (TND) to emphasize his point that there is nothing “neo” about such development practices: “The prototype is right under our noses and it’s the traditional American town of the early 20th century” (Bookout, 1992).

The book *Town-making Fundamentals* (Duany and Plater-Zyberk, 1991), essentially a guide for planning TNDs, sheds light on the dismal state of city planning and offers planners an alternative. Duany and Plater-Zyberk propose that planners are stuck in a bureaucratic entanglement of policy and resource management, while architects are consumed solely with small, aesthetic details. The results of this scenario are vast tracts of replicated development, where neither neighborhoods, towns, nor cities are truly defined.

The authors suggest that planners and architects acknowledge the ways in which design affects our behavior, and that built structure and social function of a community are separate entities. Through thoughtful and meaningful design, the built form can nurture functional relationships and healthy communities. The book also addresses the legacy of Seaside, a small resort community along the Florida panhandle. This development was the first built using Duany and Plater-Zyberk’s traditional neighborhood ideals, and has served as a catalyst for suburban development alternatives.

Many of the TND design principles in *Town-making Fundamentals* are similar to those of NTDs described previously:

### MASTER PLAN

This functions as the visual guide for the development, and follows the traditional “American” urban patterns. Developments contain a geometrically defined center with a radiating, interconnected network of streets. Commercial activities are focused in the center of towns, while civic uses are dispersed throughout the neighborhoods. Like the design elements of NTD, TND neighborhoods are planned on a quarter-mile radius, where a walk from the neighborhood edge to the center takes roughly five minutes.

### STREET NETWORK

Streets serve as the primary public spaces of a town or neighborhood, facilitating both vehicular and pedestrian movement. Blocks are short (no longer than 600 feet) and building set backs are minimal to create a pedestrian-friendly scale with reasonable travel distances. Streets should connect to a regional street network whenever possible to increase overall connectivity between the neighborhood, town, and region.

## PEDESTRIAN NETWORK

A pedestrian network increases mobility, allowing for pedestrians to move freely and safely throughout the development. Paths and alleys that cut through blocks serve as an addition to the existing street network, and provide pedestrians with increased access to their neighborhood.

## STREET SECTIONS

The cross-section view of a street provides important information about its function. Sections depict the character of a street by displaying the proportions of buildings, sidewalks, streets, and vegetation. Streets should be comfortable places for pedestrian and automobile movement, which the section works to achieve.

## REGULATING PLAN

As opposed to strict, Euclidean zoning principles of the past, New Urbanist zoning emphasizes the integration of uses within buildings, blocks, and neighborhoods. A variety of uses (homes, shops, offices) should all be within close proximity of each other.

## PUBLIC BUILDINGS AND SQUARES

These elements should be distributed throughout neighborhoods, serving as settings for both informal social gatherings and spontaneous activity, as well as larger, formal civic gatherings. The civic buildings of a town should have prominent locations and function as landmarks.

## THE CODES

Unlike neotraditionalists, TND advocates incorporate a regulating mechanisms into their developments, aimed at protecting and ensuring the future implementation of traditional town design. The codes encourage variety from future designers, while maintaining a harmonious community character. The codes, addressing more than design aesthetics, focus on many growth management issues such as, traffic congestion, air pollution, parking, affordable housing, jobs-housing balance, school sizes and locations, and resource distribution.

New Urbanism acts as an umbrella term, encompassing the principles of both NTD and TND (Talen, 1998). The Congress for the New Urbanism serves as the ruling body for guiding the implementation of New Urbanist principles. Formed in 1993 by a group of American architects, the Congress set out to restore urban centers and towns, and reconfigure suburban, sprawling towns into real, cohesive neighborhoods through the restructuring of public policy and development practices (CNU, 2007). They believe that a modification of community design will reclaim civic deficits, social capital, and community spirit, and that the lasting impact of suburban development is the negative social effect left on residents (Talen, 1998).

The *Charter of the New Urbanism* outlines the Congress' overarching goals and provides a set of more specific principles for developments to incorporate. The 27 principles are separated into three hierarchical categories. Principles within the "Metropolis, City, Town" category address the importance of clear borders and finite boundaries between areas and regions. They also advocate for regional economic sustainability where cities and towns offer a wide range of public and private uses for people of all incomes. Additionally, regional resources and infrastructure should be planned collaboratively between neighboring municipalities, and shared accordingly.

The "Neighborhood, District, and Corridor" category focuses on the breakdown of uses, transit options, and pedestrian-friendly elements. A variety of activities

and daily needs should be located within walking distance of residential units, and streets should be designed to encourage walking trips. Neighborhoods should host a range of housing types and price levels so that people of diverse ages, races, and incomes will interact with each other on a daily basis.

Lastly, the “Block, Street, and Building” category addresses the architectural and urban design schemes of the community. Buildings and public spaces should be comfortable, safe, and provide inhabitants with a clear sense of location, and their design should facilitate personal connections between neighbors. Historic elements of the community should be preserved and renewed, and architectural and landscape design should reflect local climate, topography, history, and building practice.

New Urbanism is a growing trend amongst architects, planners, and developers (Talen, 1998). With the growing popularity of New Urbanism, many critics have been quick to point out its shortcomings as a universal answer to suburban and inner-city problems. The following section summarizes the main critiques of New Urbanism.

## 2.2 critiques of new urbanism

### TRADING PRIVATE SPACES FOR PUBLIC SPACES

*(Audirac & Shermyen, 1994)*

New Urbanist developments site shared public spaces as breeding grounds for community. Developments consequently exhibit smaller homes and yards, and larger communal open spaces and community buildings. This substitution of private space for public space demands a considerable lifestyle and values change for most Americans. Post-war American suburbs created the phenomenon of a backyard as the center of a suburban family’s recreational and social activities. Any reduction in private, outdoor space directly affects this suburban tradition.

In the classic Seaside development, some of the earliest homes were extremely small, but offered residents large front porches. These porches were intended to bridge the private and public realms, creating a stronger connection between residents and street activity. Ultimately, Seaside residents were not comfortable putting so much of their private life on display for the rest of the neighborhood to see. Owners began planting large shrubbery along the fronts of their homes to obscure their porches and windows. Ironically, these porches were touted as a defining, vernacular element of Seaside. By 1988, many residents had requested rear porches for their homes, abandoning the original design scheme altogether. “American family life has looked toward the backyard for several decades now, and Seaside lacks the power to shift its gaze” (Langdon, 1988). This example suggests that one’s need for community does not outweigh one’s need for privacy, both are necessary.

### OPEN GRID VS. SOCIAL AND TERRITORIAL CONTROL

*(Audirac and Shermyen, 1994)*

The principles of New Urbanism maintain that urban places should be universally accessible and open, however this is a difficult task to implement. Suburban developments are notorious for incorporating elements that discourage access by outsiders, in an attempt to exercise social control over the built environment (Baum et al., 1978). Even in Seaside, where streets are all connected and open, residents have posted signs informing drivers that streets are private property and for use by owners and their guests only. The town has also hired a security



guard to patrol its streets.

### MIXED LAND USES AND AFFORDABLE HOUSING

*(Audirac & Shermyen, 1994)*

New Urbanists firmly believe that traditional, Euclidean zoning, coupled with a dependence on the automobile has condemned the poor, handicapped, elderly, children, and homemakers to a bleak environment without safe and meaningful pedestrian destinations. Additionally, poor workers are forced to spend considerable portions of their income on commuting expenses. High density developments that provide a mix of uses and are within close proximity to homes leads to a more integrated community, by the New Urbanists' standards. However, despite laudable intentions, New Urbanists' fixation with dense, mixed-use development has led to some less desirable outcomes.

**Miniaturization** In order to incorporate affordable housing units into New Urbanist developments many architects and planners simply design miniatures of the market-rate units. These designs disregard the fact that moderate and low-income households are real families, with the same basic needs as higher income families; tiny apartments cannot house a family of three or four.

Seaside's originally allocated affordable units were only 450 square feet, making them unsuitable for any households with more than two people. In Toronto, strict zoning measures prescribing the density for a single neighborhood forced affordable housing developers to miniaturize the units' front and back yards to save costs. The end result was a group of affordable homes lacking outdoor spaces large enough to support traditional social activities.

**Suburban Perceptions** Mixed-income housing projects and higher density developments often evoke negative perceptions from suburban middle- and upper-class households. Studies indicate that the rapid movement of whites to the suburbs, known as 'white-flight', was largely due to a growing dislike for racial and ethnic diversity within their neighborhoods. New Urbanists have yet to decisively and empirically address how low-income housing will not bring down property values and a community's overall quality of life.

### VARIED UNDERSTANDINGS OF NEW URBANIST IDEALS

*(Day, 2003)*

The staple principles of New Urbanism (mixed-uses, walkable amenities, vernacular architecture) are not always understood in the same context by different demographic groups (Day, 2003). In the Westside Specific Plan for the City of Costa Mesa, CA, the plan recommended specific New Urbanist strategies for promoting walking. For the Coast Mesa planners, "walking" meant leisurely strolling and window-shopping. However for many existing Westside residents, "walking" is their only available form of transportation for getting groceries, running errands, and traveling to work. Many residents did not have cars, thus they were already making daily trips by foot, and practicing the walkable principles of New Urbanism.

New Urbanists also promote design elements consistent with the local vernacular, yet the standards for determining what constitutes the vernacular are not universally accepted. Planners who attempt to define local culture run the risk of misinterpreting or creating a caricature of important traditions. In Southern California, the Spanish Colonial style is widely adopted by cities looking to boost their historical relevance. However, little attention is paid to the authenticity of

such buildings, or the association between this architectural style and the violent period of Spanish colonialism in Mexico and modern-day California.

Lastly, the *Charter* calls for developments to incorporate town centers, where local character is reflected and all residents can come together in a public and universal space. Many scholars dispute the function of a town center as a truly public place. Diverse groups have different perceptions of space, and planners and architects must determine the intended users before defining a place as public. For example, lower-income households may perceive local parks as a semi-public extension of their home and develop a sense of ownership. In comparison, middle- and upper-income households often perceive parks as acutely “public spaces that belong to everyone, and thus to no one” (Lee, 1972).

#### **DISPLACEMENT OF LOW-INCOME POPULATIONS** (Day, 2003)

New Urbanist projects have received intense criticism in recent years for gentrifying urban neighborhoods. The *Charter's* principles aims to rehabilitate dysfunctional environments, thus the achievement of this goal often results in increased property values that push out existing residents and businesses. In some situations, this displacement is not an accidental byproduct of New Urbanist design principles but an intended result. “Improving urban design may thus become a strategy to eliminate affordable housing and to discourage those who do not fit the community profile (i.e., renters and immigrants, especially those who are not legal residents)”, (Day, 2003).

#### **LACK OF TRUE PARTICIPATORY DESIGN PROCESS** (Day, 2003)

The *Charter* acknowledges a commitment of New Urbanists to create communities through “citizen-based” participatory planning and design. Forms of participation include charrettes, an intensive design workshop, community visioning, and visual preference surveys. The purpose of these participatory techniques is to bring members of the public into the decision making process and educate them. In particularly diverse neighborhoods, not all groups may feel comfortable engaging in these participatory activities. Workshop variables, such as the language spoken by facilitators, and the time and location that the workshop is held can largely influence a group’s inclination or ability to attend.

#### **DEFINING COMMUNITY** (Talen, 1998)

Community is a difficult term to define. New Urbanists proclaim that a ‘sense of community’ is achieved through thoughtful design of the built environment, yet “our current understanding of the relationship between town design and sense of community is largely without empirical basis, and is therefore deficient” (Talen, 1998). New Urbanists seek to create a sense of community through the integration of private residential spaces with surrounding public spaces, and through the careful design and placement of public spaces. It is plausible that new urbanist neighborhood designs can increase social interaction, which in turn creates social ties, but at what point does a social tie become a “sense of community”? It is far more likely that instead of creating community, New Urbanist developments attract similarly minded people with similar outlooks on local community attachment.

Before New Urbanists can claim “sense of community” as one of the resulting outcomes of New Urbanism, there needs to be a clear understanding of what is required for “community” to be fulfilled. Are simple, casual encounters between neighbors proficient, or must neighbors engage in a deeper form of social bonding? “The theoretical and empirical support for the notion that sense of community (particularly its affective dimensions) can be created via physical design factors is ambiguous at best” (Talen, 1998).



# three

project objectives + methodology

## 3.1 project objectives

The abundant and diverse critiques outlined in Chapter 2.2 suggest that the overall effectiveness of New Urbanist design principles at creating community and reconfiguring sprawling suburban cities is debatable. While New Urbanist principles are growing in popularity around the country, there is little empirical evidence suggesting that they are truly realized in their built form (Talen, 1998). Before New Urbanism can declare victory over the suburban woes its Charter aims to remedy, the conditions of existing developments should be examined. This research project will attempt to understand to what extent the principles of the *Charter of the New Urbanism* parallel the empirical data collected from Rivermark, a New Urbanist development.

To better understand the ties between New Urbanist principles and low-income housing, this project will also briefly examine the Richmond Village development in Richmond, CA. The purpose of this second case study is not to serve as a comparison to Rivermark, but rather to develop a better understanding of how New Urbanist ideals function in a low-income context.

## 3.2 methodology

This project uses two New Urbanist case studies, one representing the typical



Silicon Valley suburbia, and the other representing a distressed, low-income neighborhood.

The Rivermark development in Santa Clara, CA is a relatively large New Urbanist project that incorporates residential, commercial, and public facility uses within its 152 acres (Stromberg, 2004). The development was chosen for this project due to its central location within Silicon Valley, its assortment of uses, and its inclusion in the 2008 *Directory of the New Urbanism*. This directory compiles the 520 New Urbanist developments in the United States and Canada that best represent the broad range of project types. Additionally, Rivermark has received significant media attention since its construction (King, 2004; Salant, 2004; Stromberg, 2004).

The Richmond Village development was chosen as the low-income case study for reasons similar to Rivermark. It is located in the East Bay region of the greater San Francisco Bay Area, was also included in the 2008 *Directory of the New Urbanism*, and has received significant media attention as well (Fahey, 2006; Weinstein, 2003). Richmond Village is a product of the HOPE VI program, a subsidiary of the United States Department of Housing and Urban Development which revitalizes severely distressed housing (U.S. Department of Housing and Urban Development).

### 3.3 methods + instruments

This study gathered data through a variety of methods and instruments. With research using a case study methodology, it is important to utilize an assortment of research methods to obtain sufficient data addressing the different aspects of a place (Zeisel, 2006).

#### MAPPING

Mapping was used to gather spatial data such as the locations of regional thoroughfares and the dimensions of residential units. Through mapping, one can effectively visualize the physical layout of elements in relation to the project site. ArcView GIS and Google Earth served as instruments for obtaining and analyzing the project's spatial data.

#### SURVEYING

Surveying allowed for the mass collection of detailed data from the Rivermark and Richmond Village populations. Questionnaires mailed to a sample of residents asked for household demographic information including: number of persons within household and their respective ages, applicable races and ethnicities, and household income level. Income levels were determined based upon data from the County and defined by the Association of Bay Area Governments.

#### COGNITIVE MAPPING

Cognitive mapping refers to the mental maps that people create for their own environments. These maps help to explain how individuals acquire, code, store, recall, and decode information about their locations (Stea, 1974; Zeisel, 2006). Results from the questionnaires and workshop activities that incorporated cognitive mapping reveal important trends regarding how residents perceive their physical and social surroundings.

#### CONNECTIVITY ANALYSIS

The connectivity analysis was used to determine the overall levels of connectivity within the development. By applying a quantitative method to connectivity, the resulting data can be compared objectively to data from other New Urbanist

developments. This comparison allows for a deeper understanding of Rivermark's adherence to the New Urbanist principles.

### **VISUAL ANALYSIS / OBSERVATION**

Visual analysis of Rivermark through field observations and photographic documentation revealed key trends and characteristics of the development that other methods could not. The locations, aesthetic qualities, and functional cohesion of various elements of Rivermark are often intangible forms of data, thus requiring the use of visual analysis.

### **ARCHIVAL RESEARCH**

Data from archived news articles and government sources provided necessary information on the history of the development and its incorporation as an infill project.

### **COUNTING**

Counting was used to determine exact numbers of specific site elements such as the number of access levels between regional thoroughfares and the local streets within Rivermark.

### **SOCIAL CONNECTIVITY ANALYSIS**

The social connectivity analysis determined the level of social cohesion between the home and the street for each Rivermark floor plan. Using Jane Jacob's (1961) "eyes on the street" scenario, floor plans received points for possessing certain architectural features that promote social connectivity between the private and public realms. By quantifying the social connections for each floor plan, one can objectively compare them.

### **SOCIAL NETWORK ANALYSIS**

This analysis provided a spatial visualization of social connections between neighbors. Perceived connections between neighbors allow for a deeper understanding of the Rivermark neighborhoods and how the built environment facilitates social connections.

### **ALTERNATIVE TRANSIT ANALYSIS**

Using transportation data from Google Maps ([www.maps.google.com](http://www.maps.google.com)), daily car trips made by respondents (as indicated in the returned questionnaires) were redetermined using public transportation routes only. This analysis method allows for an objective comparison between the former, car-only trips and the hypothetical car-free trips.

## **3.4 research protocol**

For the Rivermark case study, data was gathered over a two-month period, beginning in late April. 200 questionnaires were mailed out to a random sample of households, with pre-stamped and addressed return envelopes. In total, 33 households returned their questionnaires, resulting in a 16.5% response rate.

In addition, a two-hour workshop was held on Sunday, May 3 at Live Oak Park where interested Rivermark residents were asked to draw several cognitive maps of their neighborhood. The workshop yielded a total of ten participants, each drawing between one and three maps.

For the Richmond Village case study, questionnaires were mailed out to all 283

units within the development, also in late April. A total of 17 questionnaires were returned, resulting in a 6.0% response rate. Results for both case studies were completely anonymous.



“The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.

*Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities.*

*In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.”*

.....  
 • Charter of the  
 New Urbanism

## 4.1 pedestrian orientation

New Urbanism promotes the importance of communities with walkable, pedestrian realms. Neighborhoods should be planned according to quarter-mile walk radii, with a variety of daily uses located within each radii. A quarter-mile signifies a five- to ten-minute walk, the maximum distance that a person would choose to walk before deciding to drive to their destination instead. The purpose behind the walk radii is to establish a pedestrian network where people can walk uninhibited through their communities, easily accessing a variety of uses and activities. Networks consist of the typical street and sidewalk system, as well as additional paths and alleys that cut through blocks and/or open spaces (Lennertz, 1991). The following is an analysis of Rivermark's **Pedestrian Orientation** in terms of perceived pedestrian safety and walkability of uses.

### PERCEIVED PEDESTRIAN SAFETY

Randomly selected Rivermark residents were asked to indicate areas within Rivermark where they felt safe as a pedestrian, and areas where they did not feel safe, and then provide written explanations describing their choices. Figure 4.1.1 displays the compilation of all questionnaire responses on one Rivermark map with blue dots indicating safe areas and red dots indicating unsafe areas. There are several key trends that the map clearly displays. Respondents felt safest within the interior areas of Rivermark, namely along certain streets and within open spaces. The unsafe areas were concentrated primarily along the major roads that run around and through the development, and at the intersections of these roads with each other.

The written responses from residents provided valuable descriptions of the areas they perceived to be safe, and are categorized below:

**Familiarity:** Most responses centered on the theme of familiarity, with words like “familiar”, “know”, “common”, and “home” appearing frequently. For Rivermark respondents, knowing the physical aspects of



**figure 4.1.1**  
perceived pedestrian safety areas

a place, or the types of people that live within it, is an integral component of their perception of safety.

**Pedestrian Elements** Another common response was one that mentioned the existence of an element that facilitated pedestrian accessibility, such as sidewalks, walkways, crosswalks, crossing lights and buttons, wide curbs, and crossing guards. Many of these elements are found in situations where car and pedestrian paths overlap, ultimately serving as methods for protecting or shielding the pedestrian from the car. Without these elements, it is unclear if respondents would have indicated these areas as safe.

**Traffic** Traffic was another frequent response, with respondents often associating perceived safety with areas of low traffic and low speed limits.

**Other Pedestrians** Respondents felt safe in areas where other pedestrians were present. Streets without pedestrians can seem lonely and desolate, however places filled with people can reassure residents that they are apart of a strong and cohesive development. Ironically, some respondents indicated they felt safe in the parking lots of the Rivermark Plaza. For some, parking lots are dangerous, car-oriented areas, however for these respondents, a parking lot is simply another social space filled with people.

**Lighting and Visibility** Some respondents expressed the importance of being able to see their surroundings, as well as the importance of being seen by others. Well-lit sidewalks and pedestrian paths allow pedestrians to feel safe from crime during the evenings. Additionally, well-lit streets allow for inhabitants of street-facing homes to view nighttime street activity. This theme of constant connection between activity on the street and within the house, otherwise known as “eyes on the street”, was first coined by Jane Jacobs in her book *The Death and Life of Great American Cities* (1961). As a pedestrian, it is comforting to see evidence of people moving in and around their homes. Even if no direct contact is made between pedestrians and inhabitants, there is a constant perception that people are always nearby. This idea will be discussed in greater depth in Chapter

**Aesthetics:** Areas perceived as clean, well-maintained, and architecturally cohesive also received high safety ratings amongst respondents. Evidence of such aesthetic qualities indicate a community that takes pride in its appearance. Well-groomed lawns and nicely painted homes are traces, or evidence, of a kind of lifestyle (Zeisel, 2006). These traces send the message that residents of such homes care about the appearance of their homes, and have the time and resources to make their homes pristine looking.

There were several types of areas that were repeatedly considered “safe”, as evidenced by Figure 4.1.1. These areas are categorized as follows:

**Parks and Car-free Zones** All the Rivermark parks, pocket-parks and open spaces were marked at least once by respondents with a blue “safety” dot. The Live Oak Park area is virtually car-free, and is centrally located with high visibility from surrounding commercial and residential areas. Rivermark is also scattered with pocket-parks, a key element of New Urbanism as defined by the book, *Towns and Town-making Principles* (1991). Both of the large parks, Live Oak and Thamien,





neighborhood pocket  
park with bordering  
single-family homes



patio seating outside  
eateries at rivermark  
plaza



typical rivermark  
sidewalk with parallel-  
parked cars and trees  
as buffers



front steps for the  
attached, single-family  
homes

and some of the small pocket-parks contain playground equipment for children to use and seating areas. The overall frequency of safety dots placed on parks and other car-free zones, such as Don Callejon School and the courtyards between town-homes, indicates that many residents felt safest in pedestrian-only realms with recreational activities and seating options.

**Streets** Residents also indicated high levels of perceived safety along several streets including Marston Lane and Farrell Way, and along sections of East River Parkway and Rivermark Parkway. Both Marston Lane and Farrell Way run through the center of the development, ending at the edge of Live Oak Park. Pedestrians would likely use either of these streets to access Live Oak Park, Don Callejon School, and the Rivermark pool. Both streets are less trafficked than the main Rivermark streets, and are slightly narrower as well. Trees line both streets, and the end of Farrell Way is entirely exposed as it curves south and parallels the western side of Live Oak Park. Ironically, Farrell Way does not have sidewalks. Pedestrians, bikes, and cars are all expected to share the road, and judging from the responses, pedestrians feel safe with this arrangement.

A steady stream of blue dots were placed along Rivermark Parkway, a busier street that runs from the edge of the residential area to Rivermark Plaza, and parallel to Marston Lane. Besides Marston Lane, Rivermark Parkway is a route residents would likely use to access the various uses at Rivermark Plaza or Live Oak Park and Don Callejon School. While the narrower Marston Lane is lined with trees and contains two pocket-parks, the houses do not face the street, instead facing inwards towards pedestrian paths running perpendicularly to the street. Houses along Rivermark Parkway do face the street, allowing for the “eyes on the street” scenario to occur. Even though many of the respondents described their safe areas as having low traffic volumes and speeds, it is likely that some still felt comfortable walking along Rivermark Parkway because of the orientation of the homes.

Much like the safe area descriptions, the descriptions of the unsafe areas revealed important characteristics of the development, as perceived by residents.

**Overwhelming Car Presence** The most frequent category of unsafe areas as expressed by residents’ responses was car or traffic related. The category had three times the number of explanations and anecdotes that the second-most frequent category had, clearly indicating a major point of concern for the respondents. Virtually all red dots, indicating unsafe pedestrian areas, were placed along the four major roads that border Rivermark. Responses centered on perceptions that there were too many cars, busy streets with unpredictable traffic levels, high speed limits, wide streets with nowhere for pedestrians to cross, and inattentive and speeding drivers. Some respondents included anecdotes of instances where they or their children were almost hit by cars.

**Pedestrian Inaccessible** This category was another major point of safety concern for respondents, and relates with the previous category. Respondents tended to feel unsafe as pedestrians in areas without sidewalks, where walkways were not clearly marked or nonexistent, and where no stop signs or traffic lights were present.

**Secluded and Unpopulated** Some respondents indicated feeling unsafe





typical rivermark alley  
lined with garages but  
no sidewalks



rivermark parkway  
is one of the busier  
streets and lined with  
stately homes



larger intersections  
make pedestrian  
crossing more difficult



signs alert pedestrians  
of car traffic



in areas with few pedestrians, or areas that felt secluded. Even if there is no clear evidence of crime or dangerous activities occurring, places without people and removed from the center of a development can seem unsafe.

**Demographics** The existence of certain demographics outside the Rivermark development was another category that made residents feel unsafe. Low-income housing units, and the presence of “rough” kids both led respondents to perceive the areas as unsafe.

**Outside Rivermark** For some respondents, unsafe areas could be defined as anywhere that is outside of Rivermark. This perception of the development as a safe haven or oasis surrounded by a dangerous and pedestrian-unfriendly realm is troubling. In some ways, this perception of Rivermark fits the description of a gated-community, where inhabitants are intentionally walled-in and oriented inward, away from their regional surroundings.

There were several types of areas that were repeatedly considered “unsafe”, as evidenced by Figure 4.1.1. These areas are categorized as follows:

**Major Streets** As mentioned previously, all four of the major streets that encircle Rivermark (Montague Expressway, Lick Mill Road, Hope Drive, and Agnew Road) were littered with red dots. Respondents wrote of wide streets crammed with fast-moving cars that made pedestrian crossing unpleasant and often impossible. Montague Expressway is an especially busy road, operating like a small freeway with designated carpool lanes during the peak commute hours. Rivermark pedestrians are essentially trapped within their development, with daunting and unwelcoming barriers to cross should they attempt to leave. These barriers also prevent outside visitors from entering Rivermark by foot.

**Rivermark Plaza** While respondents placed both blue and red dots in the Rivermark Plaza Areas, there are considerably more red dots, especially in the central areas where the parking lots are located. There is a roundabout at the northern entrance to the Plaza with a water feature in the center. Roundabouts are a common form of traffic calming, yet a significant number of respondents felt unsafe at this very spot. Apparently even the best intentions do not always yield beneficial results. Many of the commercial uses in the Plaza are clustered together and linked by wide sidewalks. However, the Wells Fargo Bank sits at the southernmost corner of the site, completely detached from the rest of the Plaza and separated by a large parking lot. Narrow sidewalks jet out from the main cluster of commercial buildings and cut through the parking lot, connecting at last to the bank. The result is essentially a “tightrope” effect, where pedestrians must walk along a narrow path with cars on either side.

While walking to Rivermark Plaza may be feasible for residents of Rivermark, those that must cross any of the busy roads or parking lots face serious opposition from cars. Driving is an obvious choice for outsiders wishing to visit the Plaza, thus justifying the prominence and priority that automobile parking receives on the site.

**Residential Street Intersections** Analyzing the perceived safety areas along residential Rivermark streets reveals an interesting trend: Intersections were the only parts of residential streets where residents



grocery carts from  
*safeway* sit idle  
throughout the  
neighborhood



narrow sidewalks wind  
through the rivermark  
plaza parking lot



this roundabout  
was overwhelmingly  
perceived as unsafe  
by questionnaire  
respondents



felt unsafe as pedestrians. Intersections are the points at which all forms of traffic, in all directions, meet. Cars and bicycles traveling in two or four directions must stop briefly at either a stop sign or light, and pedestrians must look both ways and wait for a safe moment to cross. The intersection is a complicated place; it is the moment when pedestrians enter the vehicle realm, and it is the moment when all transportation types' levels of awareness must be heightened. Though most respondents perceived the intersections along Garrity Way as safe places for pedestrians, several residents had entirely opposing perceptions due to dangerous encounters with speeding cars and inattentive drivers.

Looking at the layout of the development's street network, one could easily predict Garrity Way to be problematic. It runs straight through Rivermark, directly connecting two of the major surrounding roads: Agnew Road and Lick Mill Drive. As a relatively straight street, drivers are able to pick up speed without needing to slow down for turns or dips. It is also a main feeder street, connecting to many of the smaller streets of the development, and serves as a median that residents of western Rivermark must cross to access the parks, school, and commercial areas. Ultimately, as a direct and more heavily used street, there is more opportunity for conflict to arise between the different transportation types. This aspect of connectivity will be discussed further in Chapter 4.5.

### WALKABILITY OF USES

One of the major components of New Urbanism is the concept of walkability, where uses are located within a quarter-mile radius to encourage residents to walk rather than drive (Lennertz, 1991). The Rivermark development contains retail, open space, and public facility (Don Callejon School) uses. Each of the uses were mapped and then walk-radii were applied at every building entrance. For the open space, a walk radius was placed in even intervals around the perimeter of the space. Residential units that are not shown within the maps indicate they are located outside of all possible walkability radii.

“Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.”

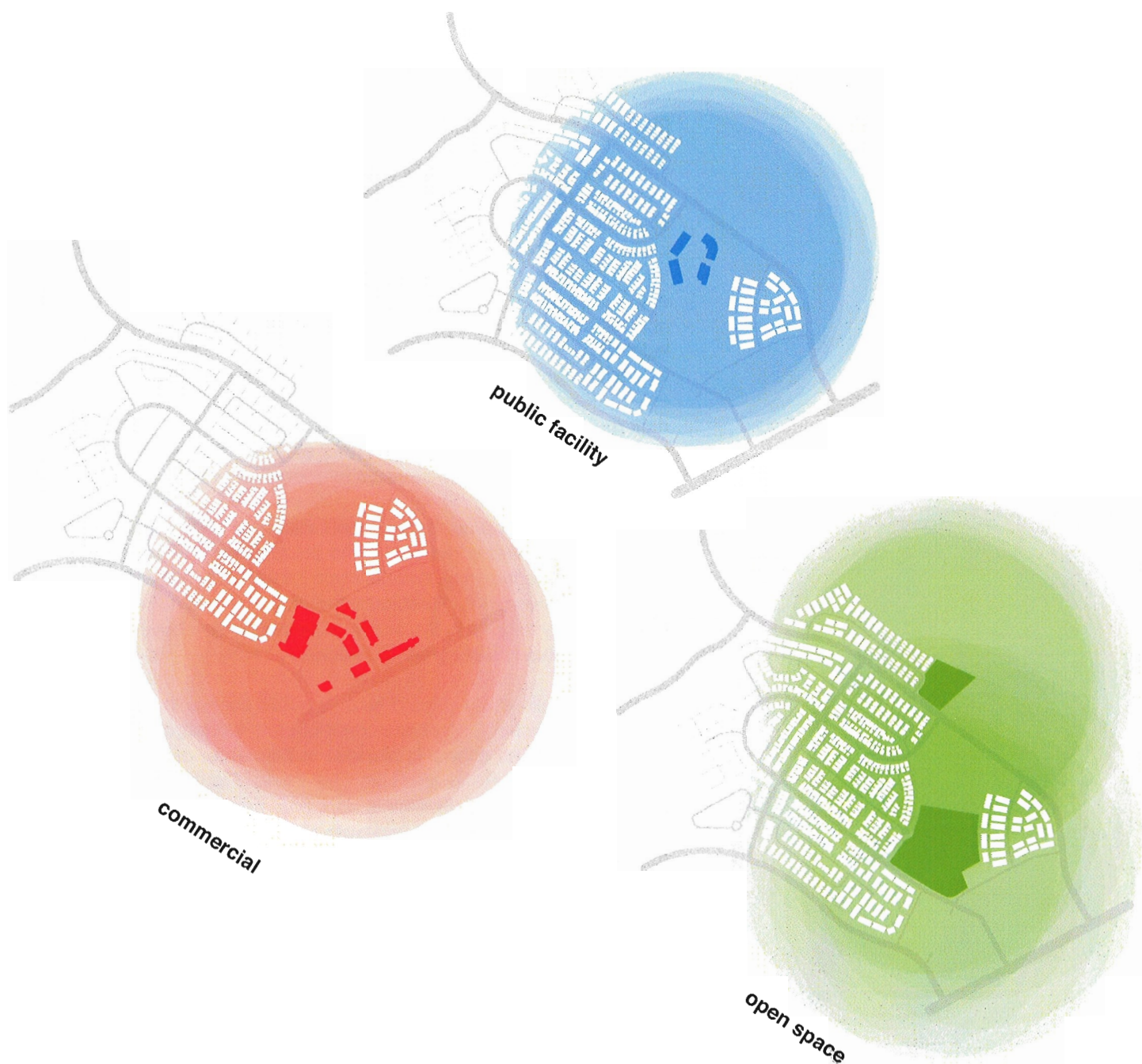
Charter of the  
New Urbanism

**Walkable Commercial Uses** The commercial uses of Rivermark are better known as Rivermark Plaza. The Plaza sits at the corner of Montague Expressway and Agnew Road, two of the busiest streets that surround the development. Figure 4.1.2 displays the commercial uses in dark red and highlights the homes in white that are within at least one walk-radii. Areas with darker shades of red indicate higher levels of walkability since they are covered by more walk-radii.

Walkability for the commercial uses is especially important because of the nature of the trips that commercial uses generate. Grocery shopping is a universal trip, one that every household must make frequently. However getting people to walk home from a grocery store with bags of grocery requires some incentives. A grocery store is one use that must be within a quarter-mile radius of each home, otherwise the likelihood of walking decreases rapidly.

Roughly two-thirds of the residential units in rivermark are not within a quarter mile of any of the commercial uses, including the Safeway grocery store. Ten out of 23 Safeway trips indicated by respondents' returned questionnaires were made by car. These numbers show that while some residents, perhaps those that live within a quarter-mile Safeway radius, are walking to the store, many are not.





**figure 4.1.2**  
homes within 5-minute walk of uses

Additionally, one of the major components of commercial uses in New Urbanist developments is that they are centrally located. In Rivermark, the commercial area is at the extreme southern corner, oriented mainly towards the main thoroughfares Agnew Road and Montague Expressway. A more centrally located commercial area would likely allow for all residents to be within a walk-radius. The current location of Rivermark Plaza suggests that planners were more interested in catering to the cars traveling along Montague Expressway rather than providing Rivermark residents with an accessible shopping center.

**Walkable Open Space Uses** Open space, and one's proximity to it is an important aspect of any neighborhood. When designed well and sized appropriately, open spaces are sources of relaxation, recreation, play, and interaction (Hall and Porterfield, 2001). Rivermark has two full-sized parks, each with expansive grass areas, playgrounds, picnic areas, and winding paths. Live Oak Park is the larger of the two parks and located in the center of the development, while Thamien Park is located on the northern side of Lick Mill Road. Both parks are adjacent to residential units, and Live Oak Park connects with the commercial uses of Rivermark Plaza. Figure 4.1.3 displays the open space uses in dark green and highlights the homes in white that are within at least one walk-radius. Areas with darker shades of green indicate higher levels of walkability since they are covered by more walk-radius.

Approximately three-quarters of the residential units are within at least one walk radius, and some are within the walk-radius of both parks. The northwestern side of the development however is not within walk-radius for either of the parks. Residents that live in this area would therefore be more likely to drive to the parks, especially if they have small children who are unable to walk great distances.

**Walkable Public Utility Uses** The only public service in Rivermark is the Don Callejon school, a public school offering kindergarden through the eighth grade. The school is situated in the center of the development, between Lick Mill Road and Live Oak Park. Figure 4.1.4 displays the Don Callejon School buildings in dark blue and highlights the homes in white that are within at least one walk-radius. Areas with darker shades of blue indicate higher levels of walkability since they are covered by more walk-radius.

The walk-radius include roughly two-thirds of the residential units of Rivermark, largely excluding the entire western end of the development. Schools that are walkable allow for children to independently and safely walk and bike to school. Consequently, a sense of ownership and belonging is instilled in children that are able to move around their development freely without being confined to the back seat of a car. In an interview with a six-year-old Rivermark resident the boy explained that his mother drove him to school each morning, even though he lived within a quarter-mile walk radius. Additionally, three of the ten questionnaire respondents also drove their children to school on a typical day. While the school is walkable for a majority of Rivermark residents, many still choose to drive for unknown reasons.

## KEY FINDINGS

1. Streets with homes facing the street increase perceptions of pedestrian

safety, even on streets with heavier car traffic. This trend corresponds with Jacobs' (1961) "eyes on the street" concept.

2. Areas that are familiar, well-populated by other pedestrians, aesthetically cohesive, well-lit and visible, and contain pedestrian-friendly elements were generally perceived as safe.
3. Areas with an overwhelming car presence, a lack of people, and outside of the Rivermark boundaries were generally perceived as unsafe.

“Neighborhoods should be compact, pedestrian-friendly, and mixed-use.

*Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes.*

*A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.*”

.....● Charter of the  
New Urbanism

## 4.2 mixed uses

The typical suburban developments of the last half of the twentieth century were designed to separate residential uses, especially single-family homes, from the commercial and industrial uses of a metropolis (Fischel, 2007; Fulton, 2005; Haar and Kayden, 1989). With the rise of the automobile, people were able to commute longer distances to their work or shopping areas. Large retail complexes, a.k.a. “big box” stores, became the standard for suburban retail development with massive parking lots and vast amounts of inventory. In reality, big box stores are often the only way for suburban residents to shop. Stores like *Wal-Mart* serve as a one stop destination for low-priced necessities including groceries, household appliances, electronics, home furnishings, and apparel. Many New Urbanists agree that years of traditional zoning coupled with the automobile domination of suburbia have left households of all kinds with an “environment devoid of safe and meaningful pedestrian destinations” as workers “spend substantial amounts of their income commuting to work” (Audirac and Shermeyen, 1994). New Urbanism argues that there is a more sustainable and pedestrian-compatible way for people to live. With a variety of uses concentrated throughout a neighborhood, residents are no longer dependent on their cars. Mixed-use developments also provide residents with a variety of uses in a physical form other than the big-box store. The following is an analysis of the **Mixed Uses** within Rivermark, and their overall incorporation into the development.

### USES PROVIDED

The Rivermark development contains several different uses throughout the site. Residential uses consist of attached and detached single-family homes. A handful of pocket parks, and two full-size parks make up the development’s open spaces uses, and a public school for kindergarten through eighth grade serves as Rivermark’s sole public facility use.

Commercial uses are located in the Rivermark Plaza, situated at the corner of Montague Expressway and Agnew Road. All the commercial uses are forms of retail, including a grocery store, coffee shops, restaurants, a bank, beauty salons, bakeries, and entertainment stores, among others. The buildings are geared towards sales, meaning that the facade windows are large for displaying products and advertisements, and the rear of the buildings are designed to facilitate shipping and loading of goods. None of the commercial units are more than two stories, though some such as the Safeway building are well over 25 feet. The Plaza offers wide sidewalks with tree buffers to protect pedestrians from the expansive parking lot in the center of the site. Concrete benches are scattered along the sidewalks, and some of the eateries offer outdoor dining facilities.

In total, the commercial Rivermark Plaza serves as a destination for commercial goods as well as for relaxation and leisure. What Rivermark Plaza does not offer, however, is a supply of jobs that matches the economics of its residents. Judging from the parcel values of Rivermark homes, it is doubtful that the low-wage employees of Safeway, Red Robin, and Cold Stone Creamery live within Rivermark. This imbalance requires that residents of Rivermark commute elsewhere to find high-paying, white-collar jobs, and that residents of other communities commute in to Rivermark everyday to staff the low-paying, retail positions.

### LOCATION OF USES

The excerpt from the *Charter of the New Urbanism* written above defines a





**figure 4.2.1**  
rivermark land uses

key characteristic for the uses of a New Urbanist development. Uses should be “embedded” in the development, not “isolated” in “remote, single-use complexes”. Figure 4.2.1 displays the various uses mentioned in the previous section. The map clearly shows distinct separation between the uses. While parks are interspersed throughout the development, residential and commercial uses do not mix.

Even the different types of housing are distinctly divided from each other, with detached homes occupying the center of the development and attached homes located at the edges. The Don Callejon School is the only use that is relatively immersed within the other uses, surrounded by both types of housing and a park.

Rivermark Plaza is clearly isolated from the rest of the Rivermark uses, with most of the commercial uses oriented towards a large, central parking lot and Montague Expressway. The separation that pervades Rivermark essentially breaks apart the development into smaller, single-use fragments. Rivermark Plaza is less like a cluster of neighborhood-oriented amenities and more like a regional shopping hub with major chain stores and fast-food restaurants.

Additionally, Rivermark’s concentration of solely residential uses in one area results in a form of privatization of public spaces. Nonresidents entering into such areas, whether to use the pocket-parks or stroll the streets are consequently perceived as outsiders and strangers. While residents can watch their children playing at the park from their front porches, outsiders must sit on benches (Rivermark’s pocket-parks have no benches). Children who live near the park can run home when they are thirsty, while outsider children must drink from drinking fountains (Rivermark’s pocket-parks also have no drinking fountains). Without any forms of neighborhood commercial, i.e. corner stores, coffee shops, or post offices, or basic amenities like benches and drinking fountains, outsiders are clearly discouraged from entering into these residential areas.

The phenomenon of public spaces becoming private is described extensively in Jacob’s *The Death and Life of Great American Cities* (1961). The following excerpt describing a 1960s Pittsburgh neighborhood could be used to describe the exact situation that occurs in Rivermark today:

*“The houses here are grouped in colonies around shared interior lawns and play yards, and the whole development is equipped with other devices for sharing, such as a residents’ club which holds parties, dances, reunions, has ladies’ activities like bridge and sewing parties, and holds dances and parties for the children. There is no public life here, in any city sense. There are differing degrees of extended private life”.*

*-- Jane Jacobs (1961)*

In contrast, the full-size Rivermark parks are very accommodating for all users. Both parks offer parking lots, for outside users, picnic tables, and drinking fountains. There is no hierarchy between resident and non-resident when using the park; the language of the park design indicates that all users have a right to be there.

## KEY FINDINGS

1. Rivermark contains attached and detached single-family homes, retail units, open spaces, and public facilities.
2. There is distinct separation between the uses, with each use displaying clear, firm boundaries.
3. Due to its large scale architecture and lack of mixed-uses, Rivermark Plaza

functions as a regional shopping hub, rather than a small, neighborhood source of daily amenities.

4. Rivermark's segregated, solely-residential areas lead to a privatization of normally public spaces (roads, sidewalks, and pocket-parks).



“The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.

We are committed to reestablishing the relationship between the art of building and the making of community...”

.....● Charter of the  
New Urbanism

## 4.3 traditional community structure

Community is a term often used to describe the physical and social aspects of a neighborhood. It is a sense of belonging, lifestyle, and diversity, all shared among a group of people (Hall and Porterfield, 2001). Communities should have centers and edges, and they should incorporate identifiable elements that bring community members together. In addition, communities should instill relationships between neighbors that create belonging and provide support. Sub-communities can serve as smaller, and more concentrated groups of neighbors. The following is an analysis of Rivermark’s **Traditional Community Structure** from both the physical and social perspectives.

### PHYSICAL COMMUNITY STRUCTURE

**Community Center and Edges** Live Oak Park functions as the center of the Rivermark development. It is the point at which all of the various uses meet, and it has an identifiable, circular shape. Figure 4.3.1 displays the center of Live Oak Park with circles radiating from it. The map clearly shows that while Live Oak Park is designed to function as the town center, it is actually not the true center of the development.

A community workshop was held at Live Oak Park, encouraging residents to participate in several cognitive mapping activities relating to Rivermark. In the first exercise participants were asked to draw a map of Rivermark from memory. There were no rules about what could or could not be included in the map, everything was left entirely to the participant. Participants’ maps overwhelmingly show Live Oak Park as the central component within the development. This trend suggests that although the park is actually not the true center of the development, it is perceived as the center by residents.

**Perceived Sub-Communities** The next activity at the community workshop asked residents to circle areas within Rivermark that they perceived as separate sub-communities. Figures 4.3.2, 4.3.3, and 4.3.4 illustrate the different sub-communities as determined by three participants. The maps display several important findings. Every map shows different separations within the community, although there is some overlap. All of the maps illustrate how busier roads can effectively divide a whole community into sub-communities. Lick Mill Road served as a separator in all the maps, and Garrity separated sub-communities in two of the maps.

Each map groups the Rivermark Plaza into a different sub-community. While the first map ignores the Plaza, leaving it as its own subgroup, the other two maps incorporate the Plaza into the surrounding residential areas. While Figure 4.3.2 groups the Plaza with only the attached single-family housing units, Figure 4.3.3 groups the Plaza with the entire residential area east of Garrity Way. These two maps indicate that there is some perception among residents that the Rivermark Plaza is in fact apart of Rivermark even though it is not “embedded” within the development.

The boundaries displayed in Figure 4.3.4 also correspond with the six distinct housing zones of Rivermark, explained further in the following section.



39

**figure 4.3.1**  
perceived rivermark center and edges



**figure 4.3.2**



**figure 4.3.3**



**figure 4.3.4**  
perceived sub-communities

**Formally Designed Sub-Communities** Each home within the Rivermark development belongs to one of six Rivermark architectural style groups. Houses within the same group are located together, resulting in the sub-community system displayed in Figure 4.3.5. Two of the architectural style groups are for attached, single-family homes, while the remaining four are for detached, single-family homes only. Differences between the different groups range in subtlety. Some groups have rear, alley-facing garages, while others have front, street-facing garages. Some groups have front doors that face the street, while others have front doors that are accessed by a central pedestrian path. Size is also a defining characteristic of the groups, with some of the single-family, detached styles running slightly larger than the others.

Style groups maintain relatively structured edges, separating themselves from the adjacent group with streets or alleys. The six style groups were designed by a single architect, but separately developed by three different builders. This type of joint-venture is common in California where land is scarce and the risk of a housing crash is great (Stromberg, 2004). According to the Dahlin Group, the firm responsible for both designing the master plan and the individual homes of Rivermark, the development was designed to be a cohesive community, where stylistically diverse homes are all incorporated into one development (Stromberg, 2004). It is unclear whether the sub-communities formally designed by planners function as succinct social communities.

## SOCIAL COMMUNITY STRUCTURE

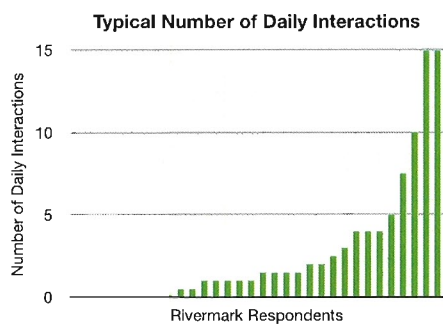
**Relationships Between Familiarity, Interactions, and Neighbors Known** Social interactions make up the base of a community's social structure. Interactions between neighbors can provide people with emotional, instrumental and informational forms of support. Social interactions also can result in social networks that enhance both the well-being of the individual as well as the overall neighborhood. Social support works in a variety of forms, such as personal or emotional support, which addresses the willingness of neighbors to greet and visit each other. Higher levels of willingness can give individuals a sense of social belonging, and ultimately lessen their feelings of social isolation (Unger and Wandersman, 1985). Supportive interactions can occur in casual situations where only a minimal level of familiarity between people is required, for example the simple act of waving to a neighbor on the street.

Randomly selected residents were asked to indicate the number of interactions that they have with their neighbors on a typical day. Figure 4.3.6 displays the questionnaire results. Of the 30 respondents, the average number of interactions on a typical day was 2.9, while the most frequently indicated number of interactions was 0. 9 respondents typically had at least 3 interactions per day, with the highest number of typical, daily interactions being 15. Selected residents were also asked to indicate the number of neighbors they knew by first name (Figure 4.3.7), and their overall level of familiarity with their neighbors. Respondents could choose from the following category levels: 'Very Familiar', 'Familiar', 'Unsure', 'Unfamiliar', and 'Very Unfamiliar'. As evidenced in Figure 4.3.8, the most frequently chosen level was 'Familiar'. Overall, 15 respondents felt familiar or very familiar with their neighbors, while 12 respondents felt unfamiliar or very unfamiliar. There were six additional respondents that were unsure about their familiarity levels.

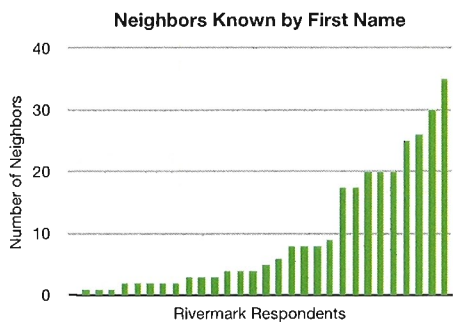




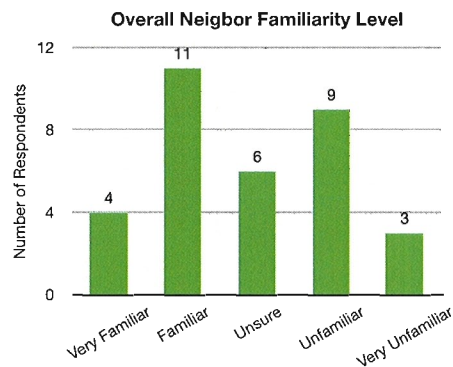
**figure 4.3.5**  
formally designed sub-communities



**figure 4.3.6**



**figure 4.3.7**



**figure 4.3.8**  
rivermark questionnaire responses

Figure 4.3.9 combines the data from Figures 4.3.6, 4.3.7, and 4.3.8 into one comprehensive chart. The chart excludes respondents that felt 'Unsure' about their overall familiarity, instead focusing on those that could conclusively identify with a particular end of the spectrum. As respondents choose higher levels of familiarity, one would expect that the number of neighbors known by first name and/or the number of neighbor interactions had on a typical day would increase as well. In some cases there is a clear relationship between the three variables. Generally, the respondents with lower levels of familiarity also had low numbers of daily interactions and knew the first names of fewer neighbors, with the clear exception of 'Respondent 1'. Respondents with higher levels of familiarity did not however, necessarily know the names of more neighbors, nor have more interactions. In some cases, the respondents with higher levels of familiarity had fewer daily interactions and knew the first names of fewer neighbors than respondents with the lower levels of familiarity.

Figure 4.3.10 compares the respondents' number of typical daily interactions and the number of neighbors known by first name. The trend line indicates that there is indeed a relationship between the number of neighbors known by first name and the number of interactions taking place daily.

Figure 4.3.11 displays the number of daily interactions and neighbors known by first name for all respondents that indicated feeling 'Unsure' about their overall familiarity with their neighbors. The chart shows no relationship between the two variables, suggesting that there are a variety of reasons for one feeling unsure. In some cases, these respondents knew more neighbors by first name and had more interactions than other respondents that felt 'Familiar' or 'Very Familiar'.

This data demonstrates that one's level of familiarity within their neighborhood cannot be quantified by numbers of personal interactions or neighbors known by first names. This lack of a relationship could be related to interaction quality. The questionnaire did not take into account the quality, or depth of the interactions that neighbors had with each other. Theoretically, residents could know the first names of every person on their street, but if the interactions with these neighbors are not rewarding or sustaining, their overall familiarity with the neighbors would be low. Clearly, familiarity is a highly personal subject that does not follow trend lines.

**Social Networking** A social network is the connection between an individual to others (Unger and Wandersman, 1985). In the neighborhood context, these networks serve as linkages between neighbors and others outside of the community. In some cases individuals within a neighborhood serve as the link between other neighbors and certain key resources. Often social networks appear in the form of a group organization like a Mother's Group or the Parent Teacher Association of a local school. These groups provide networking opportunities for members that can benefit the well-being of both the individual and the overall neighborhood.

Social networking does not necessarily define the quality or content of the interactions that take place within networks. However, research shows that social networks established by neighbors can leave individuals with

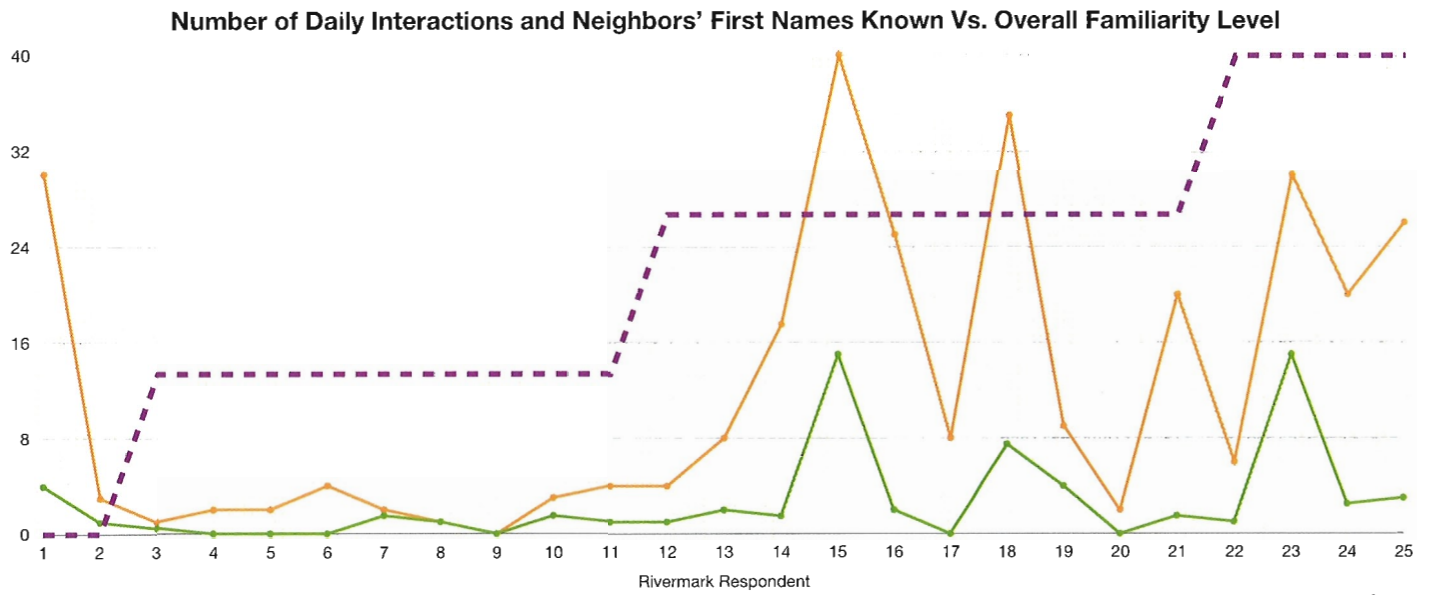


figure 4.3.9

43

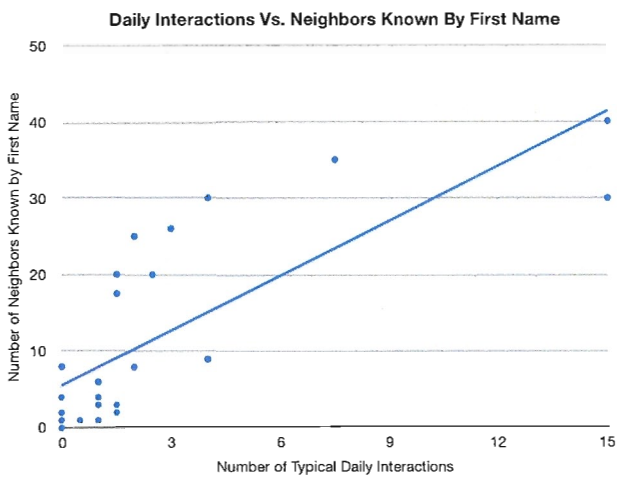


figure 4.3.10

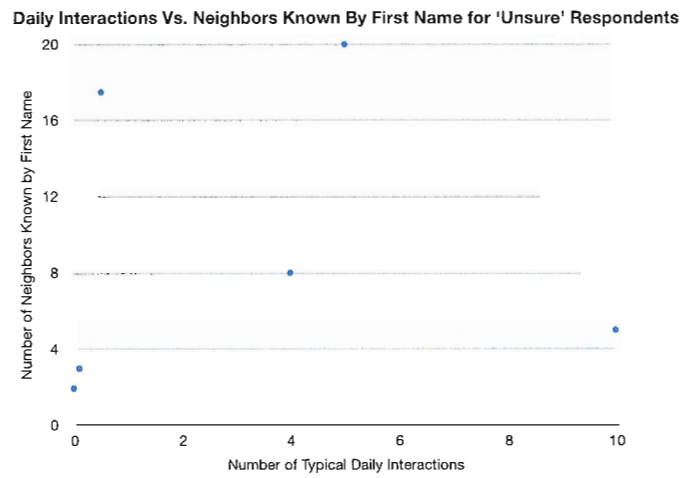
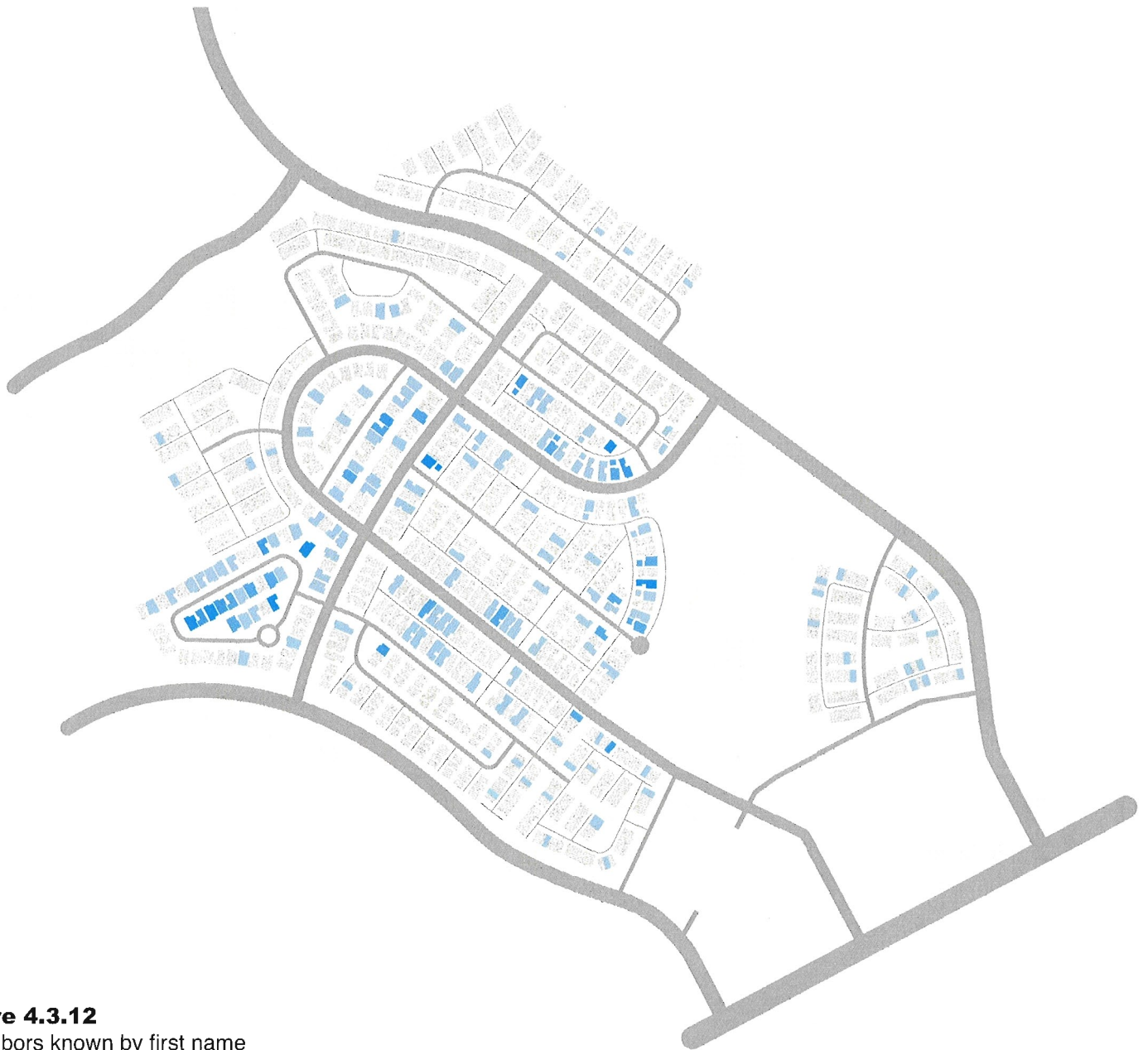
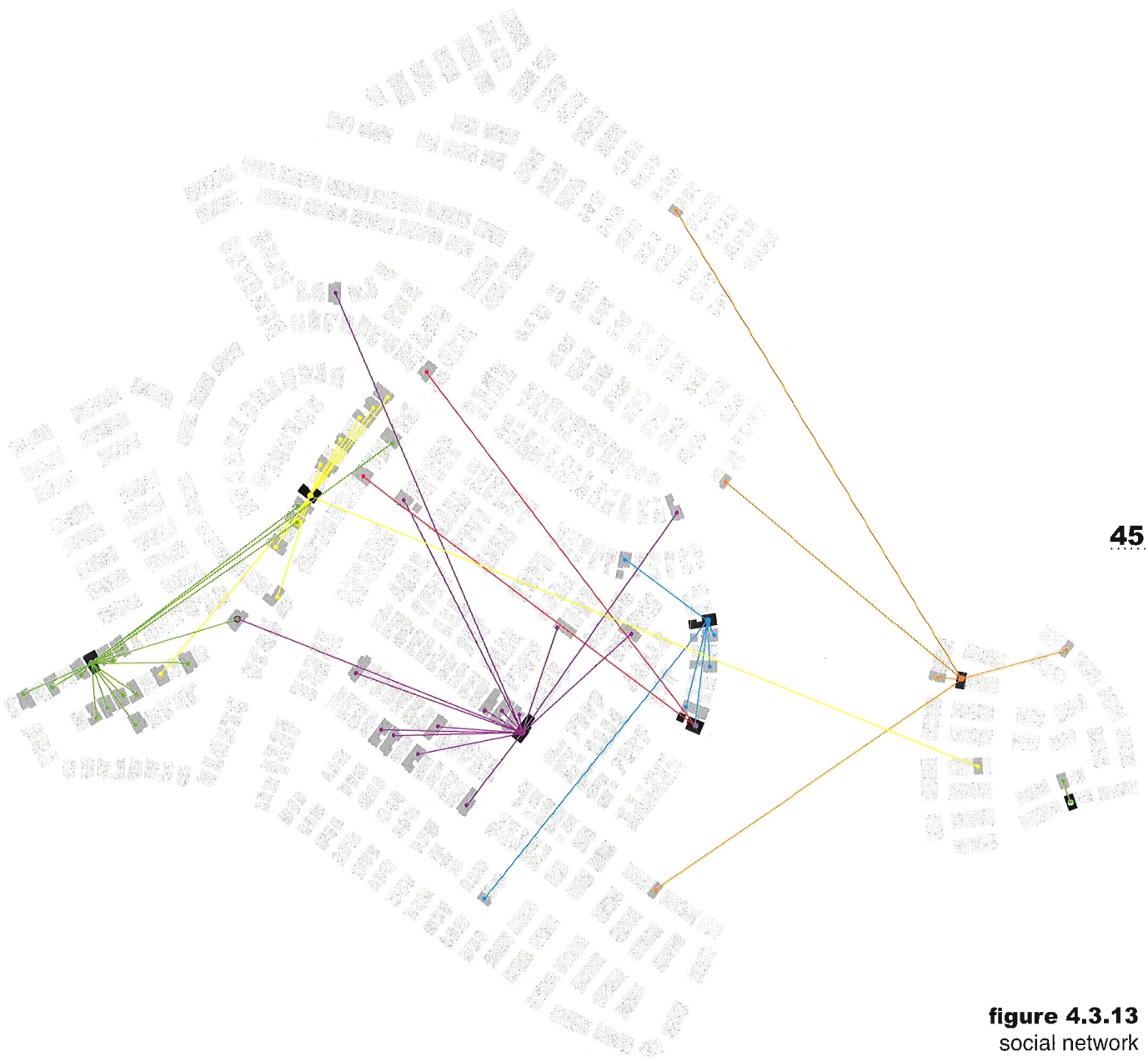


figure 4.3.11





**figure 4.3.12**  
neighbors known by first name



**figure 4.3.13**  
social network

higher levels of well-being and can raise the overall quality of life of the neighborhood as a whole (Unger and Wandersman, 1985).

Randomly selected questionnaire respondents were given a map of the Rivermark development with outlines of every housing unit. Respondents were asked to place a dot on the housing units where they knew the inhabitant by first name. Figure 4.3.12 displays the compiled results. Every housing unit that was “known” by a respondent was colored blue, with darker shades of blue indicating that the housing unit was “known” by two or three respondents.

There are several key trends to note. Detached homes were by far the most “well-known” housing type throughout Rivermark. In comparison, attached homes were rarely selected, with much of the area to the north of Lick Mill Road left entirely blank. Detached homes located in enclosed streets were “known” even more frequently. Inhabitants of Doyle Circle were more commonly known by two or three different respondents than any other street in the development. One possible solution for this trend is that as a more secluded street, Doyle Circle facilitates social networking with its inhabitants. Pedestrians walking there likely live on Doyle Circle, since the street offers no connections to other parts of the development. Additionally, car traffic on Doyle Circle is low, allowing for pedestrians to use the streets more freely and engage in street life without overtly worrying about safety.

Several respondents provided return addresses when mailing their completed questionnaires. By knowing the locations of both the respondent and their neighbors known by first name, a social network can be created. Figure 4.3.13 displays a simple social network with the seven respondents’ homes in black, and colored lines extending out to their respective “known” neighbors. There are several overlaps, where one housing unit is “known” by two different respondents. This demonstrates a mutual acquaintance between two neighbors and shows how a mutual acquaintance can serve as a bridge between two different social networks. In some cases, relationships are not always reciprocated. The “blue” respondent knows the first name of the “red” respondent, however the “red” respondent does not know the first name of the “blue” respondent. In this example, community is not truly taking place. The “blue” respondent feels he or she is connected to a neighbor, while in reality this neighbor does not share that feeling of connection.

The shapes of the different social networks are important to note. In some cases like the “green” and “yellow” respondents, most of their “known” neighbors lived in close proximity to their own homes. In contrast, the “orange” and “red” respondents’ “known” neighbors were mostly located within areas other than the respondents’. It is important to also note that there is a relationship between the housing types of each social network. Generally, detached homes connected with other detached homes, while attached homes connected to both types.

This simple social network study serves as a small glimpse of a much larger social network that exists within Rivermark. However, trends and characteristics, such as the shapes of the networks and the types of overlap, are helpful for creating a profile of the development and for determining to what extent connections exist in Rivermark.



### KEY FINDINGS

1. Live Oak Park is perceived as the center of the Rivermark development by residents and visitors.
2. Large roads are perceived as separators between different areas of Rivermark by residents and visitors.
3. Housing units are grouped into six different architectural style groups, resulting in noticeable sub-communities
4. Slightly more respondents felt “familiar” or “very familiar” with their neighbors than “unfamiliar” or “very unfamiliar”.
5. The more neighbors that respondents knew by first name, the more daily neighbor interactions the respondents typically had.
6. Households within detached homes were more frequently known by first name than households within attached homes. Additionally, detached homes located on dead-ends were “known” even more frequently.
7. Detached home households were more likely to have connections with only detached home households, while attached home households connected with both types.

“Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.”

.....● Charter of the New Urbanism

## 4.4 housing + household variety

New Urbanists maintain that by providing communities with a diverse array of housing types, the households that occupy these units will consequently be diverse as well. Housing types that allow for a variety of household incomes, sizes, and age groups can lead to the creation of an inclusive and diverse community. The following is an analysis of the overall **Housing and Household Variety** within Rivermark.

### HOUSING VARIETY

**Housing Unit and Parcel Value** Parcel values serve as a helpful indicator of community economics, from a household by household perspective. Table 4.4.1 compares the valuation breakdowns of the Santa Clara County and Rivermark owner-occupied housing units.

**table 4.4.1** owner-occupied housing unit value comparison

	Santa Clara County		Rivermark	
Median Owner-Occupied Housing Unit Value	\$725,800		\$777,272	
< \$200,000	25,294	7.17%	3	0.27%
\$200,000 - \$299,999	5,688	1.61%	0	0.00%
\$300,000 - \$499,999	31,913	9.04%	12	1.09%
\$500,000 - \$999,999	214,391	60.75%	956	87.23%
\$1,000,000 +	75,621	21.43%	125	11.41%

Source: United States Census Bureau, 2007; Santa Clara County Assessor's Office, 2009

In comparison to the rest of Santa Clara County, Rivermark has a higher proportion of housing units with a value equal to or greater than \$500,000. Additionally, Rivermark has very few housing units valued below \$500,000, though in three extreme cases housing values were below \$200,000. These very low values could be a result of recent foreclosures, a trend that has left a huge impact on Silicon Valley home values (McAllister, 2009). While it is clear that Rivermark has high-value homes, it is important to look closely at the location of these units within the development. Housing parcel data from the Santa Clara County Assessor's Office is displayed spatially in Figure 4.4.1.

The five images show the progression of rising parcel values, beginning with the first group of parcels valued below \$500,000. These parcels are located sporadically within the development, and are comprised mostly of attached housing units. The dramatically low values for these parcels could be the result of any number of reasons, though widespread foreclosure rates in Silicon Valley is the most likely culprit (McAllister, 2009).

The next image adds the second value group of \$500,000 to \$599,999 to the Rivermark map. These parcels are almost exclusively attached



**figure 4.4.1**  
progression of parcel values



units and are mostly located along the edges of the development. The largest cluster is located in the southeastern corner of Rivermark, where homes happen to face the loading docks and service parking lot of the local Safeway. Daily service trucks moving in and out of the parking lot are likely sources of noise pollution, and could lead to lower residential property values. Headen Way also contains a large cluster of parcels from the second value group. Homes in this area do not fall within a single walkability radius for any of the uses explained in Chapter 4.1, thus making them some of the least walkable homes in Rivermark.

The third image displays the first, second, and third parcel value groups. Like the second group, most of these parcels contain attached housing units, and are located around the edges of Rivermark. Regarding the detached homes within this group, most are located at major intersections or along the major streets that bound the development. Houses at the intersection of East River Parkway and Lick Mill Road and houses along Agnew Road highlight this trend. Finally, the remaining detached homes that are not located near major streets are all homes with alley-facing garages and pathway-facing front doors. While these units have slightly less square footage than the houses with street-facing garages, it is ironic that units incorporating some of the key design features of New Urbanism are valued less than the larger units that disregard such features.

The next image incorporates the fourth parcel value group, which is evenly made up of detached and attached housing units. Detached homes within this group generally fall into one of two categories: smaller detached homes located within most of the walkability radii, or larger detached homes that are located within few to none of the walkability radii. These two trends suggest that walkability is a valued commodity, and that homeowners are willing to trade the square footage of their house for closer proximity to goods, services and activities.

Finally, the fifth image adds the highest parcel value group of \$800,000 or more. Nearly all of the parcels in this group contain detached housing units. These parcels are mostly concentrated in the center of the development, with the exclusion of parcels along Doyle Circle. While Doyle Circle is “un-walkable” and secluded from the rest of the development, it likely has some of the lowest car traffic levels in Rivermark. This potentially serene atmosphere could be a source of value to many residents and thus the reason that the area has retained high prices despite its lack of walkability.

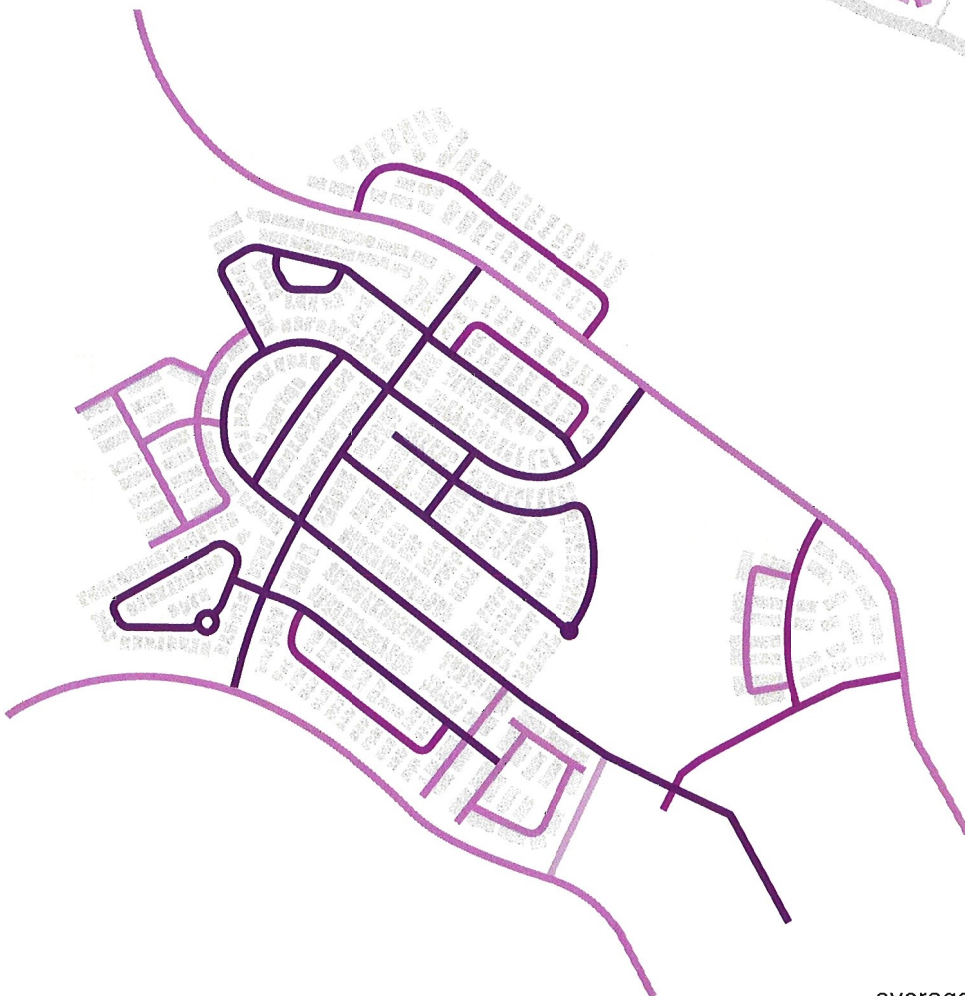
Most of the remaining detached homes are located along areas with high visibility. Houses along streets and walkways that serve as main thoroughfares for residents are more likely to be seen daily by a larger number of people. By locating the most prominent homes in the most prominent places, the entire aura of the development is shifted. It is likely that pedestrians prefer to walk along streets that are lined with more stately or grandiose homes.

Recall in Chapter 4.1 that respondents felt safer walking along some of the busier streets such as Rivermark Parkway, even though they complained of faster cars and more traffic. This example suggests that although some pedestrians are bothered by heavier car traffic, they choose to tolerate it in order to walk along the more aesthetically pleasing and grand streets.



51

**figure 4.4.2**  
parcel values



**figure 4.4.3**  
average street parcel values

Another way to visualize the distribution of parcel values within the development is to find the average value of each street, as shown in Figure 4.4.3. This image reiterates what has been mentioned previously: parcels along the edge of the development and close to busy streets are valued less than the parcels close to the center of the development.

**Floor Plan Flexibility** Rivermark housing units promote a family demographic, with most units offering three to four bedrooms. However, some floor plans include a single bedroom with private bathroom and exterior entrance that could effectively serve as a rental studio. Such studios allow for increased densities in residential neighborhoods without building apartments complexes. As a result, neighborhoods could be infused with a variety of demographics other than families of three to five people. Single people or couples, otherwise unable to live in Rivermark, would add to the demographic make-up of the development. It is unknown to what extent these studios are currently utilized by renters.

## HOUSEHOLD VARIETY

**Race and Ethnicity** Both the County and City of Santa Clara are relatively diverse places within California. Table 4.4.2 displays the racial breakdowns from the 2000 United States Census for the County and City of Santa Clara, and Rivermark questionnaire respondents. The numbers for each race include both persons that identified solely with the specific race, as well as individuals that identified with other races in addition to the specific one in question. In some cases, questionnaire respondents provided their specific countries of origin, as shown in Table 4.4.3.

Overall, the racial demographics of Rivermark are comparable to those of the County and City, though Rivermark had a slightly higher percentage of Asian respondents. Questionnaire respondents also consisted of a wide range of specific ethnic backgrounds, with parts of Europe, Southeast Asia, and the Middle East all represented.

**Age** Questionnaire respondents were asked to indicate the number of members of their households that fell into specific age categories. Figure 4.4.2 displays the distribution of ages for the 33 questionnaire respondents' households. A total of 104 people are represented in the age group distribution count. Most of the represented population are either children under the age of ten, or adults between the ages 30 and 49. Presumably, these numbers suggest that there is a large percentage of families in Rivermark with younger children. Children can serve as important catalysts for social networks, for example parents often meet other parents through school events and child-initiated "play dates".

**Household Size** The average household size for questionnaire respondents was 3.12. The most frequent household size was four persons, however households of two persons followed at a close second.

**Income Level** Income level categories for all jurisdictions are determined by the State of California standards displayed in Table 4.4.4.

These categories are used to prepare a regional housing needs assessment, a state-mandated report that determines the number of housing units needed within each income category for a jurisdiction



**table 4.4.2** racial breakdown of populations

	Santa Clara County		Rivermark	
<b>Total Population</b>	1,682,585	---	30	---
<b>White</b>	969,182	<b>57.6%</b>	16	<b>53.3%</b>
<b>Black or African-American</b>	56,596	<b>3.4%</b>	1	<b>3.3%</b>
<b>American Indian + Alaska Natives</b>	22,648	<b>1.3%</b>	0	<b>0.0%</b>
<b>Asian</b>	462,261	<b>27.5%</b>	15	<b>50.0%</b>
<b>Native Hawaiian + Other Pacific Islander</b>	11,957	<b>0.7%</b>	0	<b>0.0%</b>
<b>Other</b>	243,794	<b>14.5%</b>	0	<b>0.0%</b>

Source: United States Census Bureau, 2007

**table 4.4.3** ethnicities indicated by rivermark respondents

Chinese	Filipino	Indian	Spanish	Vietnamese	Pakistani
5	3	2	1	1	1

**53****table 4.4.4** state of california income category definitions

Very-Low	Low	Moderate	Above-Moderate
< 50% of Median Household Income	50-80% of Median Household Income	80-120% of Median Household Income	120% < of Median Household Income

Source: Association of Bay Area Governments, 2008

**table 4.4.5** rivermark respondents' income level distribution

	Santa Clara County	Rivermark	
<b>Median Household Income</b>	\$84,265	---	---
<b>Very Low</b>	< \$42,132.50	0	<b>0.0%</b>
<b>Low</b>	\$42,132.50 - \$67,412.00	0	<b>0.0%</b>
<b>Moderate</b>	\$67,412.00 - \$101,118.00	2	<b>6.3%</b>
<b>Above - Moderate</b>	\$101,118.00 <	30	<b>93.8%</b>

Source: United States Census Bureau, 2007

(Association of Bay Area Governments, 2008). Table 4.4.5 displays the income categories for the County of Santa Clara using median household income levels from the 2005-2007 American Community Survey, and the corresponding number of Rivermark respondents that fell under each category.

Over 93% of Rivermark respondents had incomes that were above-moderate, and all respondents had incomes that were at least moderate. In Santa Clara County, only 41.4% of the households reported incomes greater than \$100,000. While the median household income in Santa Clara County is one of the highest in the State, the Rivermark respondents' incomes are consistently higher than the County's (United States Census Bureau, 2007). Though Rivermark's households display diverse ethnicities, the same cannot be said for income levels.

### KEY FINDINGS

1. Housing units of lower value are mostly attached homes, or those located along the edges of the community in areas that are not within walking distance of Rivermark Plaza, Don Callejon School, or either of the two large parks.
2. Housing values suggest that homeowners equate a smaller detached home that is walkable to a larger detached home that is not walkable.
3. Two of the 19 housing unit types offer studio options. Studios that are integrated into detached, single-family neighborhoods can house smaller households that might otherwise not be able to afford to live in Rivermark.
4. Questionnaire respondents' racial demographics were comparable to the County of Santa Clara.
5. Results from the questionnaire indicate that there is a large percentage of two-parent families with children between the ages of 0 and 9.
6. Nearly all questionnaire respondents fell within the "above-moderate" income group for the County of Santa Clara.





“Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas.

*The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.*

*Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.”*

.....● Charter of the  
New Urbanism

## 4.5 cohesive urban design

One of the many criticisms of the average, post-war suburban development is the repetitive and characterless architecture of the houses that dominate its landscape. A 1999 market study conducted by Laurie Volk of Zimmerman/Volk Associates found that one particular design for a detached, single-family home made up as much as 30 percent of all the new single-family detached homes built in the country that year (Dunham-Jones, 2000). Replicated suburban developments ultimately result in a dearth of unique or identifiable elements within an area. A suburban development in Phoenix, AZ could appear identical to one in Irvine, CA, neither having unique qualities that set them apart.

New Urbanism aims to counter this trend of mundanity that afflicts suburbia by placing an emphasis on all aspects of the development's urban design, from the master plan to the housing units to the pathways. Developments should be incorporated into the existing city context and infrastructure as infill projects, and places should be identifiable and memorable, leaving residents and visitors alike with a unique sense of the elements that surrounds them. Architecture should be rooted in the local vernacular, and should facilitate connections between neighbors. The following is an analysis of the incorporation of **Cohesive Urban Design** into the Rivermark development.

### UTILIZATION OF INFILL AREAS

The Rivermark development is located on a former brownfield site in the northeastern corner of the City of Santa Clara. The site was most recently the location of the Agnews Developmental Center, a state-run facility for the mentally ill, but had also been used for farming and other industrial uses. A number of environmental concerns plagued the land, namely soil and groundwater contaminants. Clean-up projects starting in 1999, and culminating in October of 2004, were overseen by the Department of Toxic Substances Control (Department of Toxic Substances Control, 2006).

### IDENTIFIABLE URBAN SPACES

In the workshop exercise mentioned in Chapter 4.3 participants were asked to draw a map of Rivermark from memory. The previous analysis in 4.3 addressed only the tendency for participants to draw Live Oak Park as the central, focal point of Rivermark. In this chapter, the analysis will examine all aspects of the hand-drawn, cognitive maps. Figure 4.5.1 displays a compilation of each workshop participant's map. The areas colored in darker shades of blue indicate that more respondents included the areas in their individual maps.

Several key trends are exposed from the compiled map. As mentioned previously, Live Oak Park was drawn most frequently by participants. Many residents were also able to draw a majority of the housing units in Rivermark. Housing areas that were not remembered as frequently were the areas on the eastern side of Lick Mill Road and the eastern side of Live Oak Park. Interestingly, the picnic tables where participants completed their cognitive maps was directly adjacent to the housing units east of Live Oak Park. Even when directly facing them, nearly every participant ignored the units.

The *Safeway* building and surrounding retail units of Rivermark Plaza were drawn as frequently as the large housing area mentioned previously. In some cases, Live Oak Park, the large housing area, and the retail components of Rivermark Plaza were the only elements that participants included in their maps. Few participants identified specific areas within the large housing section or Rivermark Plaza. This trend suggests that for this group of Rivermark



**figure 4.5.1**  
identified urban spaces

participants, only the large, single-use areas are remembered specifically.

In the second workshop exercise participants were given a map of the Rivermark development with outlines of residential, commercial, and public facility units. Participants were asked to label on the map the areas of Rivermark that they enjoyed, areas that they did not enjoy, and provide a brief description for each label. Figure 4.5.2 displays the combined details from all participants' maps. Participants overwhelmingly labeled the areas of the development that they enjoyed, and provided little input on less enjoyable areas. Most of the enjoyable labels were related to the parks, Don Callejon School, or the Rivermark Plaza. Some participants labeled areas by their official names, such as: "Don Callejon School", "Thamien Park", "Safeway", "McDonald's", and "Super Cuts". In other cases participants showed signs of ownership of different areas by inserting personal or possessional phrases into their labels: "Our grocery", "Child plays at park", "My jogging trail", "(Where I) live". These types of phrases indicate that the participants have made personal connections to aspects of Rivermark, and to some extent developed feelings of ownership.

### COHESIVE ARCHITECTURE

The Charter addresses the need for the architecture of a development to link with the surroundings. Buildings should relate to one another from both an aesthetic and social perspective. Relationships from both of these perspectives will create a unique and identifiable context for the Rivermark development.

**Aesthetics** Over the last 60 years the architectural components of a typical suburban home have become commonplace and utterly predictable. In many ways, housing developments have morphed into simple equations that are then replicated as often as possible (Wentling, 1988).

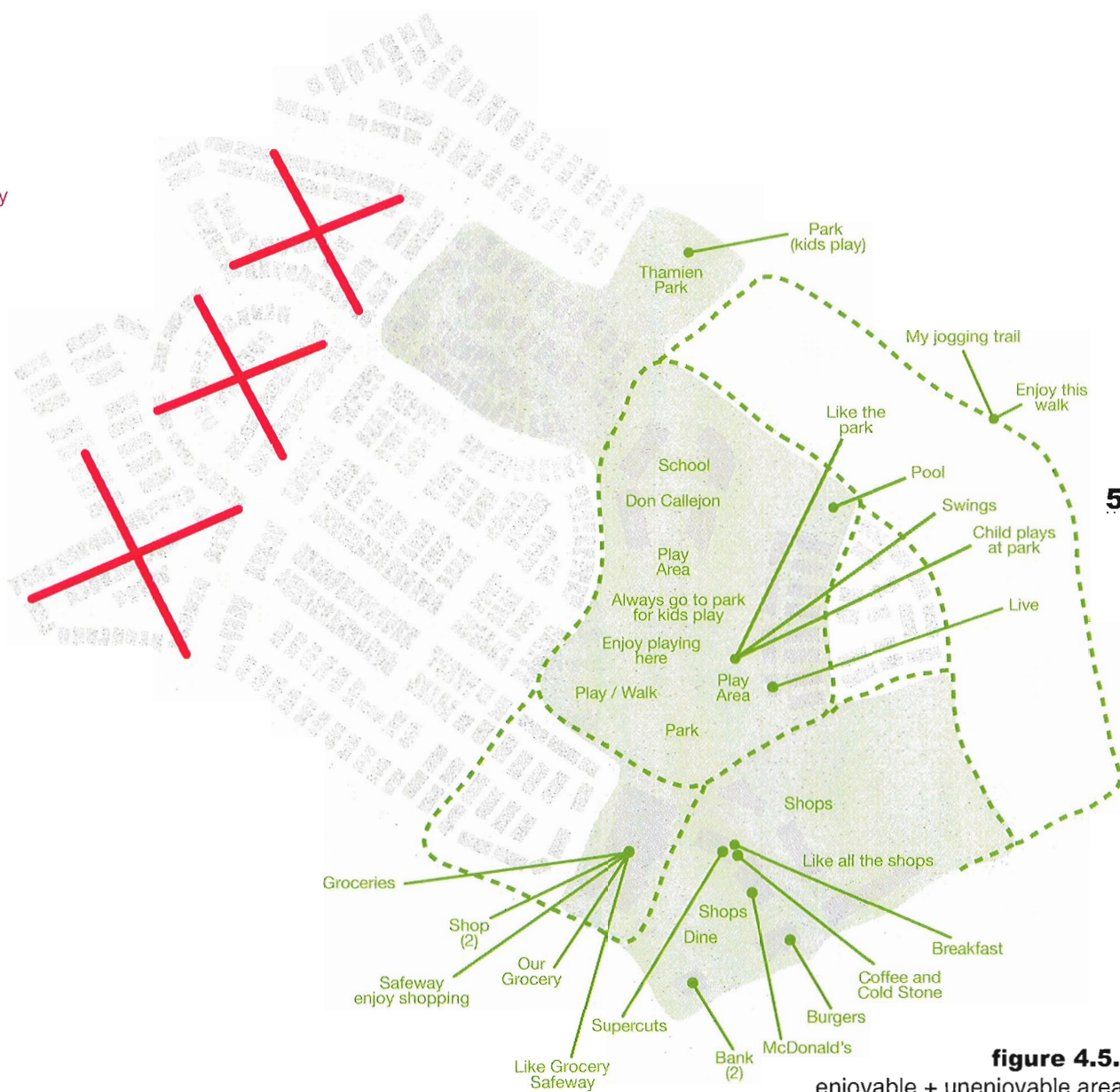
All Rivermark housing units were designed by a single architect, the Dahlin Group. In an attempt to create distinct neighborhoods, there are 6 different architectural style groups, each with three to four variations. Styles and color palettes vary throughout the development, but are still repetitious. A visitor is left with a strong feeling that every house one passes has been seen just moments before. This level of repetition is partly a result of only one architect playing a role in the project. When entering the development, there is no doubt that one has arrived in a distinct place.

Yet does this level of cohesiveness, where styles and entire houses are replicated, actually create the kind of community that pre-war neighborhoods achieved? Does a neighborhood with nearly identical homes achieve a higher sense of community than neighborhoods that allow for freedom of expression and spontaneity? Suburbia was at its heart, an attempt to provide city-dwellers with an escape from the woes of urban living. A concept that New Urbanists have been quick to separate themselves from. But an idealistic and highly homogenous built environment appears to send the very message that the segregated, upper-income suburban developments famously display.

**Functions** While post-war suburban towns were created to serve as the answer to inner-city strife and unrest, the results did not materialize the way planners had hoped. Ebenezer Howard's idealistic "garden city" concept of the late 19th Century promoted the inclusion of identifiable, human-scale design components into new, master-planned towns. What has resulted from Howard's visioning is a "sprawl of cookie-



Never really  
go here



**figure 4.5.2**  
enjoyable + unenjoyable areas

cutter houses bisected by highways and land uses supporting housing” (Bookout, 1992). Residential housing developments built over the last 60 years have failed to consider how particular architectural elements have affected the social health of its inhabitants. The Charter emphasizes that a linkage between all architectural projects should transcend style. This section will attempt to quantify the functional architectural elements of all the Rivermark housing types to determine to what extent the social needs of both residents and visitors are met.

A widely accepted scenario for explaining the importance of interaction and connection between street and indoor activities is Jane Jacobs’ (1961) “eyes on the street” phrase. According to Jacobs, streets, sidewalks, and buildings that facilitate connections between pedestrians and building inhabitants create an infinitely safer and connected community. Jacobs writes in her classic book, *The Death and Life of Great American Cities*:

*“Second, there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street. The buildings on a street equipped to handle strangers and to insure the safety of both residents and strangers, must be oriented to the street. They cannot turn their backs or blank sides on it and leave it blind.”*

*-- Jane Jacobs (1961)*

By applying Jacobs’ concept to the architecture of Rivermark housing units, one can quantify the level of social orientation for each housing type. For the purposes of this report, the following social function elements will be addressed: Visibility Ratio, Street-Facing Entrance, Alley-Facing Garage, Porch or Balcony, Attached Studio. All elements facilitate the visibility of human activities both on the street and within the home.

Visibility Ratio This refers to the overall ratio of square footage of a home that is visible to pedestrians. Rooms that are socially used (all rooms excluding bathrooms) with windows looking out onto the street or pedestrian paths would be rated “visible”, as would porches or balconies. Dividing the total “visible” square footage by the square footage of the entire housing unit determines the unit’s visibility ratio.

Street-Facing Entrance Homes with entrances that face the street receive one point. A home with such an entrance allows for other neighbors or pedestrians to view the comings and goings of its inhabitants. Visible entrances bring life to a street, creating a flow of people moving in and out of homes.

Alley-Facing Garage Homes with alley-facing garages receive one point. Garages that face back alleys allow for the main streets to serve as a pedestrian realm, and prevent parked cars in driveways from barricading homes from the street.

Porch or Balcony Homes receive one point for every street-facing porch or balcony they possess. Such elements allow for the public activity on the street and the private activity within the home to meet in the middle. While the two realms are still clearly separated (a pedestrian would not likely drift onto a homeowner’s porch uninvited), there are no





walls dividing them, allowing for high visibility of users from both realms.

Multiplying the Visibility Ratio by the sum of the other three elements creates a simple index for quantifying the social functionality of a housing unit. Figure 4.5.3 displays the results for each housing unit type. The housing group with the lowest indexes overall was The Glen. Each of The Glen's floor plan types contained an attached, street-facing garage, which resulted in a low Visibility Ratio and the loss of a point for not having an alley-facing garage. While these homes are some of the most expensive in Rivermark (See Figure 4.4.1), they facilitate very little connection between the private and public realms.

The highest indexes came from homes in The Arbors and The Park. Both had homes with indexes equal to or greater than .75. However, there was great disparity between the highest ranking homes and the lower ones in a single group. The highest indexed home in The Arbors had a .79 ranking, while the lowest had a meager .26. In The Park homes, the indexes ranged from a high of .75 to a low of .27. These disparities all result from varying visibility ratios. Some homes were highly rated with over a third of their total square footage considered visible, while other homes contained less than 15% visible square footage. Homes that contained porches and/or balconies tended to have the highest indexes overall. Figure 4.5.3 displays the housing units with entrances that face the street. As evidenced by the map, entire streets within Rivermark are left "blind", according to Jacobs' standards.

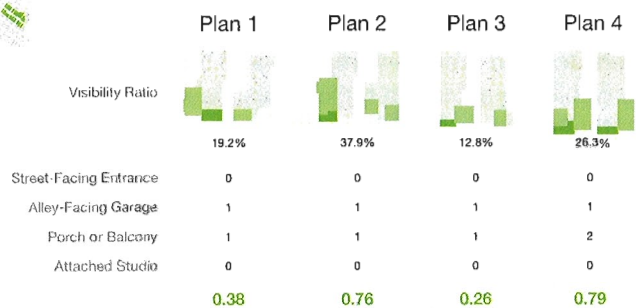
These indexes and the results from Figure 4.5.3 suggest that the architect paid little attention to the social functionality of the homes. There was not a single housing type that included both a high visibility ratio and all three additional elements. These results ultimately indicate that high indexes resulted randomly. Presumably, had the architect fully considered ways to enhance the connections between the street and indoor realms, the previously mentioned social function elements would have been included more frequently.

## KEY FINDINGS

1. The Rivermark development is an infill project on a former brownfield site.
2. The areas of attached housing units along Lick Mill Road were frequently omitted from the cognitive maps drawn by residents.
3. Most cognitive maps included the large single use areas (residential, commercial, and open spaces), indicating that for most respondents the smaller details were not as memorable.
4. Respondents displayed signs of ownership by labeling areas on the Rivermark map with possessive phrases.
5. Rivermark's replicated housing units display a message of separation and exclusion similar to wealthy, post-war suburbs'.
6. Social functionality of Rivermark housing units was random, with a large disparity between the high functioning units and the low functioning units.
7. Entire streets within Rivermark would be considered "blind" by Jacobs' standards.



## The Arbors



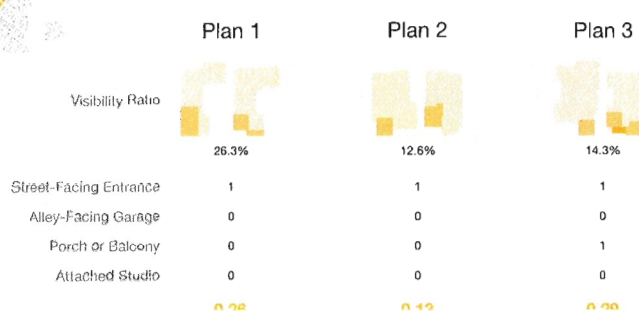
## The Promenade



## The Greens



## The Glen



63



## The Landings



## The Park



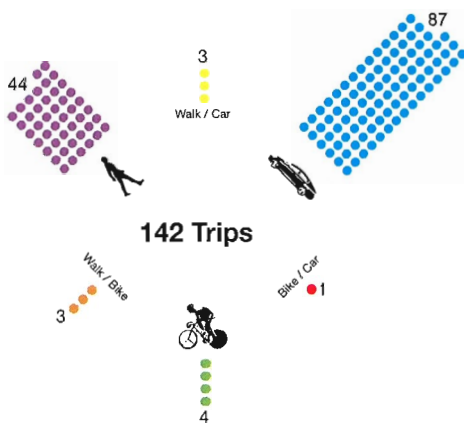
**figure 4.5.3**  
social orientation levels

“The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.”

Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.”

Charter of the  
New Urbanism

64



**figure 4.6.1**  
trip modes

## 4.6 transportation variety

In addition to its architectural landscape, suburbia is often criticized for its poor transportation connections to the surrounding regions and urban cores. A lack of alternative transit types within the suburban regions results in heavy automobile dependence by its residents, and a jobs-housing imbalance results in lengthy commutes. In 2001, the average commuter traveled 18.6 miles per day to and from work. Additionally, as the income of commuters rise, their corresponding travel distances increase as well (United States Department of Transportation, 2001). New Urbanism aims to provide people with more transportation alternatives, so that long, automobile-dependent commutes are reduced. The following is an analysis of the incorporation of **Transportation Variety** into the Rivermark development, and the resulting transportation characteristics of its residents.

### TRIP CHARACTERISTICS

Randomly selected Rivermark residents were asked to list all of the trips made by members of their household during a typical day. Respondents were instructed to indicate the origin, destination, and the type of transportation used for each trip. Out of the 142 trip origins indicated by respondents, most destinations were within the 10-mile radius, though some made daily trips to locations as far away as San Mateo, Foster City, and Pleasanton.

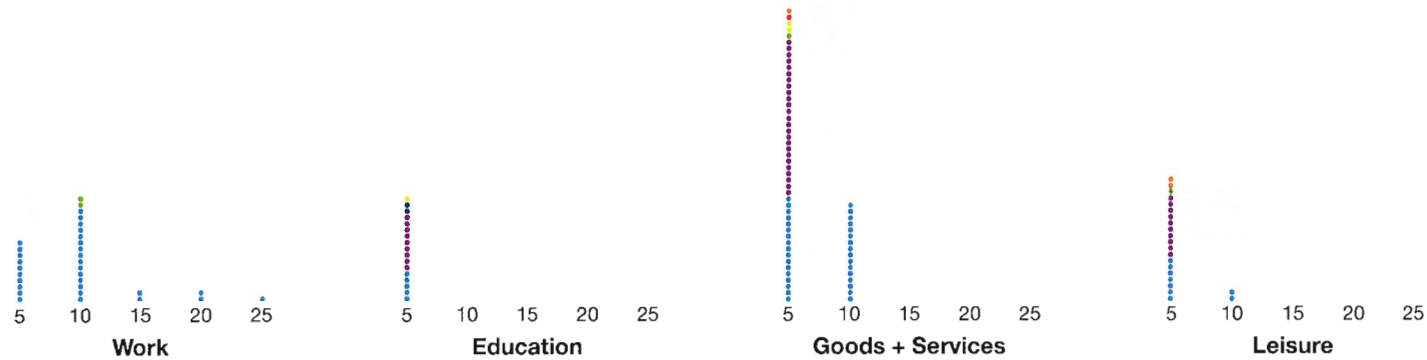
Figure 4.6.1 displays the breakdown of trip modes for all 142 trips. Traveling by car was the clear majority mode type, making up 61.3% of the total trips. Pedestrian travel was the second most frequent mode type with 31.0%, while bicycle travel was third with 2.8%. In some cases respondents indicated that they were equally likely to use two different modes for a particular trip. Bicycle or Pedestrian, and Car or Pedestrian modes each constituted 2.1% of the total trips.

Many of the respondents provided trip purposes along with their origins and destinations. These purposes allow for a better understanding of why Rivermark respondents travel to their various destinations, and why they choose specific transportation modes. Figure 4.6.2 displays all of the indicated trips, grouped by destination and further categorized by both purpose and mode. Trip purposes fell under one of four categories: work, education, goods and services, and leisure. In Figure 4.6.3 the various trip purposes are separated into four parts, with each image displaying the distances and travel modes of all trips for each purpose.

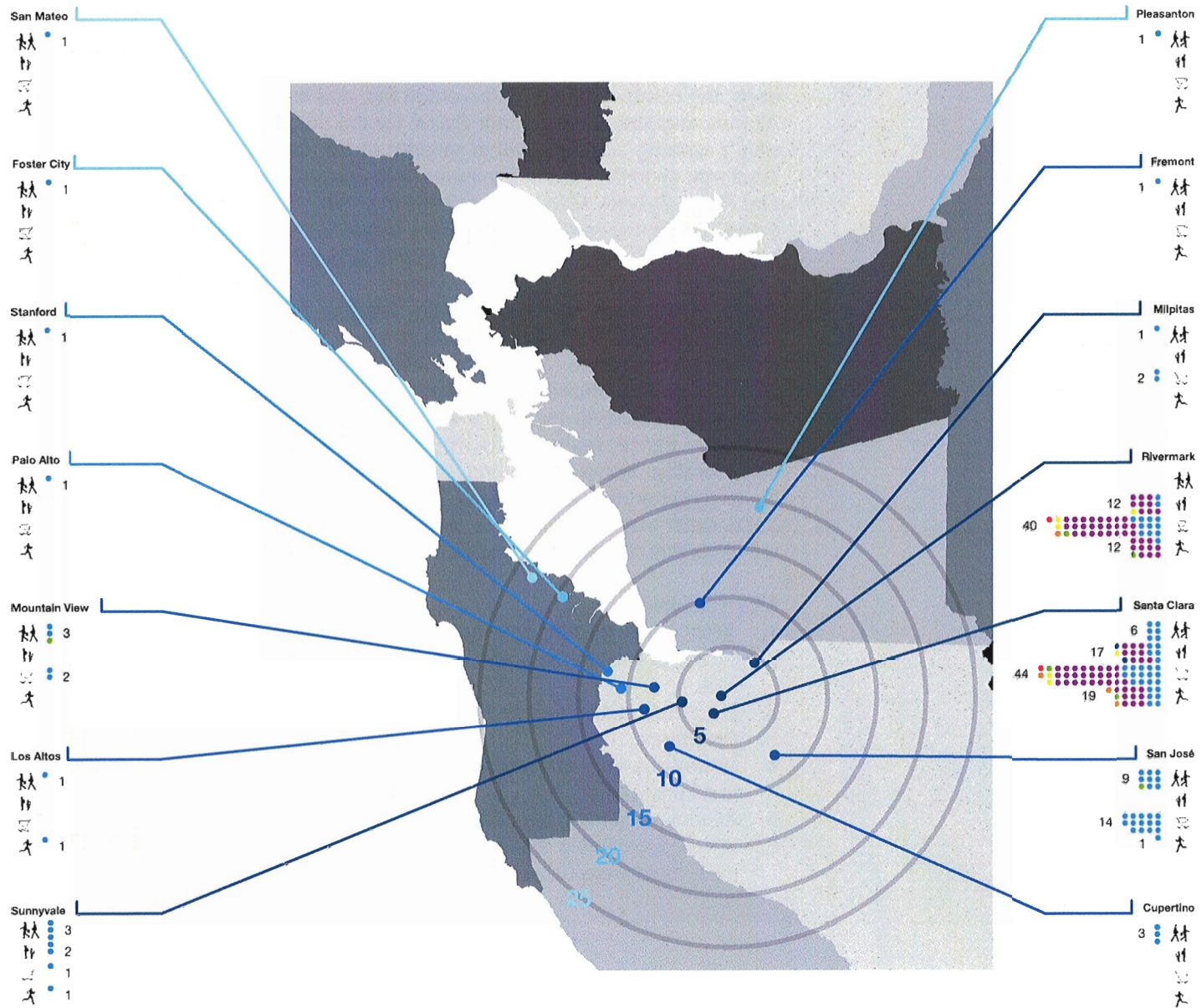
Several trends emerge from the compiled data in Figures 4.6.2 and 4.6.3. All trips outside of the 15-mile radius were work-related and made exclusively by car. None of the respondents traveled outside of the 5-mile radius for educational purposes, and over half of these educational trip modes were pedestrian. With goods and services, nearly three-quarters of the total trips were made within the 5-mile radius. Of the 5-mile radius trips, over half were pedestrian trips. Over 90% of the leisure category's trips were within the 5-mile radius, with the remaining trips within the 10-mile radius. Half of the 5-mile radius trips were made by pedestrians.

These results suggest what the previously mentioned U.S. Department of Transportation's findings indicate: Higher income households tend to travel further distances for work-related trips. Over half of the respondents' work-related trips were outside of the 5-mile radius. Additionally, nearly one-quarter of the respondents indicated that there were two commuters in their household,





**figure 4.6.3**  
trip purposes, modes, + distances



**figure 4.6.2**  
trip destinations, modes + purposes



with both commuters traveling to different cities. While respondents' education, goods and services, and leisure needs are generally met within the 5-mile radius, work-related needs are not.

Also, all trips other than those for education purposes, were mostly made by car. This directly contradicts marketing statements made by the Rivermark developers, who claimed large numbers of homeowners were ecstatic about being able to walk or bike to their jobs and to Rivermark Plaza (Salant, 2004). Data collected from respondents indicate that commuters still choose their car over other forms of transportation. Additionally, many of the shopping trips, indicated by respondents were to stores that sell bulk items (*Costco*, *Wal-Mart*, *Target*). Without a car, shoppers would be unable to bring home any large items.

### ALTERNATIVE TRIP MODES

Overall there was no indication of public transportation use amongst Rivermark respondent, though it is unclear whether this lack of use is due to respondents' preferences or rather the overall unfeasibility of public transportation. Table 4.6.1 displays the most time-efficient public transportation options for the specific destinations that respondents' normally reach by car. The table includes the trip purpose, the various transit types that would be required and the time spent on each, the combined time for the entire trip, and finally an estimated transit cost. All trips originate at Rivermark Plaza, for the purposes of this study, and begin with a walking segment, either straight to the destination or to a transit stop. Trips with an initial walk of 5 minutes or less were considered "walkable" (Duany and Plater-Zyberk, 1991), and colored in green. Trips with initial walks between 5 and 10 minutes were colored yellow, between 10 and 15 minutes were colored orange, and longer than 15 minutes were colored red.

Some of the results are potentially feasible for respondents to undertake. Several of the "green" trips required only one form of public transit and minimal walking on both ends (*Santa Clara Marriott Hotel*, *Lockheed Martin*, and *Owen St. & Olcott St.*). Fares were also relatively low for these trips at roughly \$1.75 each way. However most of the results indicate that by substituting their car for public transit, respondents would increase their commute times and costs considerably. Some of the longest times indicated in Table 4.6.1 were over 1.5 hours (compared to a car ride of 25 to 40 minutes), and had fares upwards of \$5.00 each way. Rivermark is clearly not a transit-oriented development, and residents that choose to use public transportation face significant inconveniences.

### KEY FINDINGS

1. Most of the respondents' trips took place within ten miles of Rivermark.
2. 61.3% of respondents' trips were made by car, while 31.0% were made by foot.
3. Over half of the respondents' work trips were over five miles away from Rivermark.
4. Nearly one-third of the responding households had two commuters traveling to different cities.
5. All trips, excluding educational ones, were made mostly by car.
6. When substituting a car with public transit for the respondents' indicated trips, most were unfeasible due to exorbitant travel times and costs.

**table 4.6.1** hypothetical public transportation alternatives

DESTINATION	TRANSIT TYPE(S)	TRANSIT TIME(S) (minutes)		TRANSIT COST (dollars)
Santa Clara Marriott Hotel	Walk	4		
Santa Clara	VTA Bus 321	11	17	\$1.75
Lockheed Martin Sunnyvale	Walk	4		
	VTA Bus 321	21	31	\$1.75
	Walk	5		
Owen St. & Olcott St. Santa Clara	Walk	5		
	VTA Bus 58	23	33	\$1.75
	Walk	4		
Cisco Headquarters Milpitas	Walk	18		
	VTA Light Rail 902	17	36	\$1.75
	Walk	1		
Rainbow Montessori School Sunnyvale	Walk	4		
	VTA Bus 321	11	38	\$5.00
	VTA Bus 55	18		
	Walk	12		
Farnham School San Jose	VTA Bus 27	14	47	\$5.00
	VTA Bus 61	5		
	Walk	9		
Santa Clara Decathlon Club Santa Clara	Walk	5		
	VTA Bus 58	31	48	\$1.75
	Walk	12		
Lawrence Expy. & Arques Ave. Sunnyvale	Walk	5		
	VTA Bus 58	16	48	\$5.00
	VTA Bus 304	11		
	Walk	3		
Great Mall of the Bay Area Milpitas	Walk	18		
	VTA Light Rail 901	19	49	\$1.75
	Walk	12		
Ranch 99 Supermarket at McCarthy Ranch Milpitas	Walk	18		
	VTA Light Rail 901	19	54	\$1.75
	Walk	17		
Trader Joe's San Jose	Walk	18		
	VTA Light Rail 901	15	54	\$3.50
	VTA Bus 61	9		
	Walk	2		
	Walk	5		
Central Park Library Santa Clara	VTA Bus 58	10	60	\$5.00
	VTA Bus 60	14		
	Walk	4		
	Walk	18		
Target San Jose	VTA Light Rail 901	15	64	\$3.50
	VTA Bus 62	9		
	Walk	12		
	Walk	33		
Costco Sunnyvale	VTA Bus 60	18	65	\$4.25
	Caltrain 241	5		
	Walk	3		
	Walk	5		
Cupertino High School Cupertino	VTA Bus 58	38	65	\$5.00
	VTA Bus 23	11		
	Walk	4		
	Walk	18		
Santa Clara Community Center Santa Clara	VTA Light Rail 902	17	74	\$3.50
	VTA Bus 57	27		
	Walk	3		
	Walk	33		
Santana Row San Jose	VTA Bus 60	38	77	\$1.75
	Walk	7		
	Walk	33		
Westfield Valley Fair San Jose	VTA Bus 60	30	77	\$1.75
	Walk	14		
	Walk	18		
Whole Foods Mountain View	VTA Light Rail 902	40	77	\$3.50
	VTA Bus 35	10		
	Walk	3		
	Walk	18		
Slonaker Harry Elementary School San Jose	VTA Light Rail 901	23	83	\$3.50
	VTA Bus 22	30		
	Walk	4		
	Walk	18		
Wal-Mart San Jose	VTA Light Rail 901	34	83	\$3.50
	VTA Bus 25	19		
	Walk	3		
	Walk	5		
Stanford University Stanford	VTA Bus 58	16	94	\$7.50
	VTA Bus 304	19		
	Caltrain 227	18		
	Walk	16		
	Walk	18		
Lietz Elementary School San Jose	Light Rail 902	37	97	\$2.75
	Bus 65	23		
	Walk	7		
	Walk	18		
El Camino Hospital Mountain View	Light Rail 902	41	101	\$3.50
	Bus 51	22		
	Walk	8		

“Cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions.”

.....● Charter of the New Urbanism

## 4.7 accessibility

An accessible network of streets, both within and around a development, allows for a free flow of people, goods, and ideas. Well-planned networks within the development offer a variety of routes for pedestrians, bicyclists, and cars, and ultimately help to ease congested traffic hot spots. Developments should connect easily with surrounding, regional transportation networks to ensure a relationship with other cities and counties. By maintaining a high level of accessibility, developments avoid becoming private and inward-facing. The following is an analysis of the incorporation of **Accessible** connections into the Rivermark development, and the incorporation of Rivermark into surrounding regional connections.

### REGIONAL CONNECTIONS

Rivermark is situated in the center of the triangular intersection of three major highways. Figure 4.7.1 displays the intersections of Interstate 880, Highway 101, and Highway 237, and the subsequent levels of connection from each highway to the Rivermark development. Purple roads indicate a “Level 1” connection to the highways, blue roads indicate a “Level 2”, and green roads indicate a “Level 3”. Only 7 of Rivermark’s 21 streets are classified as “Level 3”, the rest are a range of lower connectivity levels. Chapter 4.6 discussed the transportation patterns of randomly selected Rivermark respondents. Many traveled to cities outside of Santa Clara for a variety of purposes, indicating a heavy reliance upon regional thoroughfares.

To understand the extent of Rivermark’s overall connectivity to its surrounding regional thoroughfares, one could compare it to the New Urbanist ideal: a pre-war, suburban neighborhood. Palo Alto is a medium-sized city of nearly 60,000 residents, and is located 14 miles north of Santa Clara. “Old Palo Alto” is the City’s most classically pre-war neighborhood (approximately 6 blocks by 10 blocks), as evidenced by its meticulous grid-street system and 1920s era houses. In Figure 4.7.2, all but one street in the entire neighborhood is classified at a “Level 3” or better. These results indicate that a classic grid-street system can dramatically increase the overall level of connectivity between a central neighborhood and surrounding regional thoroughfares.

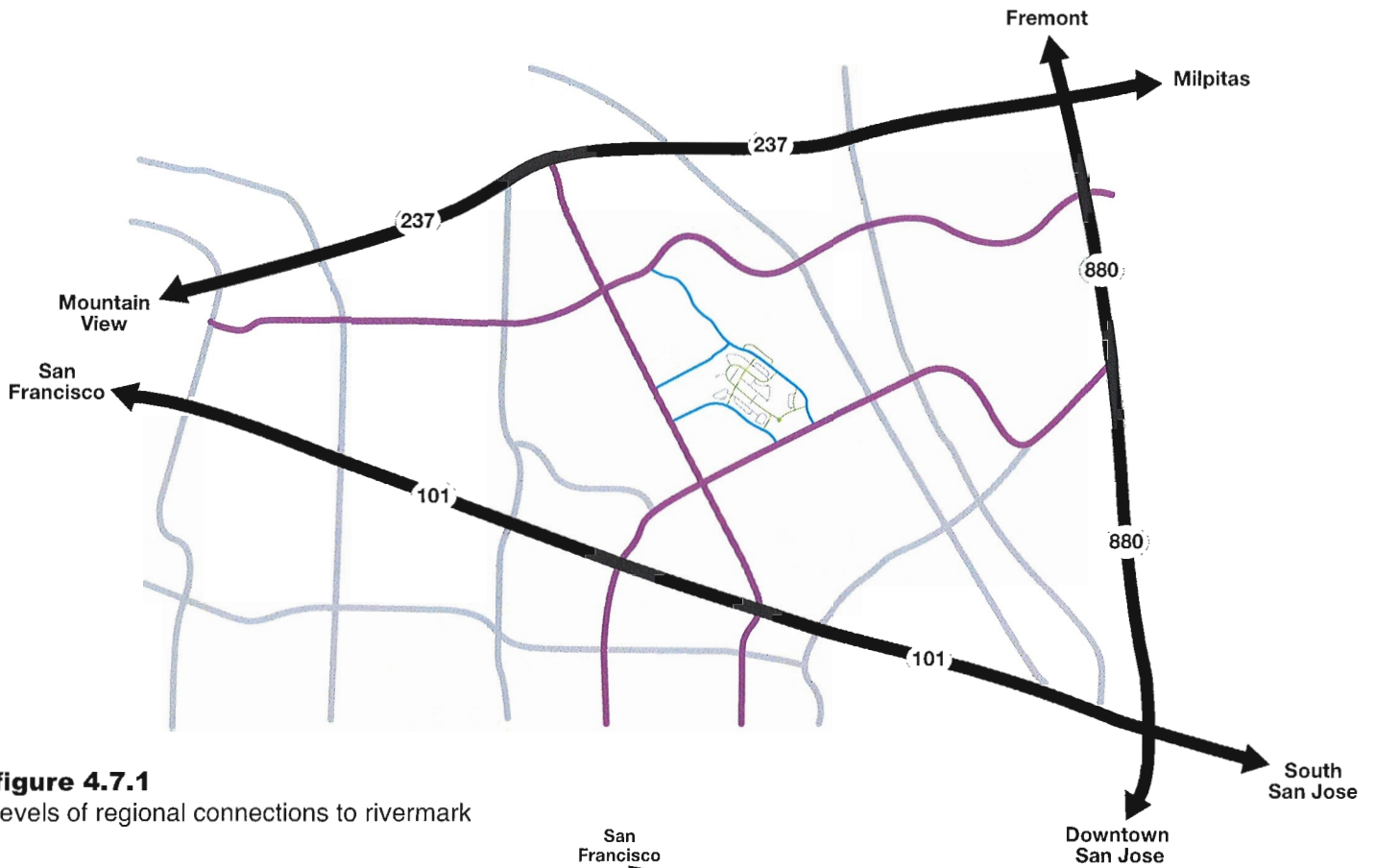
### INTERIOR CONNECTIONS

High levels of connectivity within the development enable travelers to choose from a variety of paths, and access a larger percentage of the site. For the purposes of this study, overall connectivity within Rivermark was determined using three variables: streets (S), intersections (I), and housing units (U). Figure 4.7.3 displays all intersections that travelers to and from Rivermark might cross and Table 4.7.1 contains the three connectivity calculations using each of the variables.

TABLE 4.7.1 Neighborhood Connectivity Index Calculations

	S	I	U	I/S	U/S	U/I
Rivermark	89	129	1,097	1.45	12.33	8.50
Seaside	22	45	200	2.05	9.09	4.44

In order to understand the relevance of these Rivermark results, the same calculation was conducted for a portion of Seaside, FL, a famous New Urbanist development (see Figure 4.7.4).



**figure 4.7.1**  
levels of regional connections to rivermark



**figure 4.7.2**  
levels of regional connections to palo alto



In the first calculation Rivermark's 129 intersections are divided by the 89 streets. The resulting ratio of 1.45 signifies the average number of intersections per Rivermark street. In comparison, Seaside's 45 intersections and 22 streets lead to a ratio of 2.05. This simple calculation suggests that a higher ratio of intersections to streets indicates a higher level of connectivity within the development. Streets with more intersections mean more locations for transportation modes of all kinds to cross, which could potentially lead to a greater level of mobility throughout the development.

The second calculation examines the relationship between the number of units and the number of streets within the development. For Rivermark, 1,097 units divided by 89 streets equals a ratio of 12.33 units per street. Seaside had a ratio of 9.09 for 200 units and 22 streets. Streets with more units can indicate either a higher level of density or longer streets. It is likely that Rivermark's ratio of units per street was higher due to its concentration of single-family attached units, of which Seaside had none.

The final calculation determines the ratio of housing units per intersection. Rivermark's ratio of 8.50 units per intersection compared to Seaside's ratio of 4.44 suggests that Rivermark residents have a higher level of accessibility to intersections than Seaside residents.

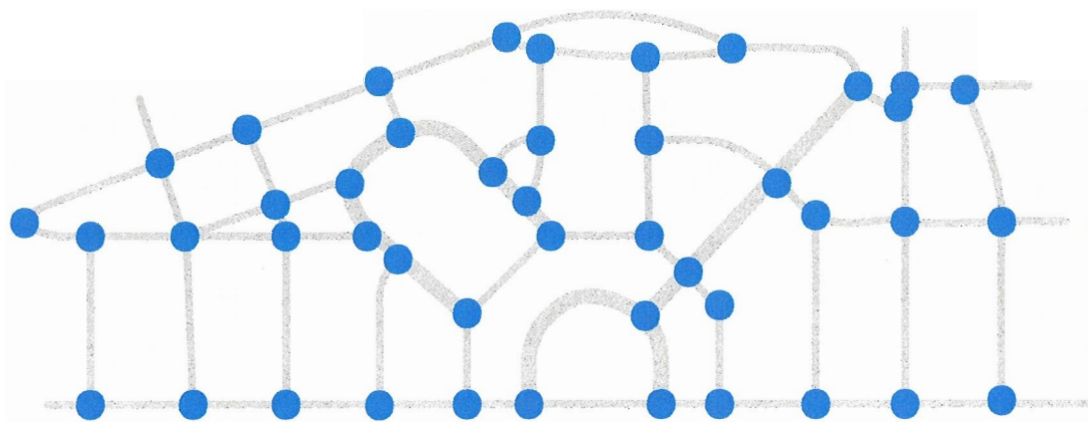
### KEY FINDINGS

1. Rivermark's overall connectivity to the regional thoroughfares that so many respondents relied on for commuting is lower than a classic, pre-war suburban neighborhood.
2. Rivermark has a lower intersection per street ratio than Seaside, indicating that all transit types have fewer crossing options and thus a lower level of accessibility.
3. Rivermark averages more housing units per street than Seaside, likely due to Rivermark's mixture of both attached and detached housing units.
4. Rivermark averages more housing units per intersection than Seaside, suggesting that though Rivermark has fewer intersections than Seaside, these intersections are more accessible to a greater percentage of residents.



71.....

**figure 4.7.3**  
rivermark street intersections



**figure 4.7.4**  
seaside street intersections

## 5.1 new urbanism in a low-income context

The principles of New Urbanism generate a certain set of expectations regarding the economics and demographics of a New Urbanist development. Above-market-rate housing value is one such expectation. By infusing walkable amenities, nearby green spaces, and a cohesive architectural and urban form into developments, the values of such places are likely to increase. The Rivermark development was never intended to serve as an affordable housing option for Bay Area households. Homes were built and sold at market-rate, allowing for rapid appreciation of values, and ultimately prohibiting moderate and low-income families from planting roots within the development.

New Urbanists aim to create a diverse community not by enacting policies or providing incentives, but rather through the sole use of physical, built design. The *Charter* acknowledges this reliance upon design, stating,

*"We recognize that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework."*

- *Charter of the New Urbanism*

For areas such as Santa Clara with high household incomes and an already diverse ethnic population base, an attempt to create a diverse community through design strategies only seems plausible. But how do the principles of New Urbanism work when applied to a low-income population? How do the areas that already face serious social problems benefit from the design schemes of New Urbanism? What happens to the problems that previously plagued the area? Do New Urbanist developments that incorporate low-income housing units achieve greater levels of diversity?

A brief study was conducted on another New Urbanist development in the Bay Area to determine the extent of the parallels between the principles of the *Charter* and the characteristics of a low-income development. Richmond Village is located at the southern edge of Richmond, CA. Once the site of the notoriously





single-family richmond  
village homes



multiple-family homes  
in richmond village



unique, cultural  
elements add  
character to the  
neighborhood



liquor stores and fast-  
food eateries dot the  
surrounding area



troubled Easter Hill housing project, the area was razed and rehabilitated by the Richmond Redevelopment Agency (Fahey, 2006; Weinstein, 2003). A total of 283 units, both single-family homes and apartment units, were built between the years 2003 and 2007. The development also contains a large, park, pool, and community center.

Richmond Village was built in connection with the HOPE (Housing Opportunities for People Everywhere) VI program, a subsidiary of the U.S. Department of Housing and Urban Development. New Urbanists worked closely with HOPE VI to develop a set of design principles, modeled after their own Charter (U.S. Department of Housing and Urban Development). Diversity is a central theme in Hope VI's Principles for Inner City Neighborhood Design, evidenced by the following excerpt:

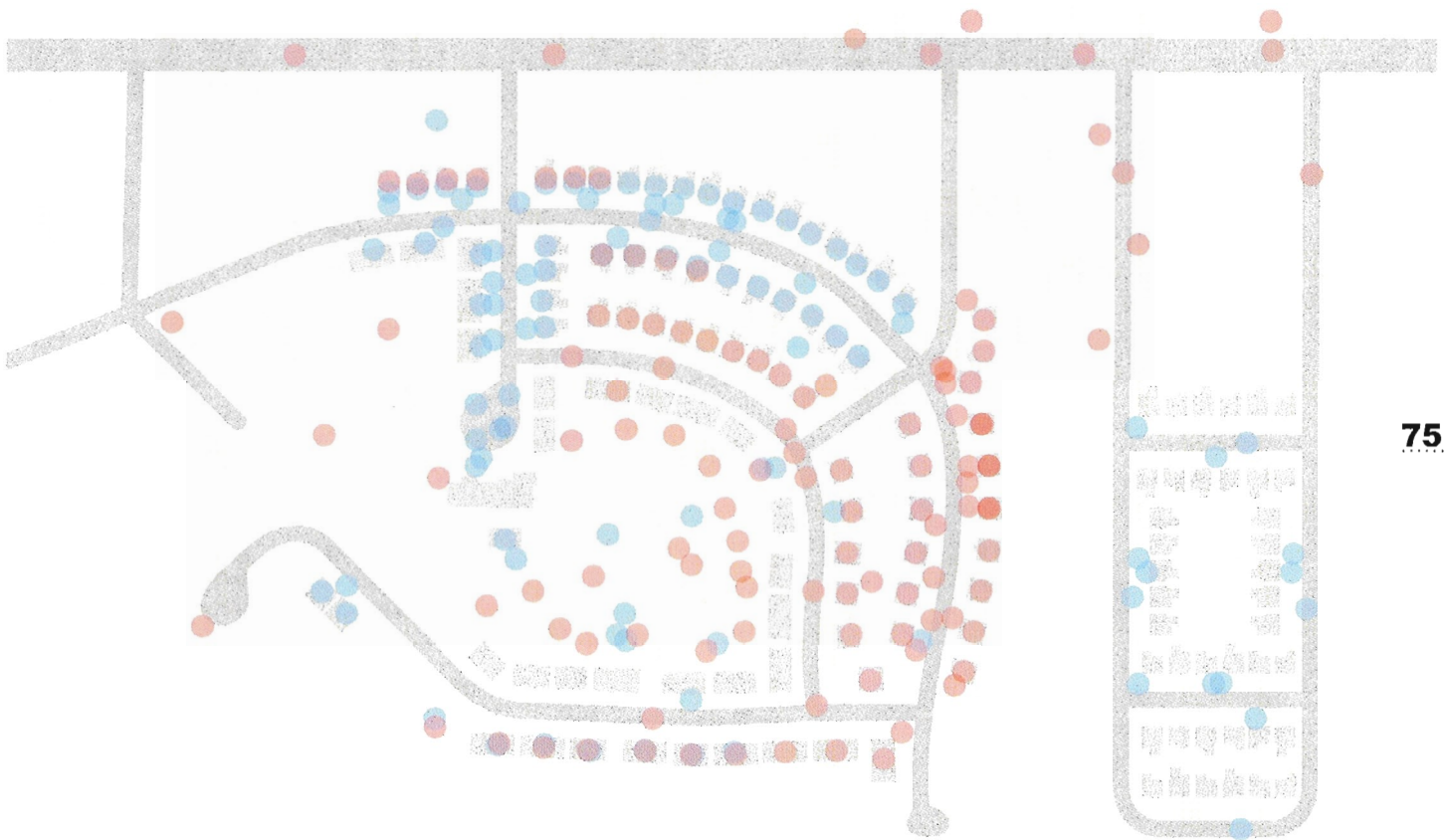
*"The path to self-sufficiency is made easier if a neighborhood is planned to help residents with different incomes interact with one another. This process is enhanced if every home, regardless of the resident's income, is both functional and attractive. Finally, residents can learn real pride when their neighborhood looks and feels like neighborhoods in the surrounding community."*  
 -- Principles for Inner City Neighborhood Design

All Richmond Village households received questionnaires similar to the ones Rivermark households received. The only differences between the two questionnaires were the maps of the respective developments and regional settings, and the income level groups, which were calculated using Contra Costa County's income data as opposed to Santa Clara County's. The results provide valuable insight into the relationship between the built form of Richmond Village, and the existing social environment.

Like the Rivermark questionnaire, respondents indicated areas within and around their development where they felt either safe or unsafe as a pedestrian (Figure 5.1.1). Compared to Rivermark, where most respondents placed dots on public spaces like sidewalks, streets, and parks, Richmond Village respondents frequently placed dots on private housing units. Specific units were identified as safe or unsafe places, indicating that respondents perceive their own safety based upon their perceptions of specific neighbors. Safe and unsafe areas generally consisted of the following areas. The multiple-family housing area on the eastern side of the site was covered in red dots, while the single-family homes along the northern edge of the site and multiple family homes along the western edge of the site were mostly covered in blue. For Richmond Village respondents, the issue of pedestrian safety transcends beyond a fear of the automobile and addresses one's fear of actual neighbors.

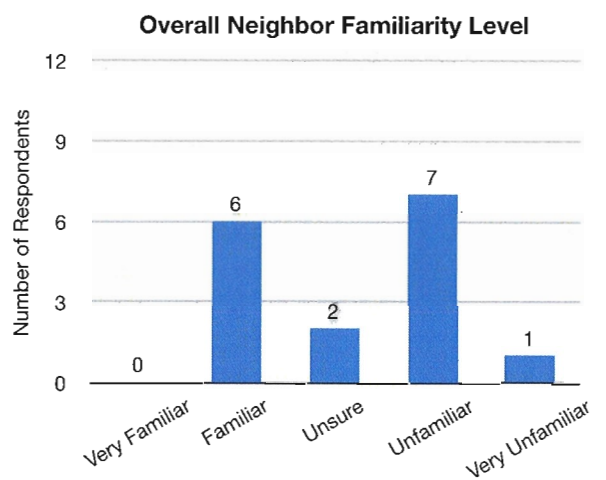
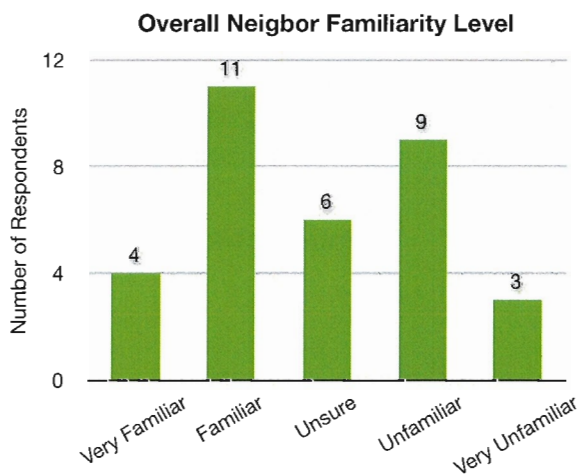
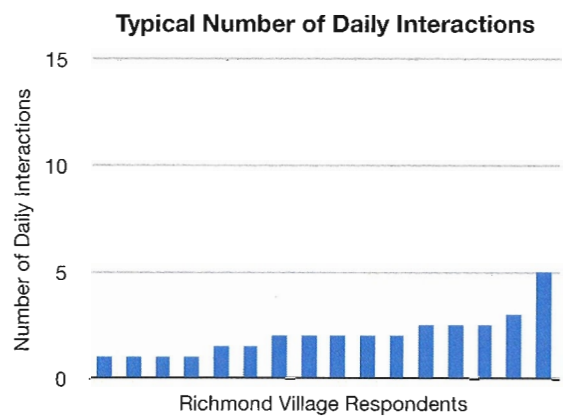
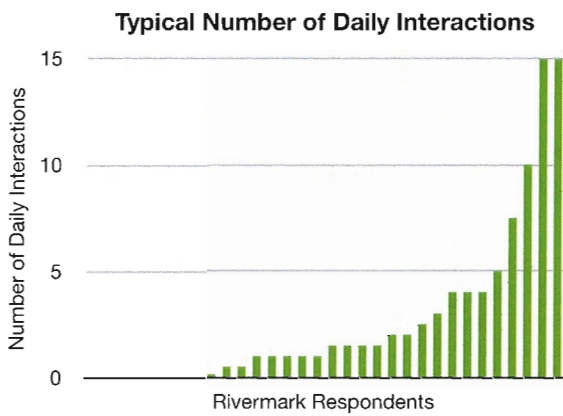
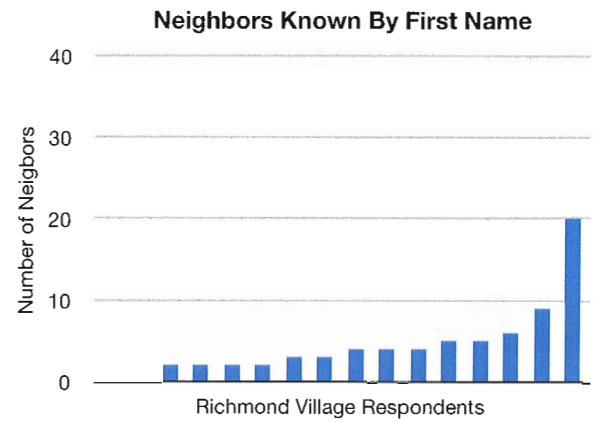
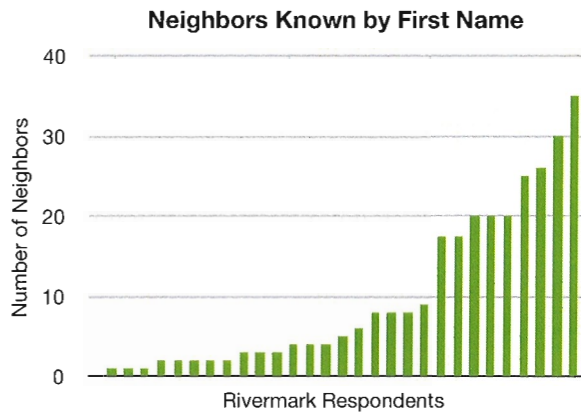
Richmond Village respondents indicated the number of neighbors they knew by first name, the number of daily interactions had with their neighbors, and their overall level of familiarity with their neighbors. Respondents knew an average of 4.4 neighbors by first name, and had an average of 2.0 interactions with their neighbors on a typical day (Figures 5.1.2 through 5.1.8). In comparison to Rivermark, Richmond Village respondents averaged fewer daily interactions and fewer "known" neighbors. In terms of overall familiarity with their neighbors, most respondents either felt "unfamiliar" or "familiar", whereas Rivermark had a slightly more distributed sample. There was little relationship between the number of daily interactions and the number of first names known with a respondent's overall familiarity level.

Richmond Village respondents displayed certain demographics that differed

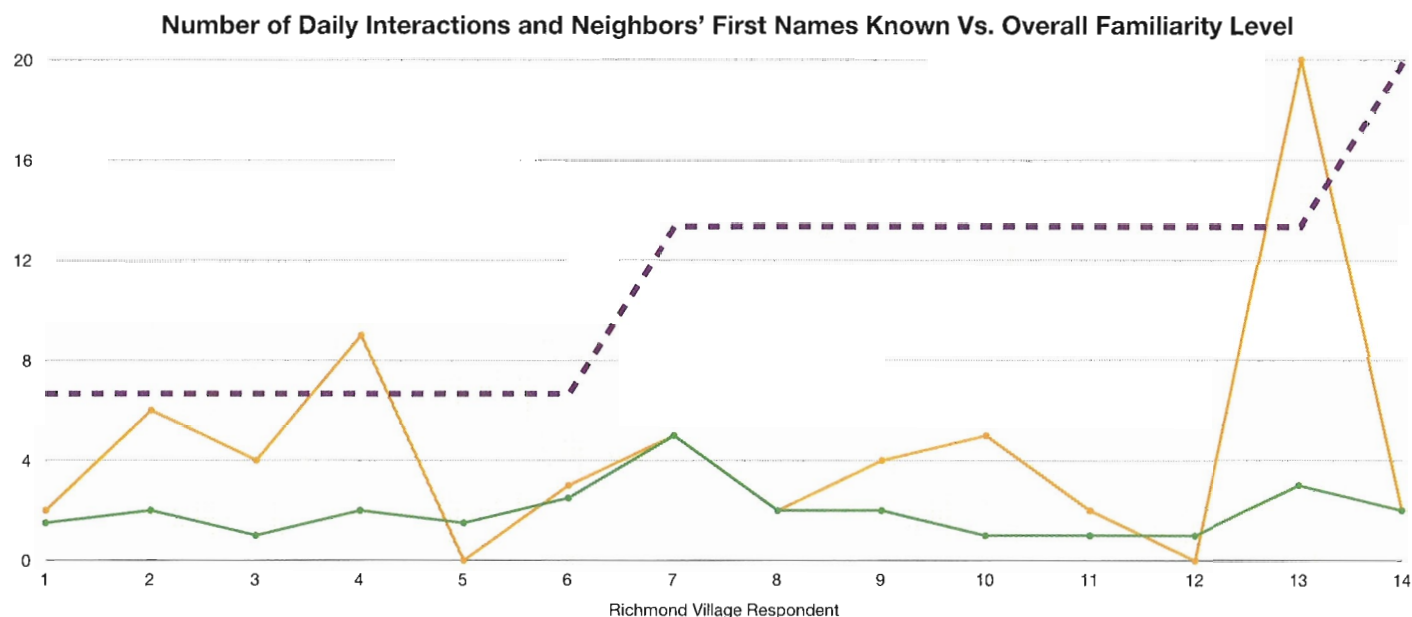


75

**figure 5.1.1**  
perceived pedestrian safety areas



**figures 5.1.2 - 5.1.7**  
richmond village and rivermark questionnaire responses



**figure 5.1.8**

**table 5.1.1** richmond village respondents' income level distribution

	Contra Costa County	Richmond Village	
<b>Median Household Income</b>	\$76,317.00	---	---
<b>Very Low</b>	< \$38,158.50	4	26.7%
<b>Low</b>	\$38,158.50 - \$61,053.60	7	46.7%
<b>Moderate</b>	\$61,053.60 - \$91,580.40	0	0.0%
<b>Above - Moderate</b>	\$91,580.40 <	4	26.7%

Source: United States Census Bureau, 2007

**table 5.1.2** owner-occupied housing unit value comparison

	Contra Costa County		Richmond Village	
<b>Median Owner-Occupied Housing Unit Value</b>	\$618,800		\$292,919	
< \$100,000	7,662	2.96%	2	2.44%
\$100,000 - \$199,999	4,492	1.74%	0	0.00%
\$200,000 - \$299,999	9,562	3.69%	44	53.66%
\$300,000 - \$499,999	64,175	24.80%	36	43.90%
\$500,000 +	172,902	66.81%	0	0.00%

Source: United States Census Bureau, 2007; Contra Costa County Assessor's Office, 2009



## 5 conclusions

greatly from Rivermark respondents'. Table 5.1.1 compares the values of the Richmond Village single-family homes to the Contra Costa County totals. All of the Richmond Village homes are worth less than \$500,000, compared to only one-third of Contra Costa County homes. Additionally, nearly three-quarters of the Richmond Village respondents had low and very-low household incomes (Table 5.1.2). The remaining respondents had above-moderate incomes, suggesting that the development is experiencing a greater mix of income levels than Rivermark.

Of the 16 respondents, seven were single-parent households. A neighborhood with a significant portion of single-parent households potentially signifies a need for greater levels of connection between residents. Without a second parent, households may rely on neighbors to serve as an alternative source of emotional support that a second parent would normally fulfill.

Clearly in the Richmond Village neighborhood, where incomes are relatively more diverse, there is no evidence of a stronger sense of community amongst residents. Respondents complained of fast cars and violence taking place within the neighborhood, glimpses of the events that once haunted the former Easter Hill development:

**“**The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.

*Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities.*

*In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.*

*Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.*”

*“Cars drive by extremely fast, especially (on the) weekends.”  
“Ghetto kinds of acts like yelling, shouting in (the) street all the time.”  
“Police cars always in the area.”  
“A lot of criminal activity (here).”  
“Gun shooting at night.”  
“Unruly children, drugs seen (here).”  
-- Richmond Village Residents*

These residents' comments and questionnaire results indicate that despite the proximity of different housing types and values, many of the social issues that previously plagued the area remain intact. Attempting to build a strong and cohesive community with the built form is clearly not a viable solution for the most socially troubled neighborhoods.

## 5.2 rivermark + new urbanism

For a development bearing the title 'New Urbanist', one would expect the principles of New Urbanism to be infused within Rivermark. However, this study has determined that some principles are not fully adhered to, and others are altogether absent from the entire Rivermark development scheme. The *Charter* was conceived to serve as a template for New Urbanist projects, with each principle carrying equal importance. If designers are permitted to pick and choose which principles to incorporate in their projects, how can the integrity of the *Charter* be upheld? This study analyzed evidence of adherence to 15 of the 27 principles from the *Charter of the New Urbanism*. The results of the analysis follow below.

### • PEDESTRIAN ORIENTED

Many respondents felt safe as pedestrians throughout the site. Streets with homes facing the street increased pedestrians' perceptions of safety, even on streets with heavier traffic. This trend corresponds with Jacobs' (1961) "eyes on the street" concept, where physical elements that facilitate interaction between the public and private realms lead to an overall stronger sense of safety and

connection within a neighborhood. Respondents described some of the safest Rivermark areas as places that were familiar, well-populated by other pedestrians, aesthetically cohesive, well-lit and visible. Respondents also felt safer on streets that offered pedestrian infrastructure elements like crosswalks and sidewalks. Areas with an overwhelming car presence, a lack of people, and located outside of the Rivermark boundaries were usually perceived as unsafe for pedestrians.

#### MIXED USES •

Rivermark consists of attached and detached single-family homes, retail units, open spaces, and public facilities, however these uses are not remotely “mixed”. There are no buildings or blocks that contain a mixture of different uses, instead commercial, residential, and public facilities are clearly separated with firm boundaries. Due to Rivermark Plaza’s large scale architecture and retail only units, the place functions as a regional shopping center, rather than a small, neighborhood source of daily amenities. Stores are oriented away from the residential areas and towards Montague Expressway and a massive parking lot. Additionally, by segregating uses throughout all of Rivermark, areas that would normally function as public spaces turn into semi-private realms. The streets, sidewalks, and pocket-parks in the residential areas of Rivermark maintain a semi-private feel, even though these are technically public spaces.

#### TRADITIONAL COMMUNITY STRUCTURE •

Respondents overwhelmingly perceived Live Oak Park as the center of Rivermark, as evidenced by their cognitive maps. The maps also indicated that large roads were perceived as forms of barriers between different areas of Rivermark. Questionnaire respondents generally felt familiar with their neighbors, and tended to have more daily neighbor interactions when they knew more neighbors by first name. The households living within the detached housing units were known by first name more frequently than households living within attached units. Additionally, detached units located along enclosed streets were even more frequently known by first name. Detached home households tended to know the first names of other detached home households, while the attached home households tended to connect with all housing types.

These trends suggest that groups of detached housing units in Rivermark are more socially connected. However, these connections appear somewhat exclusive, extending only to other households residing within detached housing units. One explanation for this trend is that the physical characteristics of a detached home (front lawn, front porch, front driveway) facilitate interactions with neighbors that an attached home can not. Whether or not the existence of these connections indicates the presence of “sense of community” is unknown.

#### HOUSING AND HOUSEHOLD VARIETY •

Rivermark home values for 2008 were among some of the highest home values in Santa Clara County (United States Census Bureau, 2007). The lowest home values belonged mainly to attached housing units, or smaller detached units located along the edges of the development and out of walking distance of Rivermark Plaza, Don Callejon School, or the two main parks. Trends for detached home values suggest that homeowners equate a smaller, detached home that is walkable to a larger detached home that is less walkable.

Out of the 19 different floor plans that Rivermark offers, two contain optional studios. These studios (single bedrooms with a private, exterior entrance and bathroom) are cohesively integrated into the detached, single-family neighborhoods, offering housing options for smaller, lower-income households that might otherwise be unable to afford Rivermark. There is no data to suggest

“Neighborhoods should be compact, pedestrian-friendly, and mixed-use.”

Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes.

A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.”

“The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.”

We are committed to reestablishing the relationship between the art of building and the making of community...”

“Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.”



## 5 conclusions

*“Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas.”*

*The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.*

*Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.”*

*“The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.”*

*Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.”*

that these studios are utilized as rentals, however.

Economic information provided by respondents indicated that nearly all had incomes within the ‘above-moderate’ category, as determined by County standards. The remaining respondents not in the ‘above-moderate’ category had ‘moderate’ incomes and there were no respondents with ‘low’ or ‘very low’ incomes. In contrast to their homogeneous economic levels, Rivermark respondents were relatively ethnically diverse, with nearly equal numbers of Caucasian and Asian households.

Additionally, questionnaire results indicate a large percentage of two-parent families with children between the ages of zero and nine. While Rivermark displays diverse ethnicities and a range of generations, the same cannot be said for its residents’ incomes. With most homes above the County’s median home prices, and virtually all respondents reporting incomes well above the County average, Rivermark is not an affordable or economically diverse development.

### • COHESIVE URBAN DESIGN

Rivermark is an infill project located on a former brownfield site in the northeast corner of Santa Clara. The project inserted itself into existing Santa Clara infrastructure, and infused the area with a new, relatively dense population. This is a positive aspect of the project and shows adherence to the *Charter*.

When asked to draw a map of Rivermark, many respondents omitted the areas with attached housing units along Lick Mill Road. For respondents, these areas appear separate from their overarching concept of Rivermark. Most of these cognitive maps displayed the large, single use areas (residential, commercial, and open spaces), which indicates that respondents were easily able to locate and distinguish between these areas. In some cases respondents displayed signs of ownership by labeling areas on their Rivermark maps with possessive phrases. One respondent labeled Live Oak Park as the place where her children play. This trend suggests that respondents have made personal connections with some of the urban features of Rivermark, and have integrated them within their daily life.

While the aesthetics of the Rivermark homes are certainly cohesive (even identical in several cases), such homogenous characteristics send a strong message to outsiders. Spontaneity and individual expression is seemingly forbidden, and visitors realize immediately upon setting foot within the development that they have entered into a private and separate realm. Measuring the social functionality of the 17 different Rivermark floor plans revealed gaping disparities between the different plans. A lack of consistency between the plans indicates that the architect did not realize the importance of social function elements like porches, alley-facing garages, and street-oriented rooms. According to Jacobs’ (1961) standards, entire streets within Rivermark would be considered “blind” due to homes facing inward towards semi-private pedestrian paths.

### • TRANSPORTATION VARIETY

Results from the questionnaire revealed that most of the respondents’ trips took place within a ten-mile radius of Rivermark, and out of all trips, roughly two-thirds were by car and one-third was by foot. Unlike the other three categories (education, goods and services, leisure), work-related trips largely took place outside of the 5-mile radius. This trend suggests that while Rivermark supplies residents with an adequate supply of on-site education, goods and services, and leisure options, it lacks work-related options, forcing residents to make commutes throughout Silicon Valley and the greater San Francisco Bay Area. Additionally, nearly one-third of respondents’ households had two commuters

traveling to different cities, nearly always by car.

If Rivermark provided residents with access to alternative transportation options, these distant and numerous commutes would not be so troubling. However, when the car was substituted with public transit, most of the resulting trips were unfeasible due to exorbitant travel times and costs. Many of the trips required multiple transfers between light rail and bus lines, and had fares upwards of \$3.50 for a one-way trip. Rivermark's location within Santa Clara transit infrastructure is not conducive to public transit use, ultimately requiring residents to depend on their cars when traveling off site.

### ACCESSIBILITY •

Accessibility within and around Rivermark allows for a steady flow of goods and ideas. Overall, Rivermark's level of connection to the surrounding regional thoroughfares, of which many respondents relied on for various trips, is much lower in comparison to a traditional pre-war suburb. This lower level of connection not only indicates longer travel times for commuters, but also suggests that Rivermark is not as accessible for visitors accessing the site from the major thoroughfares. Accessibility within Rivermark was calculated using different ratios with the number of streets, intersections, and housing units as variables. Compared to the classic New Urbanist development, Seaside, Rivermark had a lower ratio of intersections per street, suggesting all types of transit have fewer crossing options and thus a lower level of accessibility. However, Rivermark averages more housing units per intersection than Seaside, indicating that although Rivermark has fewer intersections, each of these intersections serves a greater number of residents than Seaside's intersections.

*“Cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions.”*

This study determines that while Rivermark displays evidence of adherence to some of the Charter's principles, there is not a complete infusion of all the principles into the development's design scheme. While some areas of the site are pedestrian-friendly, walkable, and aesthetically cohesive, other areas are not. Rivermark does not provide residents with housing for a variety of income levels, and its ethnic diversity is likely a result of the overall population of Santa Clara County and not due to the design features of the development.

Rivermark does offer residential, commercial, and public facility uses, however these uses are distinctly separated. Additionally, there are no onsite office locations, which could have provided residents with walkable work options. Residents living within detached homes were more frequently known by their neighbors compared to the residents in attached homes, indicating a clear separation between the two types. These attached homes were mostly located along the edges of the development and were frequently omitted from respondents' hand-drawn maps of Rivermark.

Rivermark certainly serves as an alternative to current Silicon Valley housing developments by offering residents a nearby school, shopping center, and parks. However the development does not provide affordable housing, truly mixed walkable amenities, accessible alternative transit options, and shared public spaces that build connections between the street and the home. New Urbanism is essentially a brand of community development. Like any brand, it has established specific services that set it apart from other, competing brands. These services are guaranteed for all products bearing the brand name, allowing consumers to have a clear understanding of what their purchase entails. Rivermark does not display all of the services that a consumer would expect from the New Urbanism brand. The findings of this project show a discrepancy between the principles of the *Charter* and the empirical data collected from Rivermark.



# Sources

Association of Bay Area Governments. (2008). San Francisco Bay Area Housing Needs Plan 2007-2014. Regional Housing Needs Assessment, Association of Bay Area Governments.

Audirac, I., & Shermyen, A. H. (1994). An Evaluation of Neotraditional Design's Social Prescription: Postmodern Placebo or Remedy for Suburban Malaise? *Journal of Planning Education and Research*, 13, 161-173.

Baum, A., Davis, G. E., & Aiello, J. R. (1978). Crowding and neighborhood mediation of urban density. *Journal of Population*, 1, 266-279.

Bookout, L. W. (1992). Neotraditional Town Planning - A New Vision For the Suburbs? *Urban Land*, 51 (1), 20-26.

California Department of Toxic Substances Control. (2006, October). California Department of Toxic Substances Control. Retrieved May 2009, from Brownfields Reuse: <http://www.dtsc.ca.gov/SiteCleanup/Brownfields/>

Clapp, J. A. (1984). *The City, A Dictionary of Quotable Thought on Cities and Urban Life*. New Brunswick, New Jersey: Center for Urban Policy Research.

Congress for the New Urbanism. (1996). Charter of the New Urbanism. Retrieved 11 18, 2008, from Congress for the New Urbanism Web site: <http://www.cnu.org/charter>

Day, K. (2003). New Urbanism and the Challenges of Designing for Diversity. *Journal of Planning Education and Research*, 23, 83-95.

Dunham-Jones, E. (2000, Fall). Seventy-Five Percent. *Harvard Design Magazine* (12), pp. 1-9.

Fahey, V. (2006, July 9). Model Home: Richmond Village - It takes a Village. *San Francisco Chronicle*, pp. L-1.

Fischel, W. A. (2004). An economic history of zoning and a cure for its exclusionary effects. *Urban Studies*, 41 (2), 317-340.

Fulton, W., & Shigley, P. (2005). *Guide to California Planning*. Solano Press Books.

Haar, C. M., & Kayden, J. S. (1989, June). Zoning Today: A Time for Reckoning. *Planning*.

Hall, K. B., & Porterfield, G. A. (2001). *Community by Design - New Urbanism for Suburbs and Small Communities*. New York: McGraw-Hill.

Hess, P. M. (2008). Fronts and Backs: The Use of Streets, Yards, and Alleys in Toronto-Area New Urbanist Neighborhoods. *Journal of Planning Education and Research*, 196-212.

King, J. (2004, February 1). Suburban developments try to accomodate density. *San Francisco Chronicle*, pp. A-23.

Kopec, D. (2006). *Environmental Psychology for Design*. New York: Fairchild Publications, Inc.

Jacobs, Jane. (1961). *The Death and Life of Great American Cities*. New York: Vintage Books.

Langdon, Philip. (1988). A good place to live. *Atlantic Monthly*, 261 (3), pp. 39-60.

Lee, Robert G. (1972). The social definition of outdoor recreational places. In W. Burch Jr., N. Cheek Jr., & L. Taylor (Ed.), *Social behavior, natural resources, and the environment* (p. 68-84). New York: Harper & Row.

McAllister, S. (2009, May 13). Silicon Valley home foreclosures up in April, but default notices down. *San Jose Mercury News*, [http://www.mercurynews.com/ci\\_12351554](http://www.mercurynews.com/ci_12351554).

McMillan, D. W., & Chavis, D. M. (1986). Sense of Community: A Definition and Theory. *Journal of Community Psychology*, 14 (1), 6-23.

Salant, K. (2004, February 7). Buyers pay dearly to live near jobs. *Chicago Tribune*, p. 18.

Stea, D. (1974). Architecture in the Head: Cognitive Mapping. In J. Lang, C. Brunette, W. Moleski, D. Vachon, & A. Richard P. Dober (Ed.), *Designing for Human Behavior: Architecture and the Behavioral Sciences* (p. 1974). Stroudsburg, Pennsylvania: Dowden, Hutchinson & Ross, Inc.

Stromberg, M. (2004). Plans and Projects: Rivermark. *Professional Builder*, 69 (3), 24-26.

Talen, E. (1998). Sense of Community and Neighborhood Form: An Assessment of the Social Doctrine of New Urbanism. *Urban Studies*, 36 (8), 1361-1379.

Unger, D. G., & Wandersman, A. (1985). The Importance of Neighbors: The Social, Cognitive, and Affective Components of Neighboring. *American Journal of Community Psychology*, 13 (2), 139-169.

United States Census Bureau. (2005-2007). *American Community Survey*. United States Department of Commerce.

United States Department of Housing and Urban Development. (n.d.). *Homes and Communities* - U.S. Department of Housing and Urban Development. Retrieved May 2009, from HOPE VI - Public and Indian Housing - HUD: <http://www.hud.gov/offices/pih/programs/ph/hope6/>

Weinstein, D. (2003, August 22). Easter Hill in need of resurrection - Innovative Richmond project to be torn down, replaced by new one. *San Francisco Chronicle*, pp. E-1.

Wentling, J. (1988, December). The Advent of Traditionalism in Community Planning. *Land Development*.

Zeisel, J. (2006). *Inquiry by Design*. New York: W. W. Norton & Company

# appendix

- 1 introductory questionnaire letters a2
- 2 rivermark questionnaire a3
- 3 richmond village questionnaire a5
- 4 rivermark workshop flyer a7
- 5 rivermark workshop activities a8

Dear Rivermark Neighbor,

**You are invited to share your thoughts about your community!**

My name is Annie Ryan and I am a fourth-year student at Cal Poly State University. I am researching how people live within pedestrian-friendly communities, and I chose to study the Rivermark community because it is an award-winning development that provides a mix of residential and commercial uses.

As a resident of Rivermark, your input is very valuable to my study. I have enclosed a questionnaire for you to complete that should take **no longer than 15 minutes**. You may skip any questions you do not wish to answer, and I will compile all results anonymously, to protect your privacy. Please mail your completed questionnaire in the pre-stamped, addressed envelope by Monday, May 4, 2009.

Thank you for taking the time to read this letter and complete the enclosed questionnaire. Your participation in my study is truly appreciated!

Sincerely,

  
**Annie Ryan**  
Class of 2009  
City & Regional Planning Department  
Cal Poly State University



Dear Richmond Village Neighbor,

**You are invited to share your thoughts about your community!**

My name is Annie Ryan and I am a fourth-year student at Cal Poly State University. I am researching how people live within pedestrian-friendly communities, and I chose to study the Richmond Village community because it is an award-winning redevelopment that provides a variety of housing types.

As a resident of Richmond Village, your input is very valuable to my study. I have enclosed a questionnaire for you to complete that should take **no longer than 15 minutes**. You may skip any questions you do not wish to answer, and I will compile all results anonymously, to protect your privacy. Please mail your completed questionnaire in the pre-stamped, addressed envelope by Monday, May 4, 2009.

Thank you for taking the time to read this letter and complete the enclosed questionnaire. Your participation in my study is truly appreciated!

Sincerely,

  
**Annie Ryan**  
Class of 2009  
City & Regional Planning Department  
Cal Poly State University

Questions or concerns regarding the manner in which this study is conducted?

Please contact Dr. Steve Davis, Chair of the Cal Poly Human Subjects Committee at (805) 756-2754.

**CAL POLY**



1) Please complete the following background information.

# of People Living in Your House (fill-in one number per age group box)

0-9 yrs. 10-19 yrs. 20-29 yrs. 30-39 yrs. 40-49 yrs. 50-59 yrs. 60 yrs. and up

\_\_\_\_\_

**Ethnicity** (write all that apply)

Annual Household Income (circle one)

	less than \$38,425	\$38,425 - \$61,480	\$61,480 - \$92,220	more than \$92,220
Number of respondents	7	10	10	10
Percentage of total sample	14%	20%	20%	20%

2) Please mark with a **BLUE** dot the areas in your community where you feel safe as a pedestrian on the map to the left.

3) Why do these areas make you feel safe? (please list below)


4) Please mark with a **RED** dot the areas in your community where you feel unsafe as a pedestrian on the map to the left.

5) Why do these areas make you feel unsafe? (please list below)

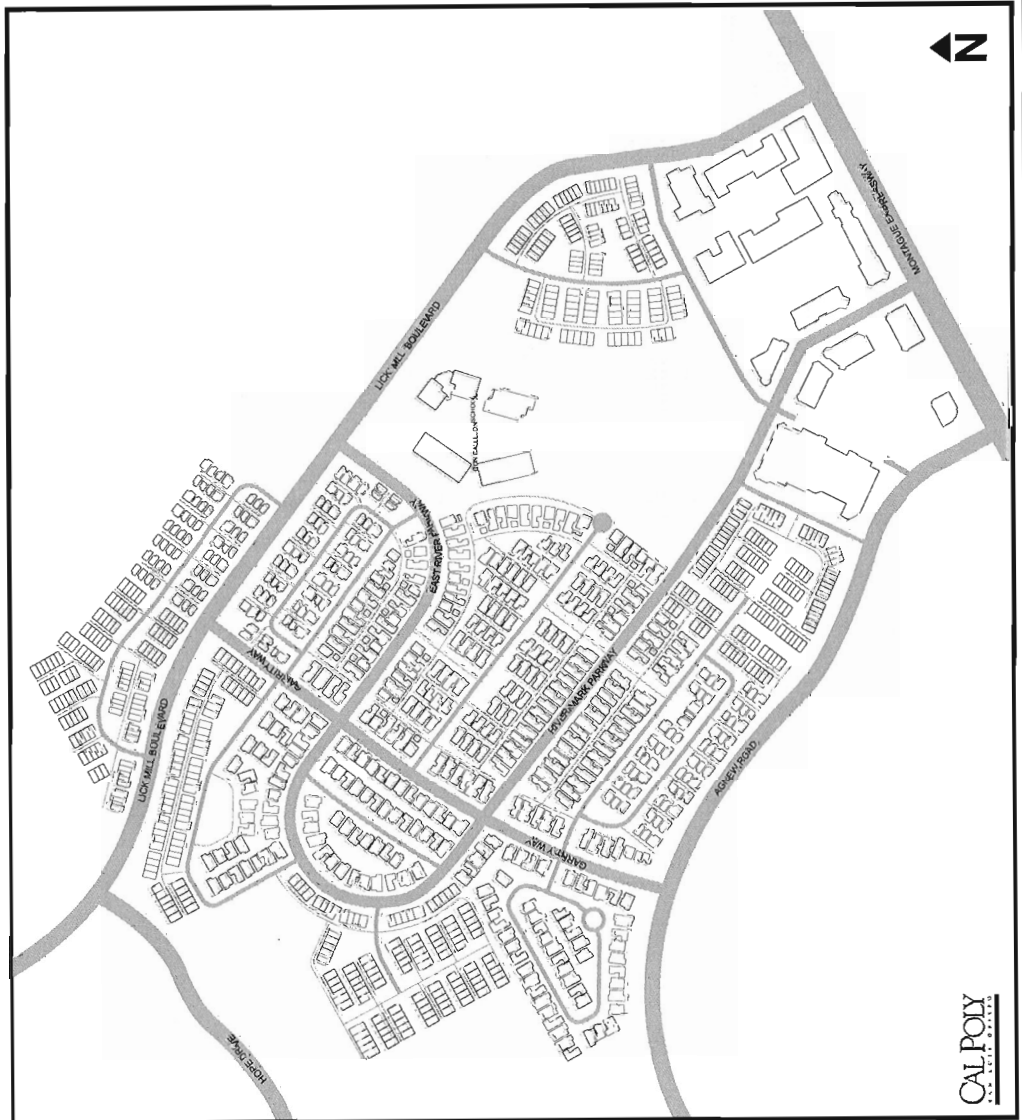

6) How many of your neighbors do you know by name?

7) Please mark with a **GREEN** dot where in your community these neighbors live on the map to the left.

6) How many interactions do you have with your neighbors on a typical day? (for example, saying "good morning" on your way to work) \_\_\_\_\_

9) Please circle below your overall level of familiarity with your neighbors.

	Very Unfamiliar	Unfamiliar	Unsure	Familiar	Very Familiar
--	--------------------	------------	--------	----------	------------------



# Santa Clara, CA



CALPOLY  
CALIFORNIA POLYMER INSTITUTE

0 .125 .25 .5 .75 1  
Miles

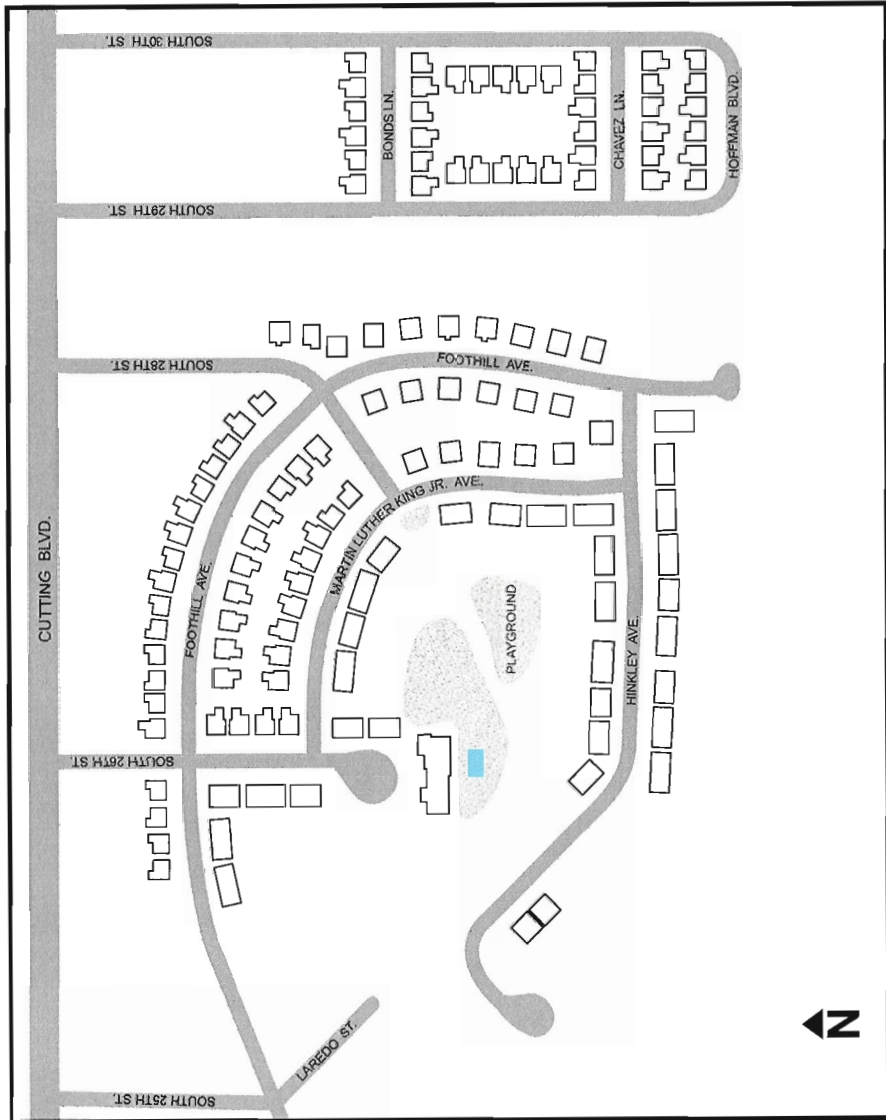
1) Please indicate below all trips that members of your household make on a typical day. Try to be as specific as possible when indicating the locations. Please choose from the following list of transport types:

- Car
- Carpool
- Bike
- Walk
- Skateboard
- Bus
- Other Public Transit (write the specific public transit type on line below)
- Other (write the specific transit type on the line below)

	Trip Origin	Trip Destination	Transport Type
A.	Home	Agnew School	carpool
B.			
C.			
D.			
E.			
F.			
G.			
H.			
I.			
J.			
K.			
L.			
M.			
N.			
O.			
P.			
Q.			

2) Please mark with a **GREEN** dot the location of each trip destination on the map to the left. If your destination is not within the map provided, place a green dot in the margins and write the name of the destination beside it.

# Richmond Village Richmond, CA



1) Please complete the following background information.

# of People Living in Your House (fill-in one number per age group box)

0-9 yrs.  10-19 yrs.  20-29 yrs.  30-39 yrs.  40-49 yrs.  50-59 yrs.  60 yrs. and up

Ethnicity (write all that apply) \_\_\_\_\_

Annual Household Income (circle one)

less than \$25,173    \$25,173 - \$40,276    \$40,276 - \$60,415    more than \$60,415

2) Please mark with a **BLUE** dot the areas in your community where you feel safe as a pedestrian on the map to the left.

3) Why do these areas make you feel safe? (please list below)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4) Please mark with a **RED** dot the areas in your community where you feel unsafe as a pedestrian on the map to the left.

5) Why do these areas make you feel unsafe? (please list below)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6) How many of your neighbors do you know by name? \_\_\_\_\_

7) Please mark with a **GREEN** dot where in your community these neighbors live on the map to the left.

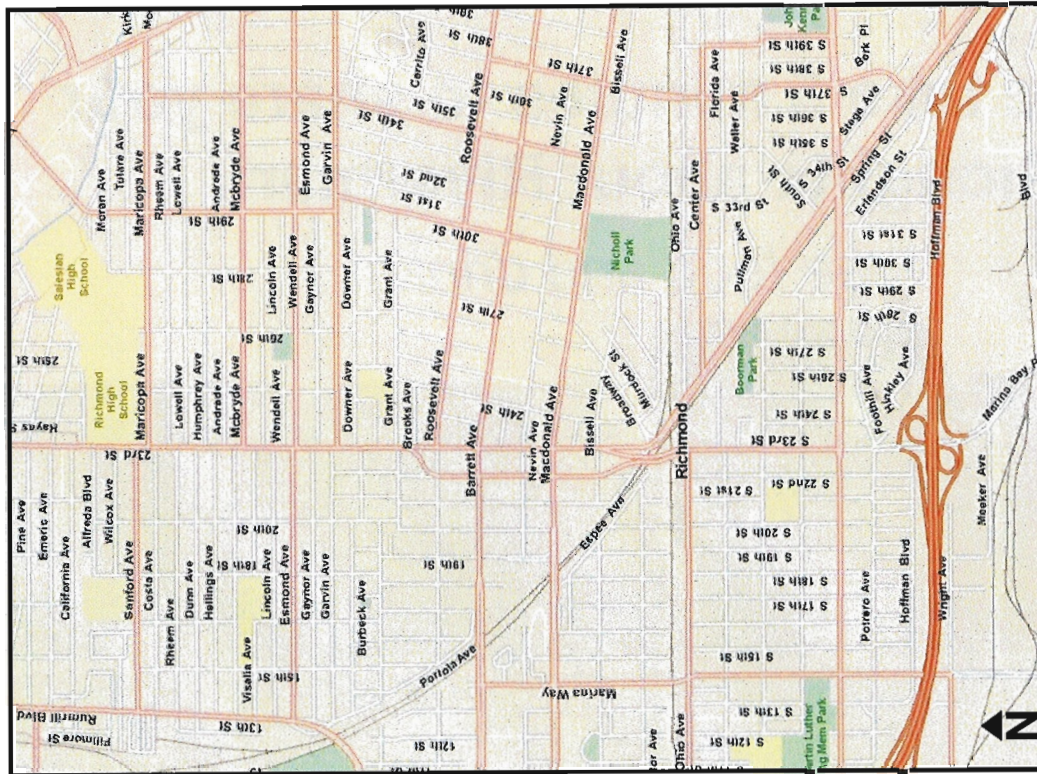
8) How many interactions do you have with your neighbors on a typical day? (for example, saying "good morning" on your way to work) \_\_\_\_\_

9) Please circle below your overall level of familiarity with your neighbors.

Very Unfamiliar	Unfamiliar	Unsure	Familiar	Very Familiar
--------------------	------------	--------	----------	------------------



# Richmond, CA



CAL POLY  
SCHOOL OF DISTANCE EDUCATION

0 .125 .25 .5 .75 1 Miles

1) Please indicate below all trips that members of your household make on a typical day. Try to be as specific as possible when indicating the locations. Please choose from the following list of transport types:

- Car
- Carpool
- Bike
- Walk
- Skateboard
- Bus
- Other Public Transit (write the specific public transit type on line below)
- Other (write the specific transit type on the line below)

	Trip Origin	Trip Destination	Transport Type
A.	Home	Agnew School	carpool
B.			
C.			
D.			
E.			
F.			
G.			
H.			
I.			
J.			
K.			
L.			
M.			
N.			
O.			
P.			
Q.			

2) Please mark with a **GREEN** dot the location of each trip destination on the map to the left. If your destination is not within the map provided, place a green dot in the margins and write the name of the destination beside it.



Where do you spend your time in Rivermark?  
Where do you feel most safe?  
What does Rivermark mean to you?

# RIVERMARK NEIGHBORS!

Where do you like to walk?  
What do you like about the parks?

**and what would you change...?**

A90

**Please take 5 minutes to share your  
thoughts about Rivermark**

*Free food and drinks!*



1

## What does Rivermark look like to you?

In the space below draw a simple map of your community. Do not worry about accuracy or details. Label any elements you wish, such as your home, your friends homes, your favorite stores, etc.

2

## Where are things happening in Rivermark?

On the map below please label spots where you like to spend time, and describe what you like to do while you are there. Some examples include places to sit, places to walk, places to meet with friends, or places to play. You may also label spots that you do not enjoy or try to avoid. On the back of this paper please briefly describe the physical characteristics of the spots you have labeled below.



A91

3

## Are there sub-communities in Rivermark?

On the map below please draw borders around any sub-communities you have noticed in Rivermark.



