

# THE PHOENIX AREA SOCIAL SURVEY

MARCH 2003



Community and Environment in a Desert Metropolis  
Summary Results of the Pilot Study

Central Arizona — Phoenix Long-Term Ecological Research Contribution No. 2

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SOCIAL SURVEY

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## ABOUT THE PHOENIX AREA SOCIAL SURVEY

The Phoenix Area Social Survey (PASS) is an interdisciplinary research collaboration among faculty and staff of Arizona State University. PASS began in 2000, at the close of a decade of rapid population growth, urban development, and economic change in the Phoenix metropolitan area. Its intellectual goals, explicitly shaped by these dynamics, are as follows:

- Examine how communities form and how they work in a rapidly growing, low-density urban setting characterized by high rates of in- and out-migration and frequent residential mobility within the metropolis.
- Study the interaction between rapidly growing human communities and the natural environment.

Neighborhoods, characterized by sharp inequalities in social, economic, and ecological circumstances, are the most salient environmental context that shape people's values, attitudes, and behaviors in an urban setting. Neighborhoods are significant actors because they can organize and focus residents' energies on issues of local concern. For these reasons, PASS was designed to be a survey of neighborhoods that captures the spatial variation in human attributes that make up the social fabric of the Phoenix area.

PASS respondents in the pilot survey were selected from an area probability sample of households within selected census block groups. They were interviewed by telephone or in person. Block groups were used to define the boundaries of neighborhoods because their residents are relatively homogenous in demographic and social characteristics and because block groups can be readily linked to the census and other sources of spatially referenced data. In order to coordinate PASS data with ecological measures gathered by the Central Arizona–Phoenix Long-Term Ecological Research Project, which is run by the ASU Center for Environmental Studies, the CAP LTER Survey 200 ecological monitoring sites were used as the sampling frame for PASS, selecting neighborhoods from among the sites located in residential areas in the city of Phoenix. PASS was administered by the Survey Research Laboratory in the Department of Sociology. A more detailed description of the PASS methodology is in Appendix A.

This is a report on a pilot study of six neighborhoods located in the city of Phoenix. PASS is envisioned as an institutionalized long-term project that will produce data on many neighborhoods in the Phoenix area, enlarging the work begun in this pilot and leading to collaborations with physical and life scientists. One interdisciplinary project to study neighborhood microclimates began in September 2002 with a grant from the National Science Foundation.

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The PASS pilot project was possible because of financial support provided by the Office of the Vice Provost for Research, the College of Liberal Arts and Sciences,<sup>1</sup> the Center for Environmental Studies (CES),<sup>2</sup> and the Department of Sociology. We thank Jonathan Fink, Milton Sommerfeld, Charles Redman, and Verna Keith for investing in this research.

We are indebted to the staff of the Survey Research Laboratory (SRL), under the direction of Shapard Wolf, for working with us to design and administer the survey. Thanks to Bill Edwards and JoAnne Valdenegro for the energy, hours, and high quality effort they devoted to running this project. Thanks also to the student interviewers Erick Martinez and Juan Covarrubia.

Graduate students enrolled in the Sociology Department's fall 2001 Survey Research Practicum (SOC 501) enumerated households and recruited respondents door-to-door. We hope they learned some of the ropes of survey research. Students enrolled in the spring 2002 Survey Research Practicum had first crack at analyzing the PASS data and presented papers at an end-of-semester colloquium. A succession of three sociology graduate student methodologists, training at the SRL, had the monumental task of coding open-end responses and cleaning the data. We are indebted to Chunyan Song, Jian (Slater) Ye, and Andrea Casir for many hours of meticulous work.

During summer 2002, we were fortunate to have the assistance of Danielle Zeigler from Fort Hays State University in Kansas. Danielle was supported by a National Science Foundation Research Experience for Undergraduates grant to CES. Thanks to Danielle and to CES for supporting her.

Finally we are grateful to Brenda Shears and David Pijawka, two supporters who facilitated PASS at critical junctures in the research and publication process.

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2. This material is based upon work supported in part by the National Science Foundation under Grant No. DEB 9714833, Central Arizona–Phoenix Long-Term Ecological Research (CAP LTER). Any opinions, findings, and conclusions or recommendation expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation (NSF).

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# INTRODUCTION

*"I recognized that environment is not something distant and inaccessible to most Americans. It is not an issue that can be separated out and dealt with on its own. The environment is our neighborhood, our community. It is our quality of life . . ."*<sup>1</sup>

Robert F. Kennedy Jr.

Environment is not a place people visit or endanger or preserve, Kennedy tells us, but it is where people live and how people live. Communities, social lives, values, and behaviors must be understood in order to comprehend the place of humans in the environment.

Such matters are vitally important to the Phoenix metropolitan area, for decades one of the fastest-growing places in the country. Pristine desert and farmland become residential development at a staggering rate, accompanied by high levels of energy consumption, water use and waste production. Two-thirds of the area's population growth results from net migration, bringing people of diverse ethnic and social backgrounds together in a fragile landscape. Phoenix stayed smaller for longer, grew more recently and more rapidly, and now has more population turnover and a lower proportion of long-term residents than most other urban areas. Under such strained circumstances, how does community form and how does it function?

American citizens, social analysts, and commentators are more concerned than ever about forming and sustaining community. Some analysts argue that communal sentiment and civic participation are in decline. Others suggest that community has become freed from the confines of physical space and now exists in cyberspace. Still others suggest that

increasing class and ethnic segregation allow more privileged groups to create fortress neighborhoods that weaken their ties to the broader society. But all agree that strong, engaged communities are desirable places to live because they offer residents a sense of belonging and a feeling of efficacy. For this reason, the formation, character, and functioning of communities are at the center of this research. How do people understand and appreciate their built and natural environments? How do communities acquire social capital, internal attachments, and external resources to affect change? On which issues, and with what effects, do they choose to spend that capital?

In brief, community forms rapidly despite the high rate of migration, social diversity, and flux of the Phoenix area. People develop a sense of attachment at several geographic scales. They have clear ideas about what they value in their natural and built environments, with some striking agreement across socioeconomic strata. People also share deep concern about environmental conditions, particularly water quality and supply, industrial chemical releases, and air pollution. But their desires and concerns are not always in accord, and the disagreements seem paradoxical or illogical. More affluent neighborhoods develop more social capital, which in turn makes them more successful in solving the problems they face.



## Summary of Findings

The findings are divided into five sections: mobility, community sentiment, urban landscape, environmental concerns, and the relationship between neighborhood social capital and problem solving. The concept of “social capital” is adapted to study resiliency in neighborhood social systems. Each section

interweaves analyses of PASS responses with data about the Phoenix area acquired from other sources. These analyses contain new insights into the thoughts and lives of Valley residents.<sup>2</sup> The key findings for each section are summarized below.

### Mobility Profile

The social structure of the Valley is under construction. Although the majority of respondents have lived here 10 years or more, one of five respondents did not live in Greater Phoenix five years ago. New migrants who move to the urban fringe are typically well-educated, middle-aged professionals, whereas new migrants to the urban core are often young Latinos who are monolingual Spanish speakers.

The social structure of neighborhoods is in flux because Valley residents move frequently.

Two-thirds of the PASS sample have lived in their present homes less than five years. Most people have had the comparative experience of living in two or more neighborhoods in the Phoenix area, with many moving in order to buy a home or to acquire a larger home. In spite of many new arrivals and short average residential tenure, almost everyone says they plan to stay in Greater Phoenix, unless a job opportunity tempts them to leave.

### Community Sentiment

A large majority of PASS respondents, even relative newcomers, enjoy a sense of community that is rooted in geographic places such as the state, city, Valley, and neighborhood. Perhaps in keeping with their propensity for local residential mobility, more people feel a

sense of belonging in the Valley than in their neighborhoods. Respondents in lower-income core neighborhoods, who are mostly Latino, display the highest rates of community sentiment. But even in affluent white neighborhoods on the urban fringe, a majority express

community sentiment on a variety of geographic scales.

Emotional attachment to neighborhood is high among respondents, but at the same time they also are quite aware of their neighborhood's place in the socioeconomic hierarchy.

The rich perceive that where they live is better than other places and the poor know their neighborhoods are worse. People who rate their neighborhood as an "excellent" place to live feel a stronger emotional attachment to it.

## **The Changing Urban Landscape**

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A slight majority of respondents believe that more pristine-desert lands should be preserved in the Valley. Paradoxically, however, half the respondents also think housing density in the Valley is too high. Only one of five respondents is comfortable with the status quo, saying that both housing density and amount of land preserved are "about right." Inhabitants of the urban fringe are by far the most likely to say they have too little space.

The appeal of greenery in residential landscaping is nearly universal among desert dwellers, although the style of landscape design varies by social class. Desert and oasis

landscaping are common in the upper-income fringe neighborhoods, whereas the middle-class is more evenly divided between desert and grass. The lower-income core neighborhoods have the most eclectic landscaping, including 30 percent who have either pavement or bare dirt. All income levels have in common a desire for more greenery—either grass or oasis landscaping—than they currently have. More than 60 percent of respondents think they have too few water features (fountains or lakes) in their neighborhoods and nearly half think they have too few neighborhood parks.

## **Local Environmental Concerns and Stewardship**

---

PASS survey respondents express many concerns about the local environment. More than 40 percent of the respondents are very concerned about the future water supply, drinking water safety, accidental releases of industrial chemicals, air pollution, allergens, and soil and groundwater contamination in the Valley. Respondents in lower-income neighborhoods are much more sensitive to environmental degradation in the Valley and in their own neighborhoods than those who are more prosperous, despite the common belief that only affluent people possess an environmental ethic. Affluent respondents think they are environmentally privileged compared to others: they believe their neighborhood's air is cleaner, their groundwater is less contaminated, and

their water supply is less threatened than the rest of the Valley.

Despite these environmental concerns, respondents' beliefs and behaviors exhibit apparent paradoxes. For example, the greatest environmental concern is the future water supply for the Valley, yet few respondents are concerned about the amount of water consumed in their neighborhood. Another inconsistency is that respondents in lower-income core neighborhoods, who report more concern about the environment than others, are four times more likely than upper- or middle-income respondents to say that environmental conditions in the Valley and in their neighborhoods are improving.



## Social Capital and Neighborhood Resilience

In the mobile and fast-paced Valley, concern often is expressed that neighborhoods do not have a chance to develop the social ties and cohesiveness (the ingredients of social “capital”) that make them good places to live and responsive to local environmental concerns. In most neighborhoods, however, newcomers rather quickly form social ties and social cohesion. Within two years of moving in, the average social cohesion score has peaked, and within four years new residents have social ties as strong as the longest-term residents. Measures of social capital are highly correlated with type of neighborhood: upper-income fringe neighborhoods report having the most social capital, while the poorest neighborhood has almost none, and the middle-income suburban neighborhoods fall in between.

Social capital is a resource that enables people to solve the environmental problems confronting their neighborhoods. Indeed, the more social capital neighborhoods have, the more control people say they have over what happens in their neighborhood, the more problem-solving behaviors they display, and the more environmental problems they resolve.

To some extent, all PASS neighborhoods share the same three kinds of problems that

threaten their quality of life: toxins in the environment, development, and urban troubles (e.g., noise, litter, vandals, transients, and noise or fumes from roads). The lower-income core neighborhoods confront significantly more problems with environmental toxins (such as hazardous waste sites and industrial emissions). Yet residents of these neighborhoods solve few of their problems because they lack social capital. Higher-income fringe neighborhoods confront significantly more problems that accompany development (e.g., construction of roads and new homes, school boundaries, and flight paths), but they solve more of their problems because they have social capital.

One cannot read these findings without an expanded awareness of the steep inequalities between the social, natural, and built environments of communities in Greater Phoenix. Divided by location, income, ethnicity, language, and social capital, the challenge in forging a collective future for this area is to identify and pursue the common good. This report begins to assess the mosaic of neighborhoods in the Valley but much more remains to be learned.

1. John Cronin and Robert F. Kennedy Jr. 1997. *The Riverkeepers*. New York: Scribner.
2. The “Valley” refers to the Phoenix metropolitan area. It was defined for respondents as “Chandler to Cave Creek and Mesa to Buckeye.” “Greater Phoenix” is used synonymously with the Valley. For census data and other statistics, these terms refer to Maricopa County.

# CHAPTER 1

## THE PASS NEIGHBORHOODS

The PASS pilot study interviewed 217 residents of the city of Phoenix, nearly equally distributed among six neighborhoods (see Appendix A for details of the survey methodology). The selection of six pilot neighborhoods was governed by specific criteria:

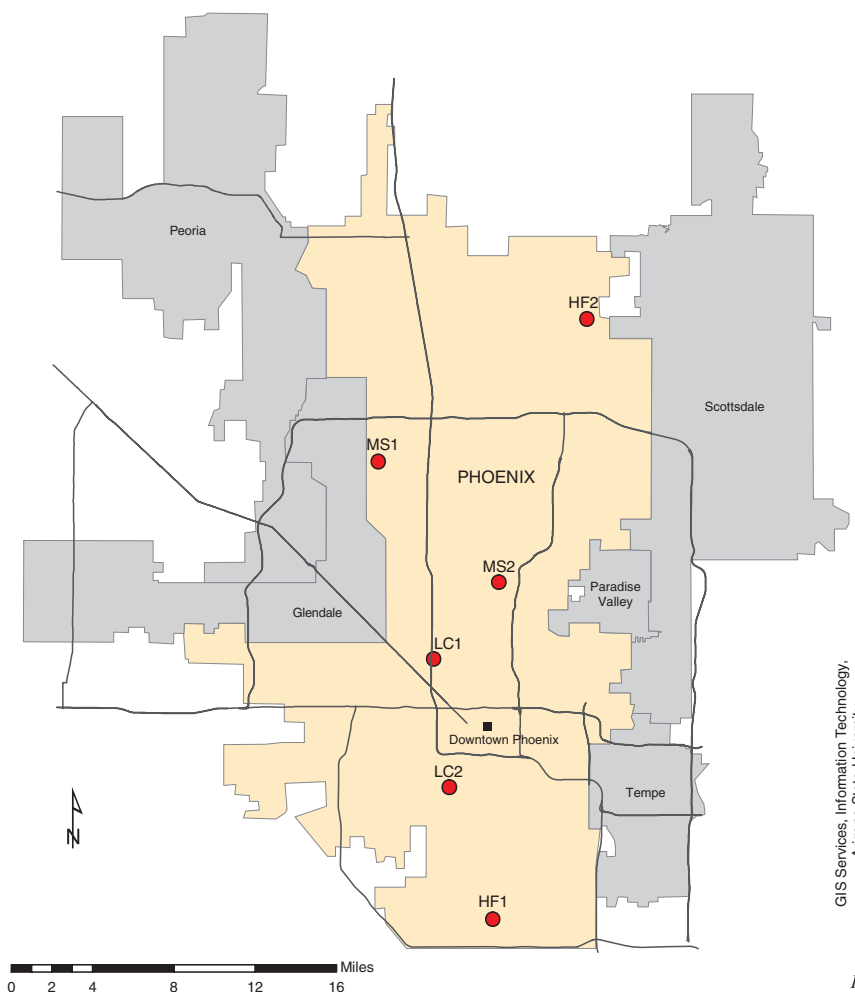
1. Each neighborhood encompasses a CAP LTER Survey 200 long-term monitoring site so that remotely sensed, GIS, and ecological field data can be associated with PASS survey responses.
2. Census block groups define neighborhood boundaries so population data are accessible and comparable.
3. So that respondents had a common reference for municipal services and a uniform

government structure, all neighborhoods are located in the city of Phoenix.

4. Neighborhoods represent different types of urban communities based on location, age of housing, and household income:
  - two newer Higher-income neighborhoods at the Fringe of the urban area (labeled as HF1 and HF2)
  - two older Middle-income Suburban neighborhoods located between the core and the fringe (labeled MS1 and MS2)
  - two older Lower-income Core neighborhoods less than five miles from the city center at Central Avenue and Washington Street (labeled LC1 and LC2)

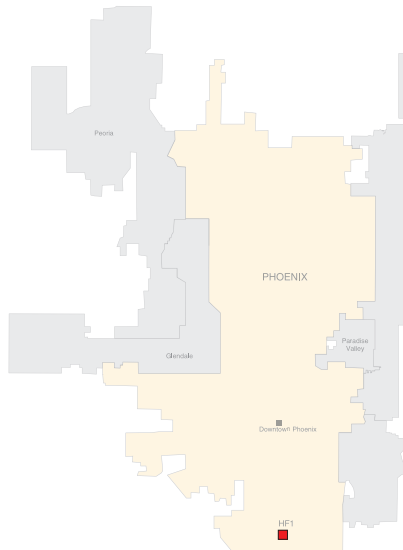
**Figure 1.1**

MAP OF THE PASS PILOT NEIGHBORHOODS



# HIGHER-INCOME FRINGE NEIGHBORHOODS

## Neighborhood HF1 (LTER Survey Point U21)



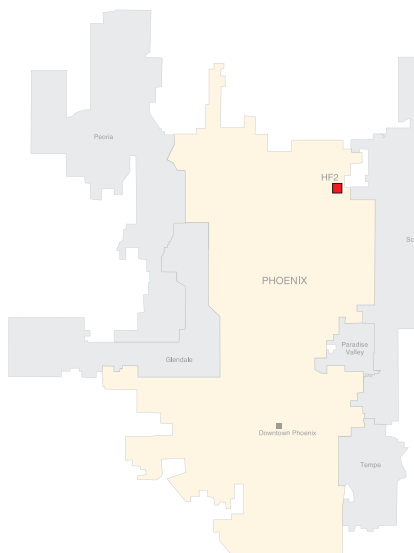
### PASS Survey Results

Median age of respondents	47
Non-Hispanic White	84%
Hispanic	3%
Educational attainment (most common response)	35% Bachelor's degree
Homeownership	97%
Mean number of persons per household	3.6
Median household income	\$118,000

Located at the urban area's southern fringe, adjacent to the southern border of South Mountain Park at around the 14th Street alignment, this neighborhood consists of recently built (96 percent of dwellings were constructed in the 1990s), large, two-story, single-family houses. They are of frame construction with stucco walls and tile roofs. Frontyard landscaping resembles the oasis type.

This neighborhood's demographics indicate that most of the residents are highly educated (41 percent have postbaccalaureate education). The median household income is high, and nearly everyone owns their home. Because of recent development and mountain slopes that cannot be built upon, the census block group covers more than two square miles; thus, only a portion of the block group was sampled.

## Neighborhood HF2 (LTER Survey Point W9)



### PASS Survey Results

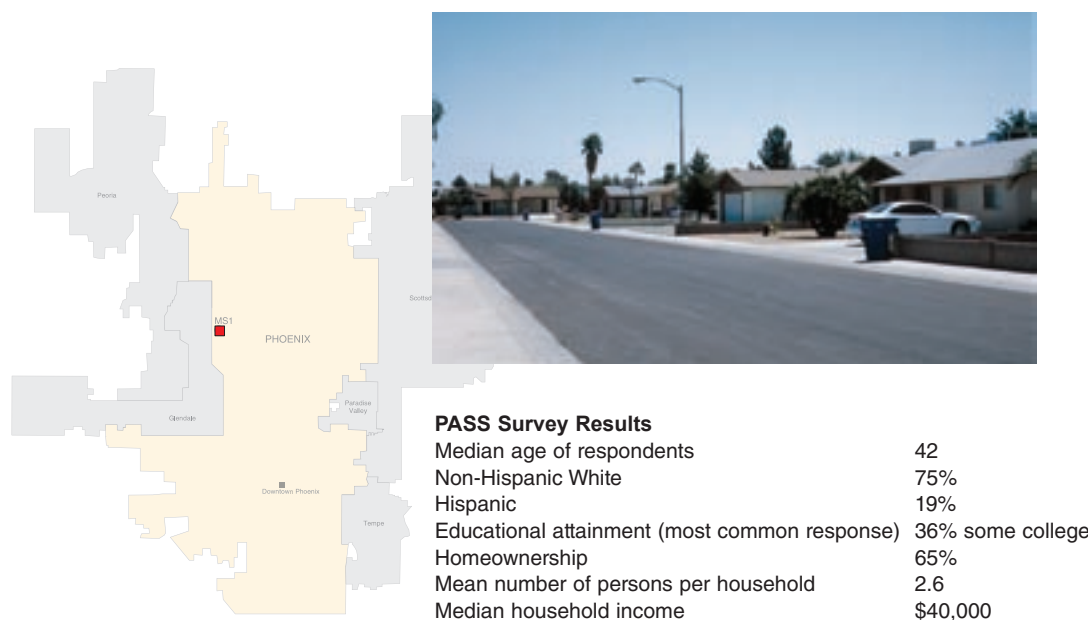
Median age of respondents	42
Non-Hispanic White	97%
Hispanic	0%
Educational attainment (most common response)	24% Bachelor's degree
Homeownership	100%
Mean number of persons per household	3.6
Median household income	\$120,000

This neighborhood is located at the northern fringe of the urban area, southwest of the intersection of Dynamite Boulevard and Tatum Boulevard. Considerable open land remains in the vicinity. The scattered development resulted in a block group area of more than six square miles; thus only a portion of the census block group was sampled. The median household income of survey respondents is the highest of the six neighborhoods. All are homeowners. Residents are highly educated and nearly all are non-Hispanic Whites. With the typical respondent being middle-aged and living in a single-family dwelling, average household size is relatively high at 3.6 people.

Most of the residences are recently built (as of the 2000 census, 94 percent were constructed during the 1990s), single-family, two-story structures. They are of frame construction with stucco walls and tile roofs. Frontyard landscaping is categorized as “oasis:” desert species dominate, but the density of the plantings exceeds that in the natural desert. The neighborhood includes a distinctively different section of mostly older homes on large lots zoned for livestock. These “horse” properties generally include a one-story concrete block home with asphalt roofs and out-buildings such as sheds. Natural landscaping predominates.

## MIDDLE-INCOME SUBURBAN NEIGHBORHOODS

### Neighborhood MS1 (LTER Survey Point S11)

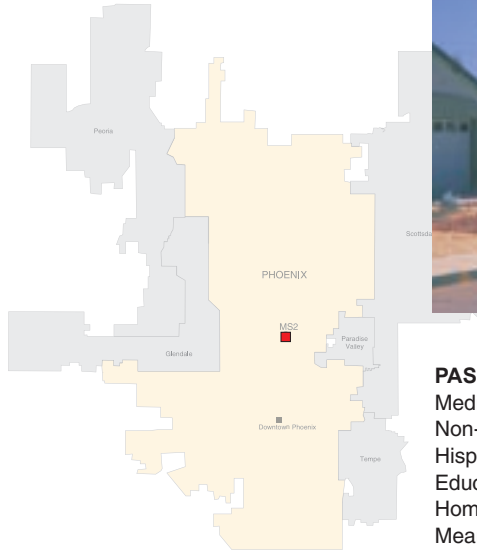


Though located at a substantial distance from downtown Phoenix near Bell Road and 51st Avenue, this neighborhood consists of older properties: 80 percent were built during the 1970s, with the rest during the 1980s. All of the residences are one story, but the construction type is a mix of concrete block and frame, covered either by stucco or brick. Most of the properties have grass in the front yard, some with large deciduous trees, but some have desert landscaping. Citrus trees also are common.

According to the 2000 census, the 1999 median household income of this neighbor-

hood was \$55,000, somewhat above the Maricopa County median of \$45,000. However, respondents reported lower incomes, a median of just \$40,000. The median age of respondents is similar to that of the two high-income neighborhoods, but household size, homeownership rate, and educational attainment all are lower. The racial/ethnic makeup of the residents is not much different from that of the entire county (according to the 2000 census, 25 percent of the county's residents were Hispanic and 66 percent were non-Hispanic White).

## Neighborhood MS2 (LTER Survey Point V14)



### PASS Survey Results

Median age of respondents	40
Non-Hispanic White	69%
Hispanic	22%
Educational attainment (most common response)	46% some college
Homeownership	89%
Mean number of persons per household	3.8
Median household income	\$40,000

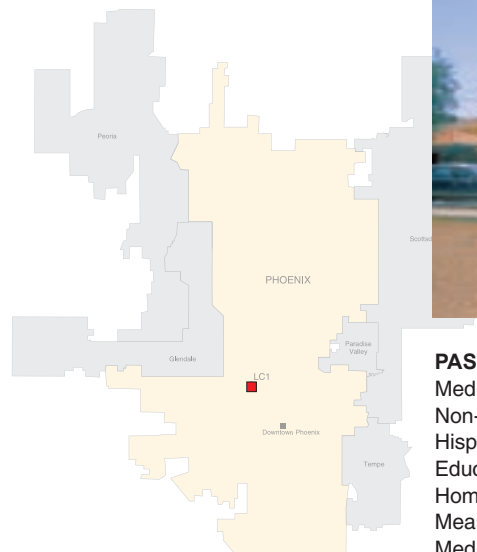
Compared to MS1, residents of this neighborhood at Northern Avenue and 12th Street are a little younger and more educated. They have larger household sizes, and more are homeowners. Median income, however, is identical and the racial/ethnic mix is similar.

The majority of the housing stock in this neighborhood was built prior to 1980, but a quarter was constructed during the 1990s. The newer construction is in the eastern por-

tion of the block group (east of 14th Street) and consists of apartments, which were excluded from the sampling. The western portion consists of older single-family dwellings of one story, built with concrete block and asphalt shingle roofing. Compared to MS1, landscaping is less uniform with more desert. Many lots include large deciduous or coniferous trees. A dry streambed in a public easement adds more vegetation to the neighborhood.

## LOWER-INCOME CORE NEIGHBORHOODS

### Neighborhood LC1 (LTER Survey Point T15)



### PASS Survey Results

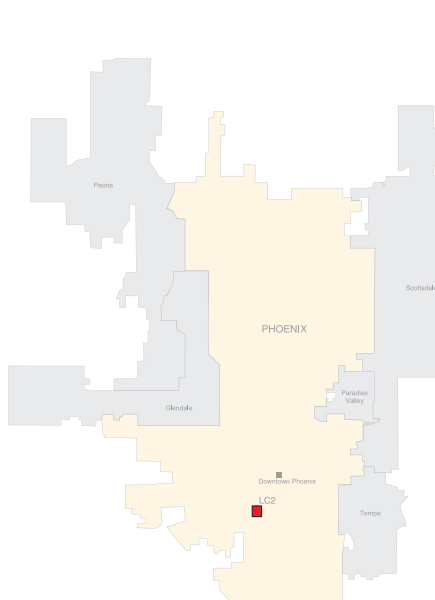
Median age of respondents	32
Non-Hispanic White	10%
Hispanic	87%
Educational attainment (most common response)	47% < high school
Homeownership	10%
Mean number of persons per household	4.6
Median household income	\$20,000

The characteristics of this neighborhood at Indian School Road and the Black Canyon Freeway are the most extreme of the six neighborhoods on most measures: the lowest income, the least educational attainment, the youngest median age, the highest proportion Hispanic, and a very low homeownership rate. Average household size is high.

All of the residential structures in this neighborhood were built prior to 1990, with 75 percent constructed before 1980. The block group is a mix of one-story single-family (both

attached and detached units) and three-story multifamily dwelling units. The one-story homes are built of concrete block while the apartments are stick built with stucco and a mix of tile and asphalt shingles. Some of the units are surrounded by grass, but others have no vegetation and exposed soil. Some large trees exist, but hardly any shrubs are present. Vacant lots remain, and noise walls along the adjoining freeway are not continuous.

## Neighborhood LC2 (LTER Survey Point U18)



### PASS Survey Results

Median age of respondents	36
Non-Hispanic White	11%
Hispanic	84%
Educational attainment (most common response)	37% < high school
Homeownership	82%
Mean number of persons per household	5.1
Median household income	\$30,000

Houses in this neighborhood at Broadway Road and 19th Avenue are small, but lot sizes are relatively large. One-story single-family dwellings built prior to 1970 dominate. Built with concrete blocks and asphalt shingle roofs, many of the houses have evaporative coolers rather than air conditioning. Landscaping is varied, with a mix of desert and non-native deciduous trees. Grass is sporadic, and some lots have exposed soil. Most of the front yards are fenced.

This is a highly Hispanic neighborhood with high homeownership (82 percent v. the county figure of 68 percent from the 2000 census). Incomes are well below the county norm, and average household size is quite high. The slightly younger than average residents have low educational attainment.

# CHAPTER 2

## MOBILITY PROFILE

*“Compared with the citizens of most other countries, Americans have always lived a nomadic existence. Nearly one in five of us move each year . . .”<sup>1</sup>*

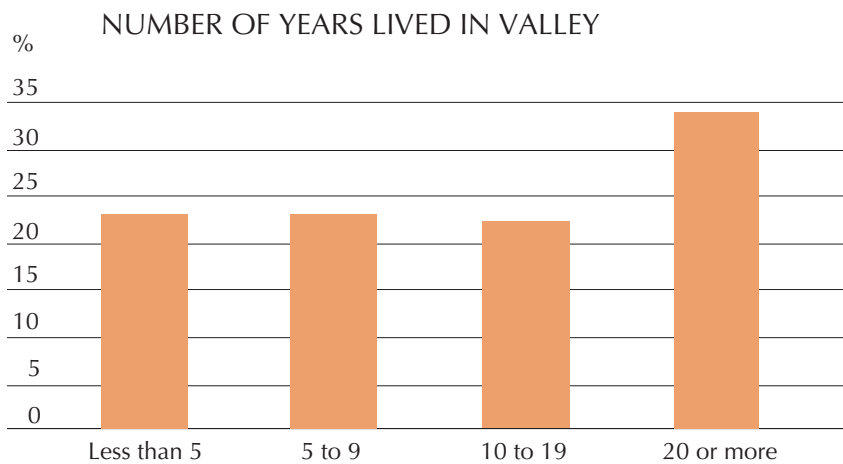
*Robert Putnam*

### Migration to the Valley

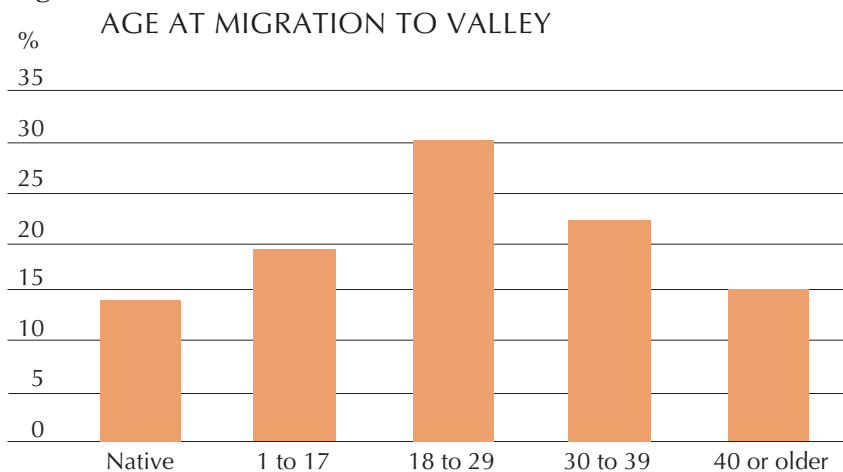
The majority of PASS respondents have lived in the Phoenix area for more than 10 years, and one-third have lived in the Valley 20 years or more (see Figure 2.1). Yet many PASS respondents are recent migrants to the Valley. Forty-four percent have lived here less than 10 years, and 22 percent have lived here less than five years. The long-term residents add an element of stability that often is overlooked in discussions of Valley growth and population churn.<sup>2</sup>

Two-thirds of PASS respondents began living in the Valley as children, youths, or young adults (see Figure 2.2). Fourteen percent are natives, another 19 percent moved here before age 18, and another 30 percent arrived between ages 18 and 29. Most of the remaining third were between ages 30 and 39 when they moved to the Valley.<sup>3</sup>

**Figure 2.1**



**Figure 2.2**



Respondents in the higher-income fringe neighborhoods (HF1 and HF2) moved to the Valley at a much older age than other respondents. Nearly 40 percent were at least 40 years old when they migrated to the Valley, compared to about five percent of the others. Respondents in HF1 and HF2 also have a different geographic mobility profile, on average, than respondents in the middle-income suburban and low-income core neighborhoods. Forty percent of the respondents in the higher-income neighborhoods moved to their present home from outside the Valley, compared to only 10 percent of respondents in the other neighborhoods. (The vast majority of middle- and lower-income neighborhood respondents moved to their present home from elsewhere

in the city of Phoenix or from the West Valley.)

These differences, considered along with other survey evidence about the neighborhoods, suggest that one profile of a recent Phoenix migrant is an affluent, middle-aged, non-Hispanic White, educated professional who has made a long-distance move to the urban fringe as a mature adult, probably due to career opportunities. In contrast, those who recently (within the last five years) moved into a lower-income neighborhood from outside the Phoenix area have a very different profile. They are young, Hispanic, blue-collar workers with low incomes, mostly with a high school diploma or less. (Most of these survey respondents were interviewed in Spanish.)

## Residential Moves within the Valley

Most PASS respondents have changed residences within the Valley several times. One-third have lived in five or more residences in the Valley, and another third have had three or four different residences here. For the most recent move of respondents, intra-Valley relocations outnumber moves from the outside by a ratio of three to one. Thus, Valley residents are likely to have a comparative perspective on several different neighborhoods in Greater Phoenix.

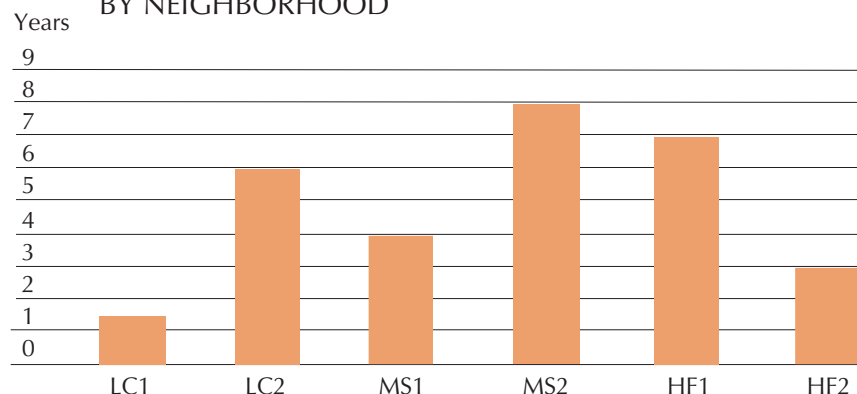
A high level of recent migration and frequent local moves combine to produce short tenure in respondents' present homes. The median length of residence in their current home is four years. Nearly one-third moved into their present home within the last two years, and another third has lived in their present homes between three and five years.

These statistics suggest that many people have had a rather short time in which to experience their current neighborhood.<sup>4</sup>

Respondents in one lower-income core neighborhood (LC1) had, on average, a significantly shorter tenure in their current home than respondents in any other neighborhood (see Figure 2.3.). Median length of residence in LC1 was only 1.5 years and homeownership is much lower (only 10 percent) than in any other neighborhood. Of the other two neighborhoods with low median tenures, 38 percent of MS1 (middle-income suburban) residents are renters and HF2 contains a newer housing development.<sup>5</sup> Respondents in LC2, MS2, and HF1 have substantially longer average lengths of residence. Thus, residential tenure is not related to type of neighborhood in this sample.

**Figure 2.3**

MEDIAN LENGTH OF RESIDENCE IN HOME  
BY NEIGHBORHOOD



Note: Neighborhoods ordered by ascending income and distance from downtown Phoenix.

## Reasons People Move

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When people change residences, they usually do so for a combination of “push” and “pull” factors. Push factors are the reasons they want to leave their current home, and pull factors are the reasons they are attracted to a particular new home. PASS respondents answered open-end questions about why they moved away from their prior home and why they chose their current one.

Among those respondents who moved to their present home from elsewhere in the Valley, most people indicate that at least

part of their reason for moving is to purchase more space. Generally, people who mentioned family or house reasons for leaving their old homes think their former houses were too small. In choosing a new house, people typically want a larger, quality house on a larger lot that is affordable. Thus, a key reason to move is to better one's position in the housing market. Appendix B contains a more detailed analysis of the push and pull factors involved in residential mobility.

## Intentions to Move

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Seven in 10 respondents expect to be living in their current home for at least five more years. When asked if something could make them change their minds about moving, the most common response is job opportunity elsewhere. Even among the three in 10 who expect to move within five years, most people think they will stay in the Valley.<sup>6</sup> More than half of those expecting to move within the Valley would stay in the city of Phoenix. The most common reasons they give for expecting a move are to buy a home and to move to a better neighborhood.

Despite Valley residents' history of frequent moves, the survey shows that a large majority say they have put down roots and plan to stay in the Valley and in their neighborhoods, unless a job opportunity tempts them to move. Although hundreds of thousands of people pass through Phoenix as temporary residents, many others stay on to become long-term residents. Amidst the population “churn,” is that number large enough to establish a sense of community in this desert metropolis?

1. Robert Putnam, 2000. *Bowling Alone*. New York: Simon & Schuster.
2. The 2000 census also shows that about one of five residents of Maricopa County did not live here five years earlier. The distribution of PASS respondents on length of residence in the Valley is nearly identical to that reported by Patricia Gober, “Phoenix: A City of Migrants” (unpublished), based on a 1999 survey conducted by *The Arizona Republic* and Morrison Institute for Public Policy, Arizona State University.
3. Young age at the time of migration is not surprising since young adulthood coincides with a series of life changes, such as college, jobs, and marriage, that cause many people to relocate. However, relative to the entire Valley population, survey respondents were overrepresentative of young adults, largely because none of the neighborhoods encompass a retirement community. The median age of PASS respondents was 39 compared to a median age of 45 for householders in Maricopa County (Census 2000). Thus, the mobility profile of the Valley population may be older than this sample portrays.
4. These percentages of PASS respondents are comparable to those for Maricopa County as reported in the 2000 census.
5. Seventy-two percent of PASS respondents are homeowners. According to the 2000 census, homeownership rates were 61 percent in the city of Phoenix and 68 percent in Maricopa County.
6. These figures are quite comparable to those reported by Patricia Gober, “Phoenix: A City of Migrants.” Two-thirds of the respondents in that survey said they had no plans to leave Phoenix.

# CHAPTER 3

## COMMUNITY SENTIMENT

*“... humankind’s association with geographic place, and the forms that association takes, tell us much about the character and shape of different social identities.”<sup>1</sup>*

*David Jacobson*

### Place and Community

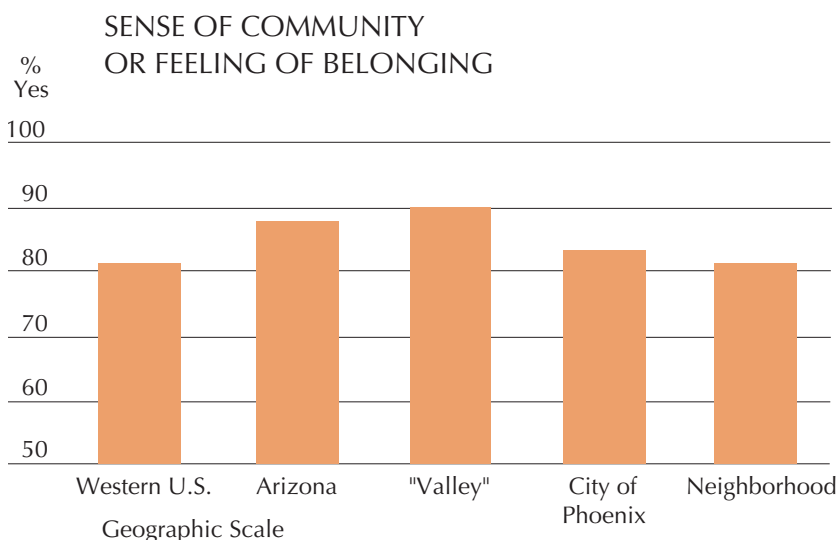
Do Phoenix residents, with their legacy of frequent residential moves, feel themselves part of a larger community outside their circle of friends and family? Is their identity rooted in this “place,” and if so, which geographic scales most strongly elicit that sense of belonging?

A large majority of respondents report feeling a sense of community at geographic scales that range from the western United States to their own neighborhood (see Figure 3.1). Although these questions reveal a striking uniformity of responses, a slightly larger percentage of people identify with the “Valley,” a mid-range spatial scale, than with either very large or very small areas. The Valley is an indistinct term that describes the area’s topography and is also shorthand for “Valley of the Sun,” a label invented decades ago to attract business capital to the Phoenix area. Yet the Valley community is rated above region, state, city, and neighborhood, all of

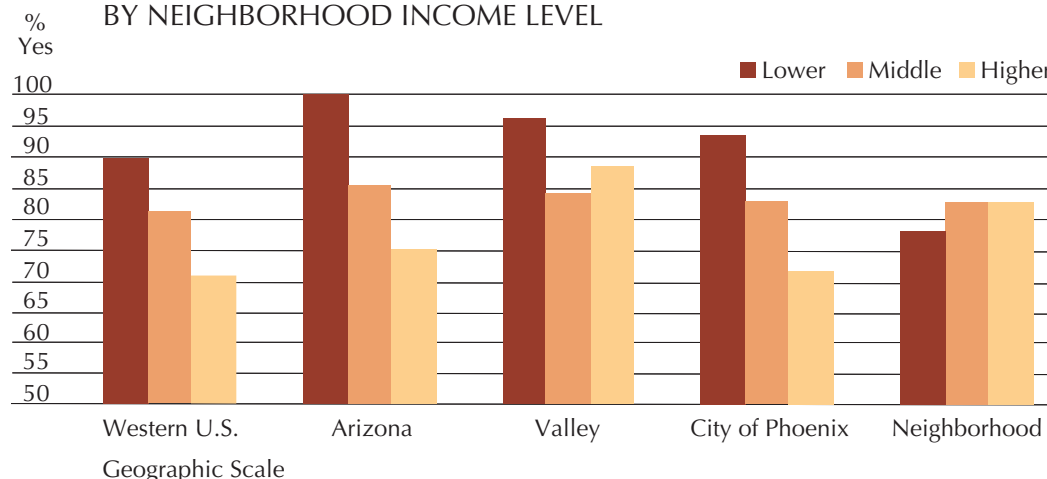
which have clearer geographic boundaries and political or social functions. Perhaps the Valley has more sentimental appeal because it evokes pleasant images of mountain vistas and desert resorts. Or perhaps—given that people move frequently from neighborhood to neighborhood—the Valley is the actual scale on which people conduct their daily lives: working, shopping, and recreating.

Further demonstrating the uniformity of community sentiment, no statistically significant differences exist in the percentage answering “yes” to sense of belonging after controlling for how long respondents have lived in the Valley or whether people migrated here as children, youths, adults, or seniors.<sup>2</sup> Nor does any significant difference between homeowners and renters occur. This evidence suggests that short-term residency or frequent moves do not interfere with people forming a bond with the place in which they live.

**Figure 3.1**



**Figure 3.2**  
SENSE OF COMMUNITY  
BY NEIGHBORHOOD INCOME LEVEL



For most geographic scales, however, respondents' sense of community increases as median neighborhood income decreases (see Figure 3.2). People in lower-income core neighborhoods feel more community belonging in the region, state, Valley, and city than people in middle- and higher-income neighborhoods. These differences are statistically significant. In a conspicuous reversal, however, the lower-income core residents are less likely

to feel a sense of belonging in their neighborhoods than other respondents.

In light of all the individual characteristics that might have influenced sense of belonging but did not—including duration of residency, moving frequency, and owner-renter status—it is striking that sense of community is different across types of neighborhoods.

## Ratings of Places

On a four-point scale of excellent, good, fair, or poor, the average survey respondent rates the Valley, the city of Phoenix, and their neighborhoods as “good” places to live. The average respondent rates her/his own home as a place to live slightly better than good. The only difference between long-term residents and recent migrants is that people who have been here 20 years or more rate the city of Phoenix significantly higher than others. These people are, by and large, residents of urban core and suburban neighborhoods, not the fringe.

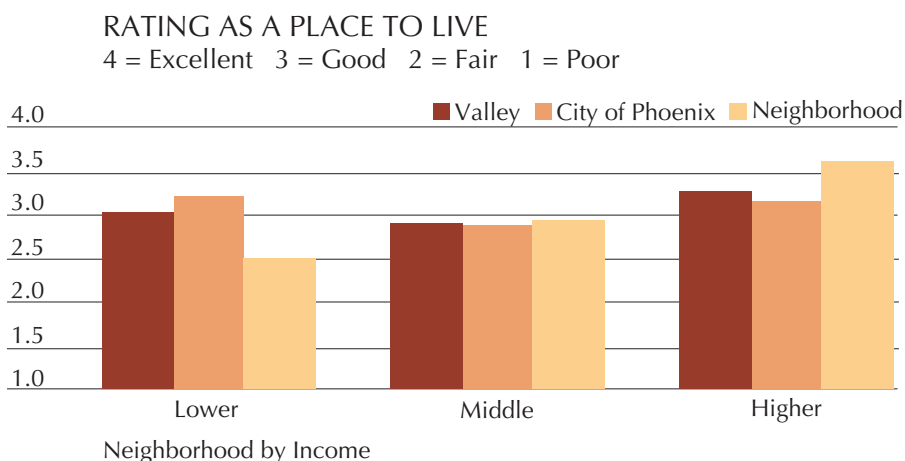
Significant differences exist between the neighborhoods on respondents' ratings of all these places. Average respondent ratings for the neighborhood as a place to live correspond linearly to the median income of neighborhoods (see Figure 3.3). Average ratings for the Valley and the city, however, do not linearly correspond to median income. Middle-income suburban neighborhoods, on average, rate the Valley and the city lower than either the upper- or lower-income neighborhoods.

Respondents in middle-income suburban neighborhoods rate the Valley, the city, and

their neighborhood about the same (“good” to “fair”), but within the rich neighborhoods and within the poor ones, there are interesting contrasts in how residents evaluate places at different geographic scales. The upper-income respondents rate their neighborhood superior to the Valley and the city. But lower-income residents rate their neighborhood quite inferior to the Valley and the city (see Figure 3.3). Renters, who are virtually nonexistent in the upper-income neighborhoods but numerous in one of the low-income neighborhoods, rate their neighborhoods (and homes) significantly lower than homeowners.

Thus, most people have a keen sense of their place in the socioeconomic hierarchy of communities. The rich perceive that where they live is better than other places, and the poor know their neighborhoods are worse. Respondents' ratings of their neighborhoods as places to live correspond accurately to the physical conditions of their neighborhoods. But why are residents of middle-income suburban neighborhoods less satisfied with the Valley and the city of Phoenix?

**Figure 3.3**



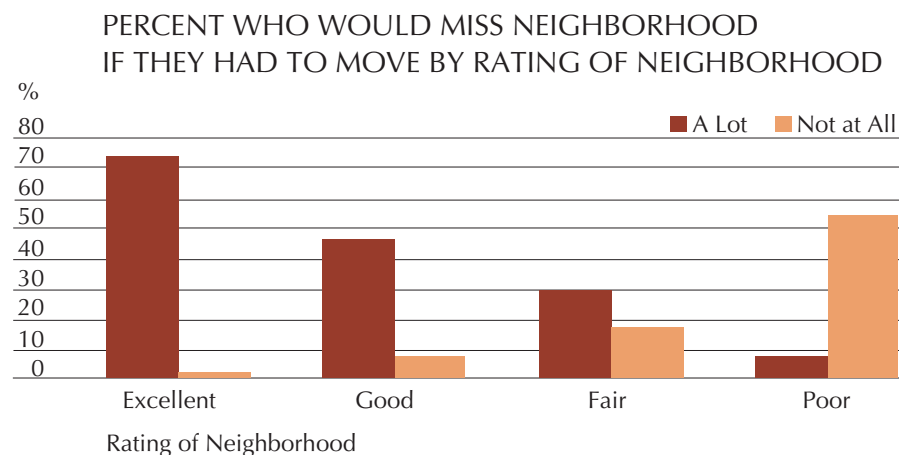
## Neighborhood Attachment

Neighborhoods are places of special interest in PASS because they are the building blocks of community in the larger metropolitan area. Yet, neighborhoods are quite different and unequal on measures of objective conditions, and as seen above, in the subjective views of respondents. What do people say when asked directly about emotional attachment to their neighborhood? And what factors are related to their answers?

Asked how much they would miss their neighborhood if they moved away, 48 percent say they would miss it “a lot,” 41 percent say

“some,” and 11 percent say they would miss it “not at all.” Average attachment scores across higher-, middle-, and lower-income neighborhoods are not significantly different. Thus, people across the socioeconomic spectrum are equally likely to be attached to their neighborhoods. People who rate their neighborhood as “excellent,” however, are significantly more likely to be emotionally attached to it (see Figure 3.4). The PASS results agree with most literature that shows an individual’s emotional attachment to the neighborhood increases with the number of years lived there.

**Figure 3.4**



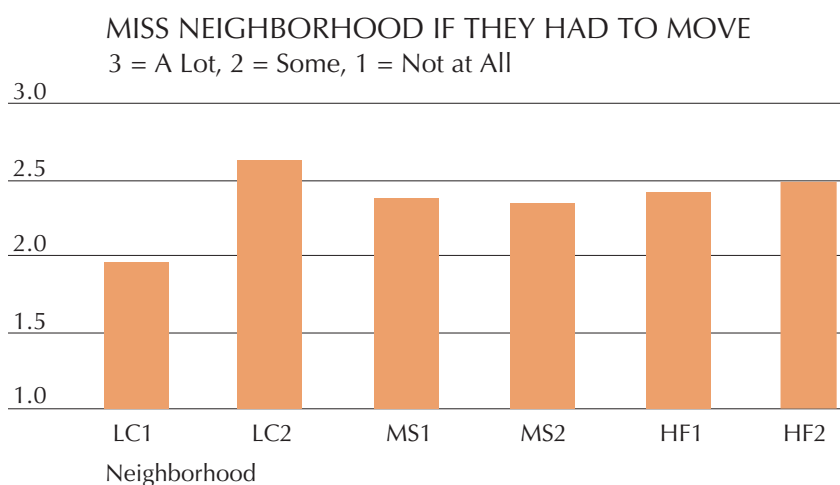
Note: The proportion answering “some” = 100 percent - (percent “a lot” + percent “not at all”).

Interestingly, the two lower-income neighborhoods represent the extremes on attachment, with a significant difference between LC2, which has the highest mean attachment score, and LC1, which has the lowest (see Figure 3.5). Although residents in both lower-income neighborhoods rate their neighborhoods only fair (means of 2.8 and 2.2), the people in LC2 would miss their neighborhood a lot more than people in LC1. LC2 residents have lived much longer in their neighborhood than people in LC1. Other striking differences between these two communities include LC2

residents' ownership of their homes and greater satisfaction with the social, physical, and economic neighborhood environment.

To summarize, the results show that a large majority of respondents identify with geographic places defined on a number of different scales. When it comes to their own neighborhoods, most people feel a sense of belonging, but they also recognize where they stand in the socioeconomic hierarchy of the Valley. For the most part, they condition their emotional attachment to neighborhood on their evaluation of it as a place to live.

**Figure 3.5**



Note: Neighborhoods ordered by ascending income and distance from downtown Phoenix.

1. David Jacobson, 2001. *Place and Belonging in America*. Baltimore: The Johns Hopkins University Press.
2. Throughout the report, associations between variables are said to be statistically significant or significant only if  $p \leq .05$  for the appropriate statistical test.

# CHAPTER 4

## THE CHANGING URBAN LANDSCAPE

*“Unless we are able to translate our words into a language that can reach the minds and hearts of people young and old, we shall not be able to undertake the extensive social changes needed to correct the course of development.”<sup>1</sup>*

*Gro Harlem Brundtland*

### Land Use and Preservation

Across the nation, the increasing acreage used for urban purposes is causing “sprawl,” the encroachment of low-density development over an ever-diminishing natural landscape. Compared to other urban areas, the Phoenix area’s population density has moved from well below average in the 1960s to near average in 2000.<sup>2</sup> That said, PASS respondents express concern about both the nearness of their neighbors and the loss of open space.

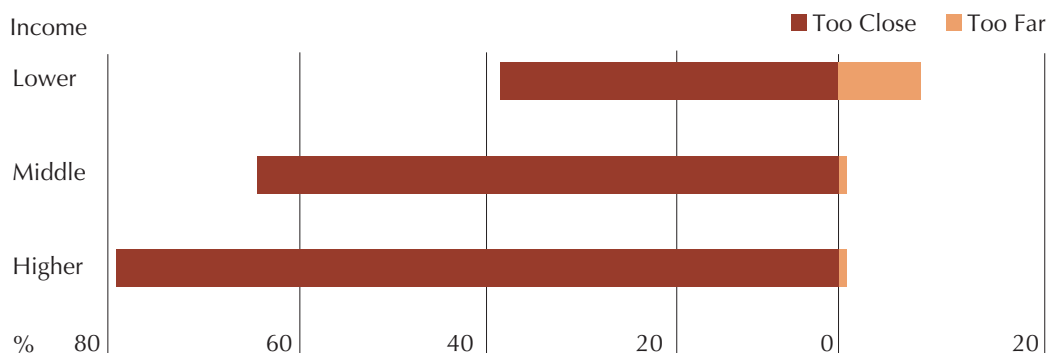
In the past, retired Valley farmland was more commonly converted to residential development than was natural desert, exchanging one type of human use for another. Currently, however, a greater proportion (about half) of the urban expansion occurs on desert land. This creates significant ecological problems, such as destruction of natural animal habitats, decreased biodiversity, and expansion of the urban heat island. Destroying the desert also eliminates the natural beauty of a landscape that attracts people to the Valley and deprives many who live here of a connection to their natural environment.

Since municipalities and developers frequently cite the expressed desire of Valley residents for low-density housing as justification for current land development patterns, PASS respondents were asked about their views on housing density and the amount of natural land being preserved. The survey results indicate that their preference for personal living space is often in conflict with their desire for preserving the desert around them.<sup>3</sup>

When asked about housing density, more than half the respondents say that houses in the Valley are too close together and about 40 percent feel they are spaced about right. Very few believe houses are too far apart. The difference in people’s perceptions by neighborhood is quite large. Nearly 80 percent of residents in the upper-income fringe neighborhoods think houses in the Valley are too close to each other compared to less than 40 percent in the lower-income core neighborhoods (see Figure 4.1).

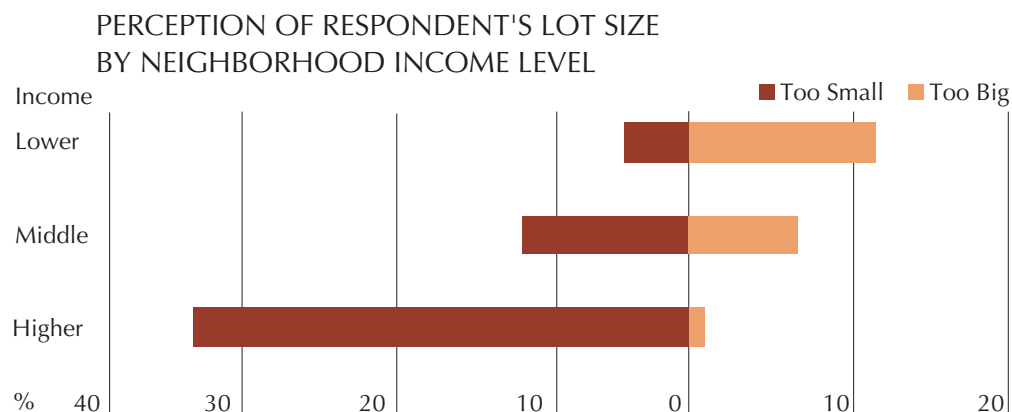
**Figure 4.1**

#### PERCEPTION OF SPACING OF HOUSING IN THE VALLEY BY NEIGHBORHOOD INCOME LEVEL



Note: The proportion answering “about right” = 100 percent - (percent “too close” + percent “too far”).

**Figure 4.2**



Note: The proportion answering “about right” = 100 percent - (percent “too small” + percent “too big”).

In their own neighborhoods, 35 percent of all respondents believe the houses are too close together, and the rest believe they are spaced about right. Responses about lot size are similar: approximately 25 percent feel that lots are too small in their neighborhoods, and most of the others think they are about the right size. Once again, respondents in the higher-income neighborhoods are much more likely to feel that they have too little space (see Figure 4.2). More residents in the lower-income neighborhoods actually think that lot sizes are too big rather than too small.

In order to investigate these attitudes further, data were gathered from the Maricopa County Assessor's web site on the square footage of the single-family homes and lots in the PASS sample.<sup>4</sup> The ratio of lot size to home size is much lower in the new developments of higher-income fringe neighborhoods. For example, HF1 has large lots (median = 9,797 square feet), but they also have, by far, the largest homes (median = 2,879 square feet) for a ratio of 3.4 to 1. In the middle-income suburban neighborhoods the ratio of lot size to home size is 6.8 to 1, and in LC2, the single-family, lower-income core neighborhood, the ratio is 12.2 to 1. LC2 residents actually have the largest lots (median = 11,186 square feet)

in the entire sample (except for the “horse” properties in HF1), and their houses average only 912 square feet. Thus, the higher-income homeowners' perception that homes are close together on the fringe is true relative to suburban and core neighborhoods because houses in the fringe neighborhoods have a large “foot-print.”

Many higher-income people in fringe neighborhoods feel crowded, more so by the expansion of development in the Valley around them, but to some degree in their neighborhoods as well. The fringe dwellers probably have moved to the outer reaches of the city in order to obtain the space they desire, but these needs are not entirely met even though they own larger houses in less dense areas than other urban residents.<sup>5</sup>

Paradoxically, although the majority of PASS respondents think housing density in the Valley is too high, half the respondents also think the amount of land in the Valley being preserved in a natural state is too little (see Figure 4.3). Only one of five respondents is comfortable with the status quo, saying that both housing density and amount of land preserved are “about right.” However, one of three residents believes that not enough land is being preserved AND that housing density is too high.

**Figure 4.3**

Housing Density	Amount of Land Preserved	
	About Right	Too Little
About Right	22%	14%
Too Dense	20%	36%

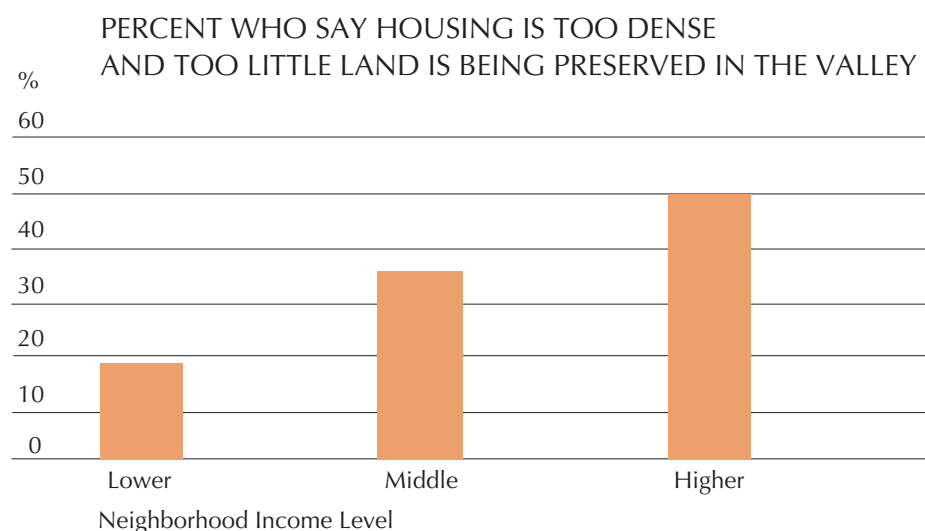
Note: Not included in the table are 7.5 percent of respondents who thought either that housing was not dense enough or that too much land was being preserved.

Most of the rest also hold incompatible views on the ratio between residential development and preservation of the landscape. These findings pose a challenge for planners, policymakers, and everyone concerned with the future quality of life in the Valley.

Key to solving the problem of how to balance future development and preservation are residents of the upper-income fringe neighborhoods who are the most likely to hold inconsistent views about personal space and open space. Fifty-six percent of these

respondents, who recently moved to homes newly built in the desert, think that too little natural land is being preserved. Yet many also say the density of housing around them is too high, and they feel crowded in their own neighborhoods (see Figure 4.4). A much larger discrepancy in attitudes exists in the higher-income neighborhoods than in the attitudes of residents in the core and suburban neighborhoods. This may represent unwillingness to balance personal desires and the collective good of the community.

**Figure 4.4**



## Landscape Preferences

One of the most important human activities that changes natural ecosystem functioning is residential landscaping. Neighborhoods are entirely human-managed ecosystems in which land cover—especially vegetation, construction materials, and imported soils and gravel—affect everything from the abundance and diversity of species to microclimate conditions. Landscaping also is important from the standpoint of resource expenditures: the amount of water used to maintain an attractive appearance, especially “green” landscapes, in the desert is cause for concern. Yet, without grass and shade trees to cool homes, people are likely to use more energy for air conditioning.

Seventy percent of PASS respondents say that “well-watered grass and trees” add “a lot”

to a neighborhood’s appeal, and another 16 percent say that greenery adds “some” to the appeal. No significant differences in response to this question are present by neighborhood income level or by the length of time people have lived in the Valley. The appeal of greenery is nearly universal among desert dwellers.

In order to understand more about residential landscape choices, PASS included a series of images of the front and back yards of a single-family house digitally manipulated to create representations of four landscape types commonly found in the Valley. These designs are labeled by their dominant feature: desert, grass, oasis, and courtyard.<sup>6</sup>



**Desert**



**Grass**



**Oasis**



**Courtyard**

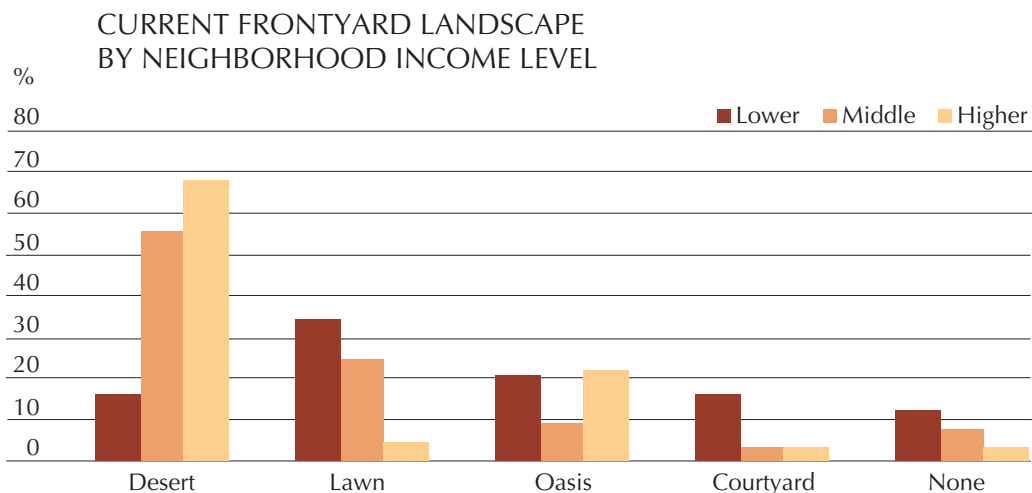
Respondents were asked to identify the types of landscapes that most closely resemble their current front yard and back yard. Desert landscaping is quite common in the front yards of higher-income fringe neighborhoods: nearly 70 percent of these homes have it<sup>7</sup> (see Figure 4.5). This fashion has trickled into the older middle-class suburban neighborhoods, where people presumably have installed desert yards recently to replace older designs. The lower-income core neighborhoods have the most eclectic landscaping. Grass (usually somewhat battered) accounts for 35 percent of their front yards, and another 30 percent have pavement (“courtyard”) or dirt (“none”).

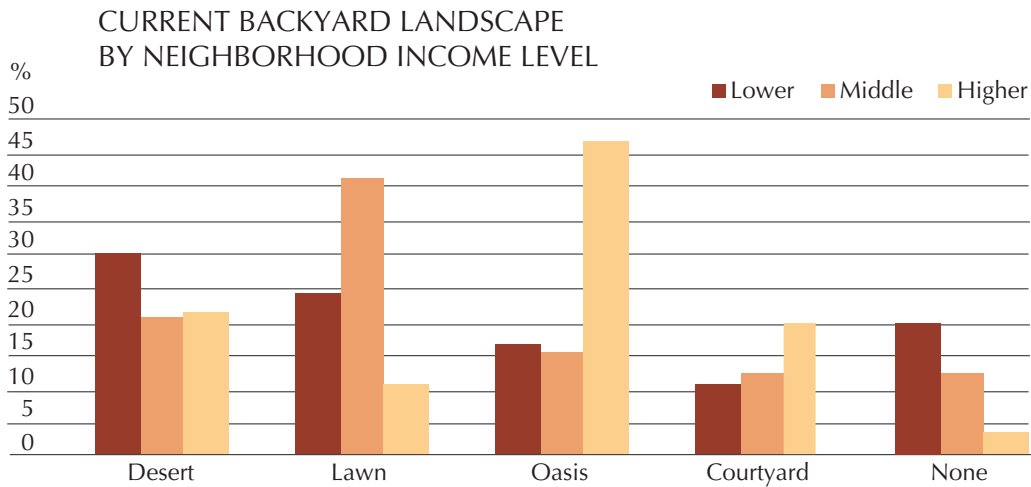
Backyard landscapes, however, are quite different from front yards, and these differ-

ences are most pronounced in the higher- and middle-income neighborhoods (see Figure 4.6). Only 21 percent of the higher-income neighborhood residents have a desert back yard, but half have an oasis, a much greener choice. Only 20 percent of the middle-income neighborhood residents have a desert back yard, but half have grass, also a much greener choice. In general, then, these residents project a fashionable and ecologically sensitive landscape to the street, but they enjoy much more greenery in the privacy of their back yards. On the other hand, lower-income homes have more desert and less greenery in their back yards than in the front.

PASS respondents also were asked to identify what kind of landscaping they would prefer in their front yards and back yards. Tastes are

**Figure 4.5**



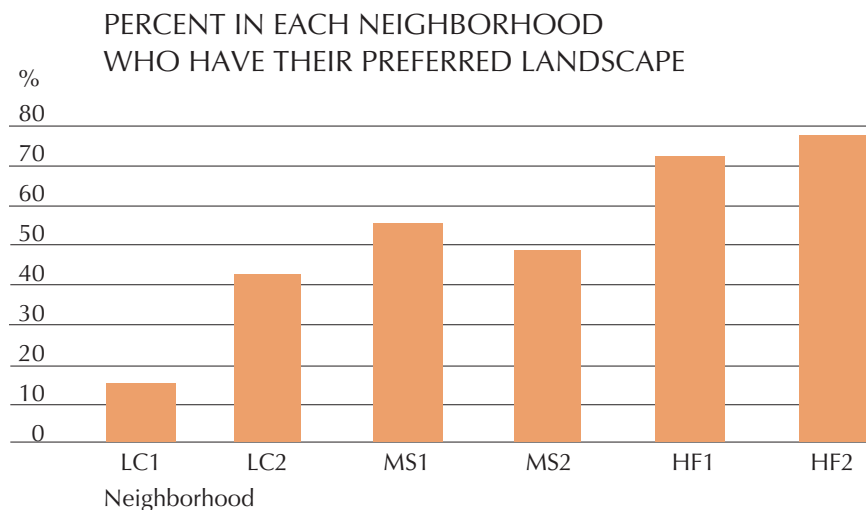
**Figure 4.6**

strongly correlated with types of neighborhood. Upper-income residents care little for grass. They would prefer somewhat less desert and more oasis landscaping in their front yards and feel quite content with their back yards. Middle-income residents like grass and have about the right amount of it, but they want more oasis landscaping in both the front and back yards. Lower-income residents care little for either desert or oasis landscaping. They want grass—half want grass in their front yard and back yard—yet grass is in short supply in lower-income neighborhoods. Residents in all neighborhoods desire less desert and more greenery than they currently have.

Respondents who prefer desert landscaping most commonly reported that they like the appearance because it looks “natural,” conserves water, and is low maintenance. Those who prefer lawn think it is attractive,

cleaner, and a much nicer place for children to play. Respondents who favor oasis landscaping note that they like the greenery, variety, and cooling effect of the plants.

The difference between the landscape people want and what they have is highly conditioned by income level. Figure 4.7 presents the percentages of respondents who report that their preferred landscape design is consistent with the landscape they have (both front and back yards are included in these calculations). About three-quarters of the upper-income fringe neighborhood residents in HF1 and HF2 have what they want, as do about half the middle-income suburban residents in MS1 and MS2. LC2 is much like the middle-income neighborhoods, but once again, LC1 has little gratification. Pavement, empty lots, and dirt yards are the norm in this neighborhood.

**Figure 4.7**

Note: Neighborhoods ordered by ascending income and distance from downtown Phoenix.

## Aesthetic Qualities of Neighborhoods

At least 75 percent of PASS respondents are “very satisfied” or “satisfied” with physical features of their neighborhoods in terms of appearance and maintenance.<sup>8</sup> Residents of the upper-income neighborhoods, however, are significantly more satisfied than everyone else, and residents in lower-income neighborhoods are significantly less satisfied. When asked open-end questions on what they like and dislike about the way their neighborhood looks, the most common responses relate to cleanliness and neatness.

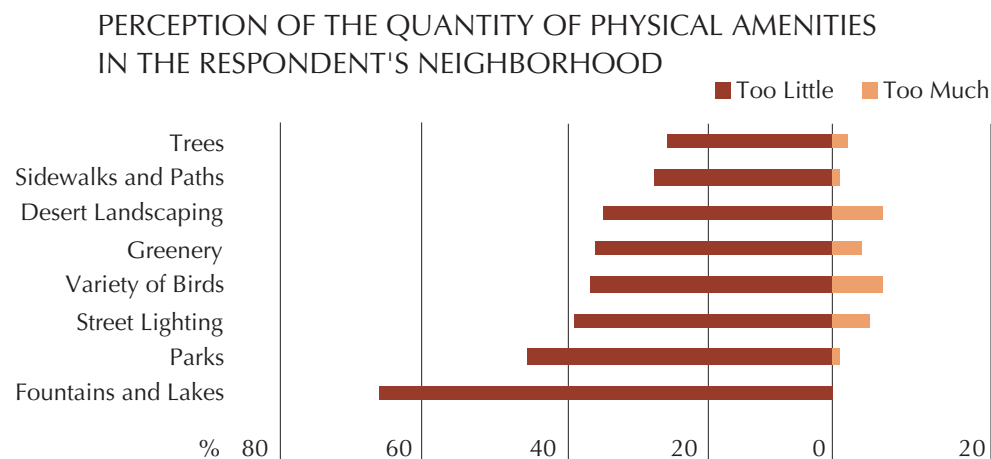
Beyond these generalities, people were queried whether they think their neighborhoods have “the right amount,” “too much,” or “too little” of specific features that provide comfort and aesthetic pleasure and also whether parks and wilderness beyond the borders of their neighborhoods are accessible to them.

Overall, for seven of eight physical amenities, the majority of residents think their neighborhoods have the “right amount” (see Figure 4.8). The conspicuous exception is “fountains, lakes, or ponds,” of which two-thirds think they have too little. For the other items, between one-quarter and one-half think they have too little of the amenities in their neighborhoods, and they are particularly keen on having more parks. These responses might be interpreted as the desire for more water and greenery to mitigate the effects of heat.

Of these amenities, households in the higher-income neighborhoods are significantly more likely than others to think they have the right amount of water features, landscaping, greenery, and lighting (see Figure 4.9, which shows only the features with a statistically significant difference by income level). Both middle- and lower-income neighborhoods would like more water and lighting, but the lower-income neighborhoods also want more greenery and landscaping. The desire for desert landscaping may mean that any kind of attractive and organized appearance would be an improvement over what now exists. No significant difference by neighborhood income level in perceived access to neighborhood parks is present.

The majority of people think the distance of their neighborhoods from a variety of natural recreation and scenic areas is “about right.” Only between 10 percent and 40 percent of residents of all income levels think that these natural settings are too far away from them (see Figure 4.10). These responses vary considerably by type of neighborhood. For example, some people in higher-income fringe neighborhoods would like to be closer to city parks. But fewer are concerned about the distance to preserves and wilderness, probably because their location on the fringe places them closer than other people. Middle-income suburban households are most likely to think

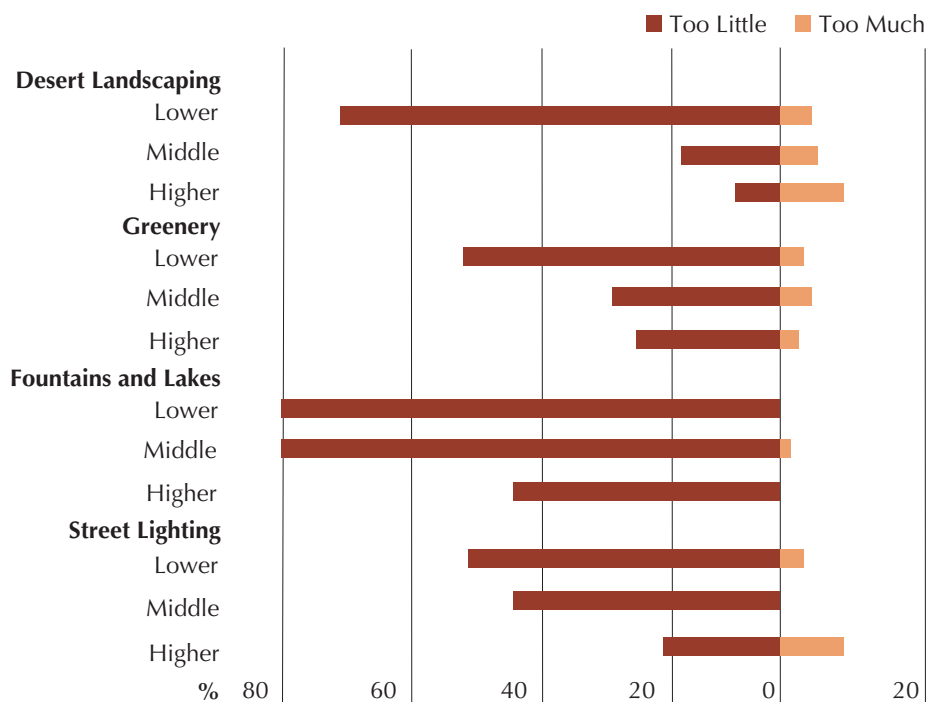
**Figure 4.8**



Note: The proportion answering “about right” = 100 percent - (percent “too little” + percent “too much”).

**Figure 4.9**

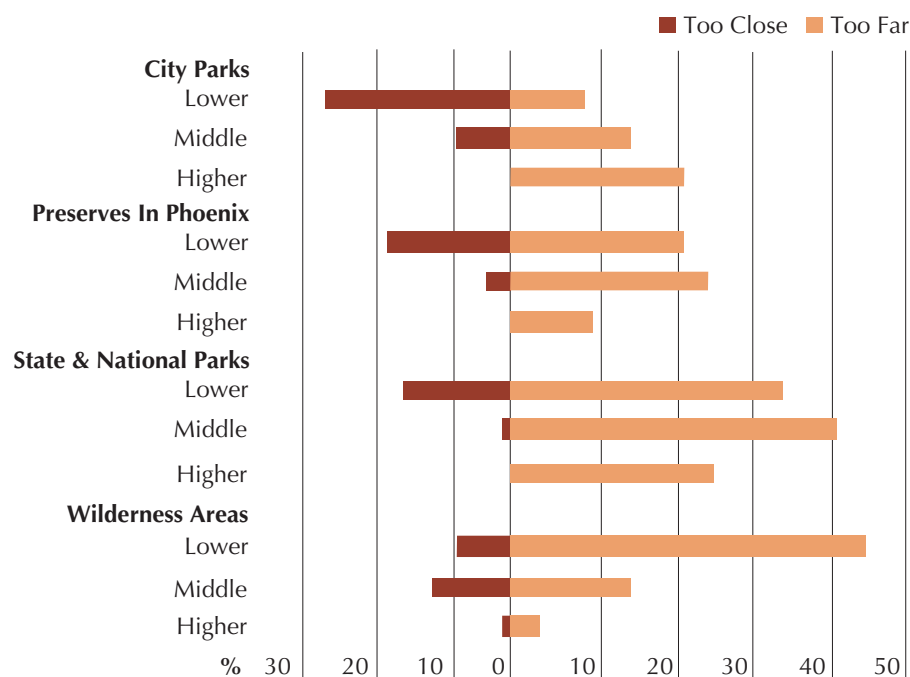
PERCEPTION OF THE QUANTITY OF PHYSICAL AMENITIES  
BY NEIGHBORHOOD INCOME LEVEL



Note: The proportion answering “about right” = 100 percent - (percent “too little” + percent “too much”).

**Figure 4.10**

PERCEPTION OF THE DISTANCE TO PARKS AND NATURAL AREAS  
BY NEIGHBORHOOD INCOME LEVEL



Note: The proportion answering “about right” = 100 percent - (percent “too little” + percent “too much”).

that state and national parks are too far away, perhaps because these are mainstays of middle-class vacations and recreation.

The most unexpected finding is that more residents of lower-income core neighborhoods think that city parks are too close to them rather than too far. Some lower-income residents also think that preserves and state and national parks are too close. A tentative interpretation is that some lower-income residents perceive parks and open public spaces as venues for illegal and dangerous activities, such as drugs and other crimes. In this way of

thinking, being near parks leads to trouble and is a threat to their safety. On the other hand, lower-income households are also unusual in the high percentage that desires more convenient access to wilderness areas.

In summary, a majority of respondents are content with the aesthetic qualities of their neighborhoods, but a substantial minority, especially in lower-income areas, would like to improve their physical surroundings. People seem less concerned than expected with the accessibility of natural and recreational areas.

1. Gro Harlem Brundtland. 1987. *Our Common Future*. World Commission on Environment and Development, New York: Oxford University Press.
2. Tom Rex. 2000. "Population Density in Metropolitan Phoenix" (unpublished), Morrison Institute for Public Policy, Arizona State University. A recent report ranked the Phoenix area as the 22nd least sprawling among 83 U.S. metropolitan areas; Reid Ewing et al. 2002. "Measuring Sprawl and Its Impact," *Smart Growth America*, which can be found at [www.smartgrowthamerica.com](http://www.smartgrowthamerica.com).
3. Impressions of housing density were inferred by asking whether the spacing between homes is too close, about right, or too far. This question was asked for the respondent's neighborhood and for the Valley. Questions also addressed whether the respondent's lot size and house size are too big, about right, or too small. A similar question inquired about land preservation: whether the amount of Valley land being preserved in a natural state is too much, about right, or too little.
4. The web site address is [www.maricopa.gov/assessor](http://www.maricopa.gov/assessor). The LC1 neighborhood is not used in these calculations because many dwellings are apartments that are not included by individual unit in the Assessor's information.
5. The density of a settlement can be characterized by different measures. The ratio of lot size to home size is a measure that shows the fringe neighborhoods "feel" densely settled to the inhabitants. According to the 2000 Census calculation of population density per square mile; however, the block groups of the fringe neighborhoods are much less densely settled than the suburban or core neighborhoods. For example, population per square mile = 1,865 in HF2, 5,485 in MS2, and 7,980 in LC2.
6. The photos reproduced here were shown to respondents. The landscapes can be described as follows: desert is sparsely planted native species on sand or rock; grass is mostly lawn with a few trees and shrubs; oasis is dense planting of a variety of trees, shrubs, and plants; and courtyard is a large area of paved or bricked patio with sparse trees or plants.
7. Homeowner associations, present in the two higher-income neighborhoods, often require desert front yards in new housing developments.
8. On a four-point scale ranging from "very satisfied" to "very dissatisfied," respondents rated style and variety of homes, neighbors' upkeep of homes and yards, upkeep of parks and common areas, upkeep of commercial buildings, and overall appearance of neighborhood.

# CHAPTER 5

## LOCAL ENVIRONMENTAL CONCERNS AND STEWARDSHIP

*“What people do about their ecology depends on what they think about themselves in relation to things around them.”<sup>1</sup>*

Lynn White Jr.

### Geographic Scales of Environmental Concern

A common conception is that Phoenix area migrants from temperate climates neither understand the fragile desert ecosystem nor have the motivation to protect it because of their short tenure in the Valley. However, many PASS respondents have no plans to leave the Valley. They also express many concerns about the local environment, although several apparent paradoxes appear in their beliefs, attitudes and behavior.

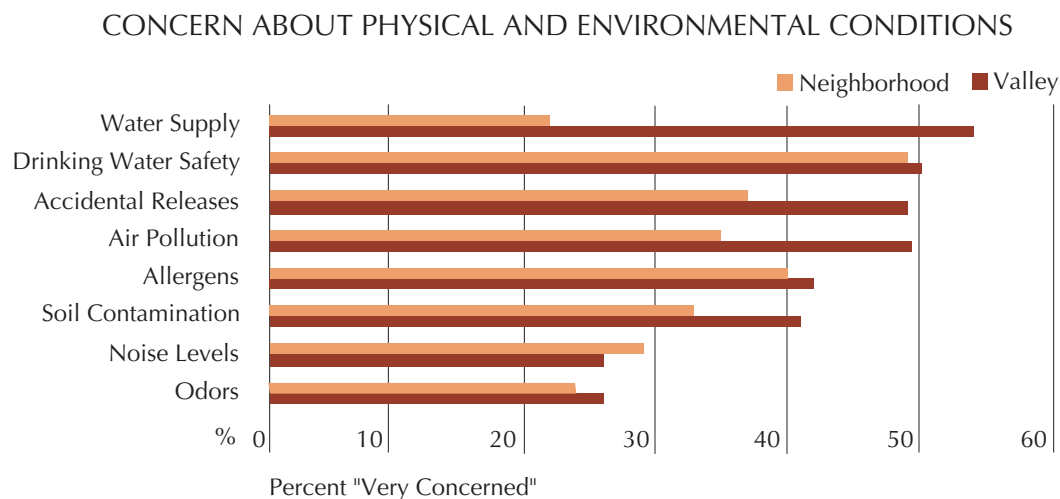
On a four-point scale ranging from “very concerned” to “not concerned at all,” more than 40 percent of the respondents are very concerned about the future water supply, drinking water safety, accidental releases of industrial chemicals, air pollution, allergens, and soil and groundwater contamination in the Valley (see Figure 5.1).<sup>2</sup> More than 20 percent are very concerned about noise and foul odors. The percentages that are very concerned about such environmental issues in their own neighborhood are lower except for noise, where the concern is slightly higher. Overall, the intensity of respondents’ concern about the environment is significantly higher at

the larger geographic scale of the Valley than it is at the neighborhood scale.<sup>3</sup>

The discrepancy between the percentages of respondents who are very concerned about the future water supply in the Valley (53 percent) and who are very concerned about the amount of water used by their neighborhood (only 21 percent) is most striking. Valley residents evidently have internalized the idea that water is a scarce resource in the desert. Yet PASS respondents do not directly associate a future shortfall with residential water consumption in their neighborhoods, even though research has shown that household water consumption in Phoenix is higher than other desert communities, such as Tucson.<sup>4</sup> On the contrary, many respondents report that they are acting to conserve water: six in 10 households report using water-saving devices, such as a low-volume flush toilet or water-saving showerhead. This raises the questions of why people worry about the Valley running out of water and what they would propose to do about it.

Drinking water safety is the largest concern in the neighborhoods and one of the largest

**Figure 5.1**



concerns for the Valley as a whole. This concern also is backed up by action: nine of 10 respondents report that their household drinks bottled or filtered water. Since recent publicized studies have shown that local drinking water is safe to consume, it is important to explore in future surveys why many people are concerned about the public water supply. Are they reacting simply to the bad taste, are they unaware of the studies, or do rare, but highly publicized, cases of health problems linked to the water supply outweigh the other evidence?

In summary, PASS respondents have a tendency to externalize more of their worries about less tangible environmental threats—future water supply, air pollution, and soil and groundwater contamination—beyond the neighborhood. On issues for which people experience immediate sensory feedback from the environment—drinking water, allergens, noise, and odors—the levels of concern about their neighborhoods are more comparable to concern about the entire Valley.

## Differences Between Neighborhoods

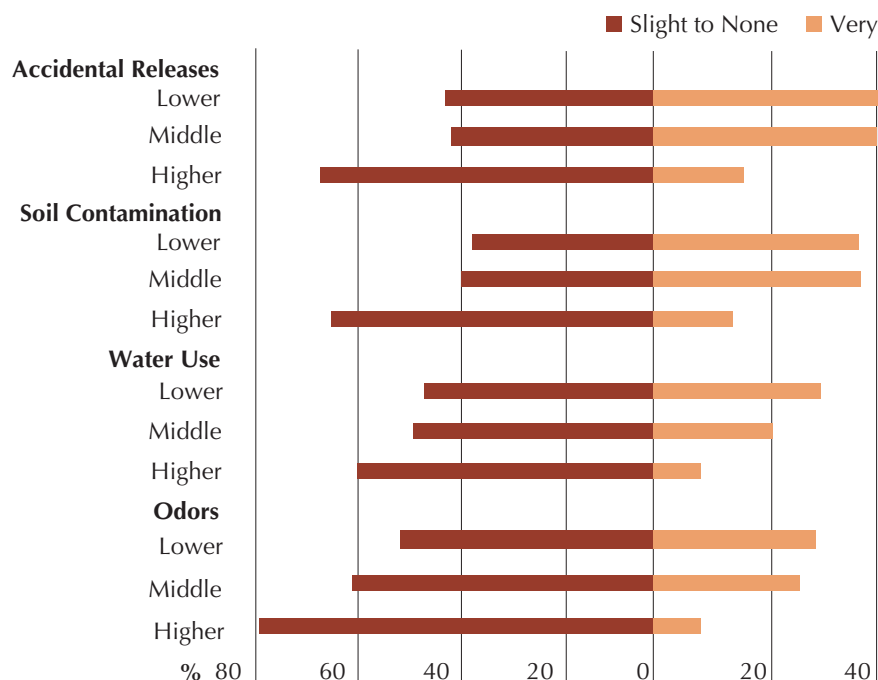
Respondents from higher-income fringe neighborhoods are less concerned than those in middle-income suburban or lower-income core neighborhoods about local environmental conditions.<sup>5</sup> While not very worried about conditions in the Valley, the upper-income residents are even less concerned than others about conditions in their own neighborhoods. Thus the difference between neighborhoods in average environmental perception is greater at the neighborhood geographic scale than at the Valley geographic scale. Only the individual items with the largest discrepancies in

concerns between Valley and neighborhood are shown in Figure 5.2.

For individual environmental items, the percentages of residents who are “very concerned” at each geographic scale vary by item and by type of neighborhood. The differences in concern between geographic scales are largest for residents in the higher-income neighborhoods. For example, in the higher-income fringe neighborhoods there is a difference of nearly 1.0 (on a four-point scale) between the mean scores for residents’ concerns about Valley air pollution and

**Figure 5.2**

### LEVEL OF CONCERN ABOUT CONDITIONS IN THEIR NEIGHBORHOOD BY NEIGHBORHOOD INCOME LEVEL



Note: The proportion answering “somewhat concerned” = 100 percent - (percent “slight to none” + percent “very”).

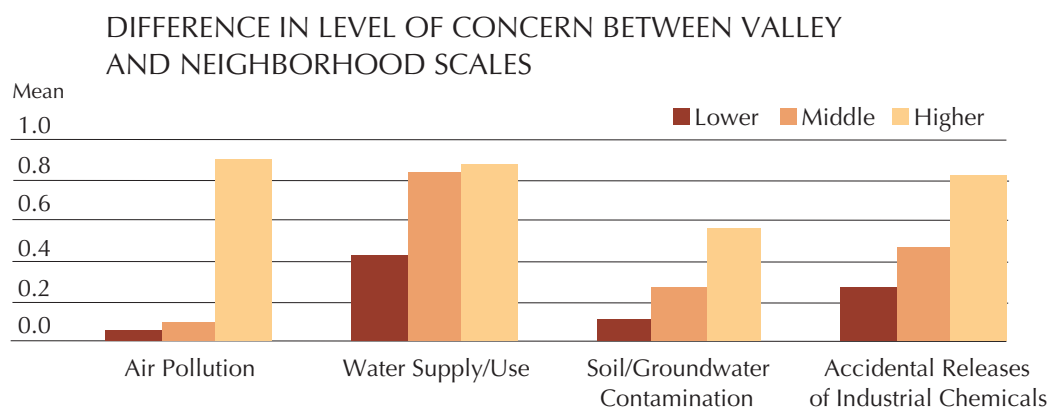
neighborhood air pollution (see Figure 5.3). This means that upper-income neighborhood respondents think their own air is cleaner than the air in the rest of the Valley. Similarly, upper-income neighborhood respondents say they are much less likely to have overuse of water, groundwater contamination, and accidental chemical releases in their own back yards than the rest of the Valley. The other neighborhoods, especially the low-income core neighborhoods, do not have such large discrepancies in their scores. Only the four items with the greatest differences between Valley and neighborhood concerns are shown in Figure 5.3.

The pattern of responses suggests that residents of higher-income fringe neighborhoods think they are environmentally privileged compared to other Valley residents. Middle-income suburban residents are not nearly as likely to think they are better off, and lower-income

core residents are the least likely to think their neighborhood environment is any better than the rest of the Valley. On the overall indexes of environmental concern, residents of LC1 and LC2 neighborhoods are the only ones who express greater concern about the environment in their neighborhoods than they do about the Valley. There are no differences in the level of environmental concern associated with how long people have lived in Greater Phoenix.

These environmental perceptions pose interesting questions about environmental justice in the Phoenix area. First, on what information or misinformation are people basing their perceptions of the environment? Second, are their perceptions accurate in reflecting the actual measured conditions of these neighborhoods? Third, what is the balance between the relative environmental benefits neighborhoods receive and the burdens they place on the environment?

**Figure 5.3**



Note: The mean was calculated from “very concerned” = 3, “somewhat concerned” = 2, “slightly concerned” = 1, and “not concerned at all” = 0, with the mean at the neighborhood scale subtracted from the mean at the Valley scale; the positive mean indicates more concern at the Valley geographic scale.

## Perceptions of Environmental Change

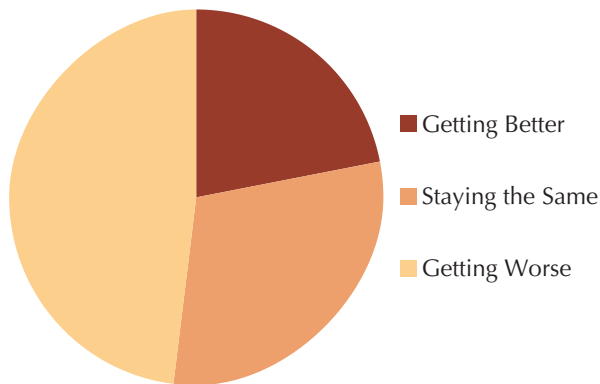
PASS respondents are not optimistic about the environmental future of the Valley. Nearly half believe that overall environmental conditions are getting worse. Only one resident in five thinks the Valley’s environment is improving over time (see Figure 5.4). The same small minority thinks their neighborhood environment is improving. However, more people think their own neighborhood is staying the same rather than getting worse (see Figure 5.5).

Residents of lower-income neighborhoods have views of environmental change that are strikingly different from those of higher-income neighborhoods, and their views are the

opposite of what one might expect. Fifty-eight percent of the residents in upper- and middle-income neighborhoods think the environment in the Valley is getting worse, but only 28 percent of lower-income residents think so. Instead, nearly half the lower-income residents think the Valley’s environment is getting better, compared to less than 10 percent of respondents in the other neighborhoods. In fact, three of four respondents who say the Valley’s environment is improving live in lower-income neighborhoods.

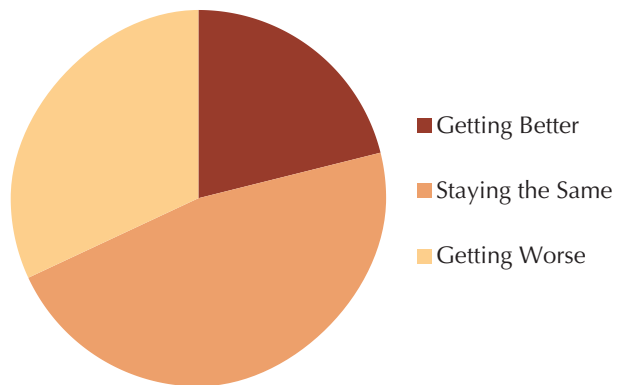
**Figure 5.4**

CHANGE IN PHYSICAL AND ENVIRONMENTAL  
CONDITIONS IN THE VALLEY



**Figure 5.5**

CHANGE IN PHYSICAL AND ENVIRONMENTAL  
CONDITIONS IN THE NEIGHBORHOOD



The differences in opinions about neighborhood environments are equally asymmetrical because only 10 percent of upper- and middle-income residents believe their neighborhood is improving but half the lower-income residents feel conditions in their neighborhood are getting better. This paradox is compounded because LC1 residents (the lower-income neighborhood where people feel most environmentally underprivileged) are the most optimistic about the future.

Competing possible explanations for these results are worth exploring in future research. First, it is possible that conditions really are

improving in LC1: clean-ups are going on, the city is paying attention to improvements, etc. Second, low-income people may be out of touch with the media that document local environmental problems. Third, the problems of new development affect fringe neighborhoods, so these are the people who most directly witness environmental degradation. Fourth, the neighborhoods have different reference groups because mobile upper-income residents are comparing themselves to a nation of better possibilities and lower-income residents are comparing themselves to worse options elsewhere.

## Environmentally Responsible Behavior

Are PASS respondents personally involved in conservation efforts? When asked whether their household has made an effort to conserve energy, nearly half say they make a large effort and an overwhelming majority says they make at least a “medium” effort (see Figure 5.6). Sixty percent of the sample uses water-saving devices. Similar percentages in neighborhoods of all income levels say they practice energy conservation. However, respondents in higher-income neighborhoods use water-savings devices most often, and lower-income neighborhoods use them least often. This could result from the newer construction of higher-income homes or from having more disposable income to spend on purchasing conservation devices, such as low-volume toilet flushes or showerheads.

Travel by automobile and airplane are two activities that create air pollution. PASS respondents indicate that 85 percent (of those who work) travel to work every day that they work. Most drive to work five days a week. The mean one-way distance respondents travel to work each day is 13 miles. Seventy percent of respondents’ spouses/partners work and drive an average of 17 miles one-way. Only two-thirds of the working residents in higher-

income neighborhoods travel to work every day because many of them work from their homes, but when they travel, they make longer trips.

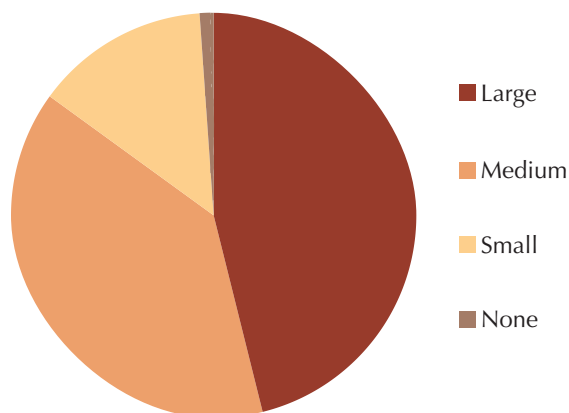
Air travel is highly correlated with income. More than one-third of those living in higher-income neighborhoods fly at least once a month compared to just three percent of those in the middle- and lower-income neighborhoods. Nearly half the lower-income residents never fly compared to about one-third of the residents in middle-income neighborhoods and just two percent of the residents in higher-income neighborhoods.

Nearly six of 10 PASS respondents use gasoline-powered lawn mowers or leaf blowers in the yard, with no differences in the rates of use by neighborhood income level. Respondents in higher-income neighborhoods are most likely to use pesticides (eight of 10) and herbicides (four of 10) in their yards. Backyard swimming pools, of course, are more common in the higher-income neighborhoods. Every HF2 respondent has a swimming pool.

These findings indicate that upper-income households are responsible for putting more pollutants in the air, soil, and groundwater than middle- or lower-income households.

**Figure 5.6**

### EFFORT TO CONSERVE ENERGY IN HOUSEHOLD



1. Lynn White Jr. 1967. *Science* 155: 1205.
2. Each of the eight questions on an environmental concern was asked twice: once referring to the Valley and once referring to “your neighborhood.” Respondents were given response choices of very concerned, somewhat concerned, slightly concerned, and not concerned at all.
3. Two eight-item indexes summing the responses to all questions were constructed for Valley responses and for neighborhood responses. (The alpha reliability coefficients for these scales  $\geq .80$  and the Pearson correlation between them = .88.) Using a paired t-test for individuals’ scores on the two scales, concern about Valley pollution is significantly higher than neighborhood concern.
4. For example, the City of Phoenix website ([www.ci.phoenix.az.us/WATERSERVICES](http://www.ci.phoenix.az.us/WATERSERVICES)) states that the average Phoenician uses 175 gallons of water per day, while the City of Tucson website ([www.ci.tucson.az.us/water](http://www.ci.tucson.az.us/water)) provides detail by season and family size—a weighted average usage is 128 gallons per day.
5. Using a one-way ANOVA for three groups of neighborhoods (higher-, middle-, and lower-income) on the eight-item environmental indexes, the upper-income fringe neighborhoods have a statistically significant lower level of overall concern for both the Valley and their neighborhoods. Index scores in middle- and lower-income neighborhoods are not much different.

## CHAPTER 6

# SOCIAL CAPITAL AND NEIGHBORHOOD RESILIENCE

*“At the neighborhood level . . . the willingness of local residents to intervene for the common good depends in large part on conditions of mutual trust and solidarity among neighbors.”<sup>1</sup>*

*Robert Sampson, Stephen Raudenbush, and Felton Earls*

### The Social Capital of Neighborhoods

Social scientists use the concept of “capital” to represent the advantages and disadvantages that make some neighborhoods more desirable places to live than others. Not only do neighborhoods have economic capital (real estate value) and human capital (socioeconomic status of residents), they have “social capital,” which helps to understand the fabric, or human dynamics, of community life. “Capital” is an apt term for this characteristic of neighborhoods because it connotes something that is stable, durable, productive of other goods, and may be preserved even as it produces.

Social capital is formed by the social connections and acts of reciprocity between people. Neighborhoods create a stock of social capital when neighbors know each other, talk to each other, help each other, and trust one another.<sup>2</sup> Social capital, in turn, can be used to gain resources for the neighborhood that enhance the quality of life for all residents. To date, only limited research has been conducted on the formation of social capital in neighborhoods and its effects on residents’ attitudes and experiences. However, this issue is quite important to understanding Greater Phoenix because of the way communities are growing.

More and more neighborhoods in the Valley are created instantaneously by large-scale developers rather than through the more gradual change associated with older cities. In addition, short residential tenure in many neighborhoods means that people do not have long to come together. This raises interesting questions about whether a mobile population can create the strong social bonds that promote community.

Two indexes measure neighborhood social capital in this study:

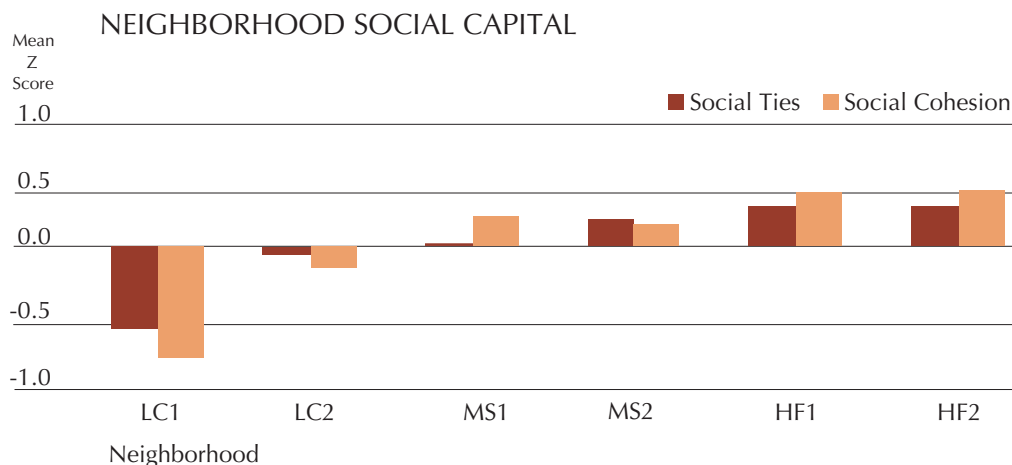
- *Social Ties* are the behaviors and actions engaged in by neighbors who associate and network among themselves.
- *Social Cohesion* is the subjective feeling of residents about the reciprocity, trust, and shared values involved in their relationships with neighbors.

The Social Ties Index consists of four items rated on four-point scales.<sup>3</sup> The average response of the sample is 11.7 with a standard deviation of 3.2. This means that respondents score, on average, a little above the index midpoint on actions that create social ties to their neighbors. For example, 45 percent often chat with their neighbors but only 26 percent often invite each other to their homes.

The Social Cohesion Index consists of five items rated on four-point scales.<sup>4</sup> The mean of 15.6 and standard deviation of 3.5 places the average respondent well above the index midpoint on feelings of cohesiveness or solidarity with their neighbors. For example, 51 percent say neighbors get along very well and 40 percent feel their neighbors can be trusted a lot. Twenty-six percent feel they are a very close-knit neighborhood.

On the average responses for both measures of social capital, statistically significant differences between neighborhoods are present (see Figure 6.1).<sup>5</sup> Most apparent is a striking correspondence between social capital and average income of neighborhoods. In general, economic capital (home value), human capital (socioeconomic status), and social capital (associations) go hand in hand. The two higher-income fringe neighborhoods (HF1 and HF2) have nearly identical scores on social ties

**Figure 6.1**



Note: Neighborhoods ordered by ascending income and distance from downtown Phoenix.

and social cohesion. These residents express somewhat higher levels of subjective bonding than the actions that form real social ties. Nonetheless, both indexes are higher than in other neighborhoods.

These findings about the differences in neighborhoods agree with the analysis of associations between individual characteristics and indexes of social capital. Respondents who report higher scores on their own social ties and feelings of cohesiveness are more likely to be white and homeowners and fall into the higher levels of education, income, and neighborhood attachment. Generally, these are the kind of people who live in HF1 and HF2.

A second look at Figure 6.1 also reveals another difference between the two lower-income core neighborhoods. Just as LC1 residents report very low neighborhood attachment, they also say they have few social ties or connections to their neighborhood. In contrast, LC2 is much more similar to the middle-income suburban neighborhoods (MS1 and MS2) on social capital measures than it is to LC1. These findings illustrate the larger point that social capital can be a neighborhood resource separate from economic capital and human capital. The causes and consequences of anomalous cases, such as LC2, are worth further exploration.

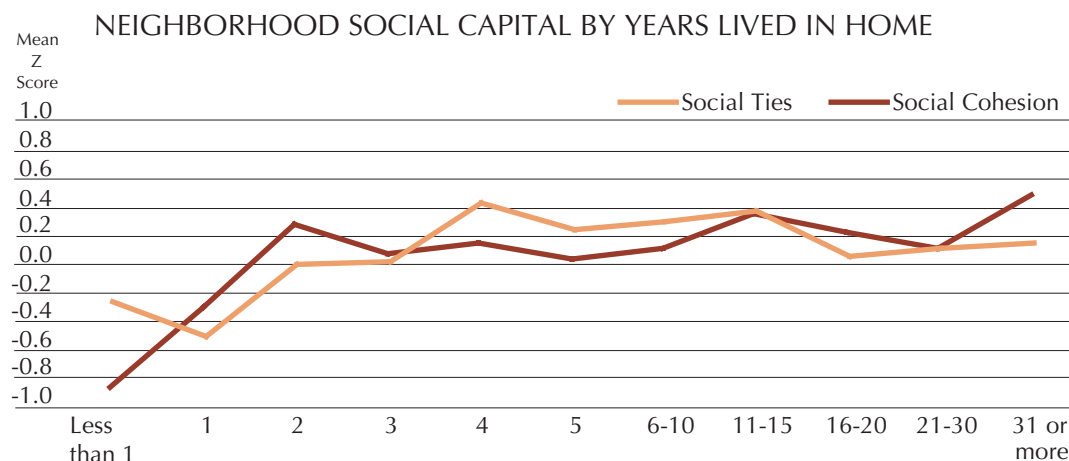
In a mobile, fast-paced metropolis such as the Valley, concern often is expressed that neighborhoods do not have a chance to develop the social capital to make them

both agreeable places to live and responsive to concerns about the local environment. However, HF1 and HF2, the newest neighborhoods on the urban fringe, have developed the most social capital.<sup>6</sup> This finding runs counter to the traditional view on community building that says long-term residents are more socially involved with their neighborhoods.<sup>7</sup>

At least two possible explanations may account for this discrepancy between expectations and findings. First, the rapid development of new neighborhoods means that the first generation residents arrive there at about the same time. The two fringe neighborhoods, for example, are socially and economically homogeneous groups of people. Thus, a core of people in these neighborhoods have affinity for each other based on the common experience and excitement of being first settlers or “pioneers.”

A second possibility is that it may take less time than researchers thought to build neighborhood social capital. Figure 6.2 graphs the index scores for Social Ties and Social Cohesion against the number of years individuals have lived in their neighborhood. New residents (of less than one year) have few social interactions with their neighbors, and the score takes a dip for residents who have been there one year.<sup>8</sup> After that, however, social interactions increase rapidly and peak at around four years of neighborhood tenure. Perceptions of social cohesiveness also start out fairly low but rise more rapidly, peaking at two years of tenure. Both scores level off for long-term residents, though they do not actually decrease.

**Figure 6.2**



The graph tells us that people move fairly rapidly to establish connections and a feeling of solidarity with their neighbors.

Unlike emotional neighborhood attachment (“miss your neighborhood”), which increases

with respondent’s length of residence, the development of social capital happens fairly quickly. Unstable neighborhoods such as LC1, however, do not enjoy the conditions that allow this to happen.

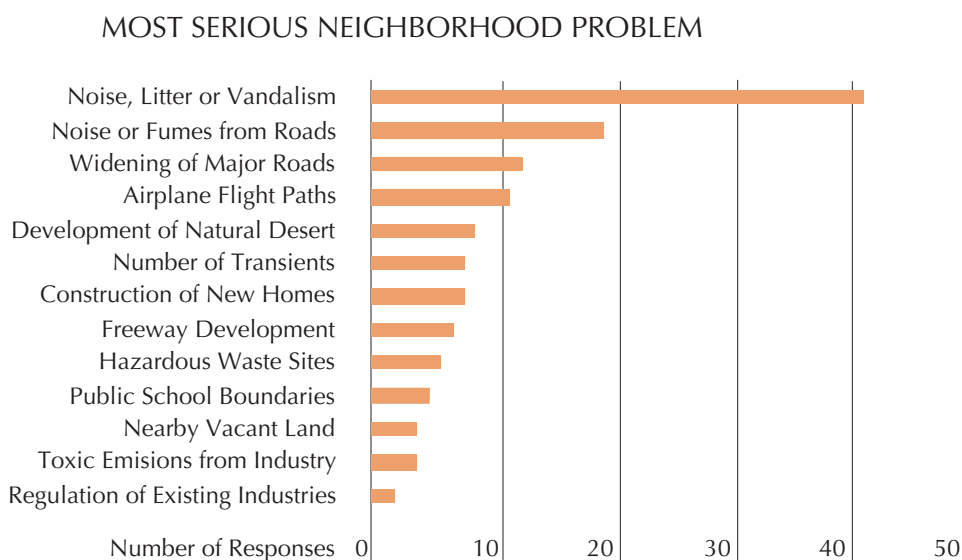
## Neighborhood Environmental Problems

In a growing metropolis with a history of industrial expansion, a large number of migrants from diverse origins, and continuous construction, neighborhoods are likely to experience problems that result from the legacy of historical land use, as well as the changes taking place around them. What is the nature of these problems and how are they distributed across different types of neighborhoods? The PASS survey identified 16 potential problems and

asked respondents if each was a “big problem,” “little problem,” or “not a problem.” Then respondents identified which was the most serious problem.<sup>9</sup>

Ranking the 16 issues by percentage of respondents identifying it as the most serious problem, “noise, litter, or vandalism,” is cited by the largest number of respondents. The second most frequently cited is “noise or fumes” from roads (see Figure 6.3).

**Figure 6.3**



PASS respondents report experiencing an average of 1.4 big problems and 4.2 total (big and little) problems in their neighborhoods. Respondents in both the upper-income neighborhoods and the lower-income neighborhoods report more problems, on average, than respondents in the middle-income neighborhoods. LC2—a lower-income, stable homeowner community—reports the most big problems, but HF2, a rich South Mountain community, reports the most total problems.

In order to determine if certain kinds of problems are characteristic of different neighborhoods, a factor analysis of the items was conducted, yielding three factors that represent problems with: (1) Toxic Environment, (2) Development, and (3) Urban Environment.<sup>10</sup> The items that load onto these factors are presented in Figure 6.4 in the order of their correlation with the factor.

The Toxic Environment Factor features environmental justice items, problems that are receiving attention nationally and locally. The consensus among researchers is that lower-income neighborhoods are saddled with more

toxic environmental problems, in part because they lack political power to oppose the siting, for example, of industrial polluters near their neighborhoods. They also lack the political voice to force the cleanup of earlier toxic waste sites.

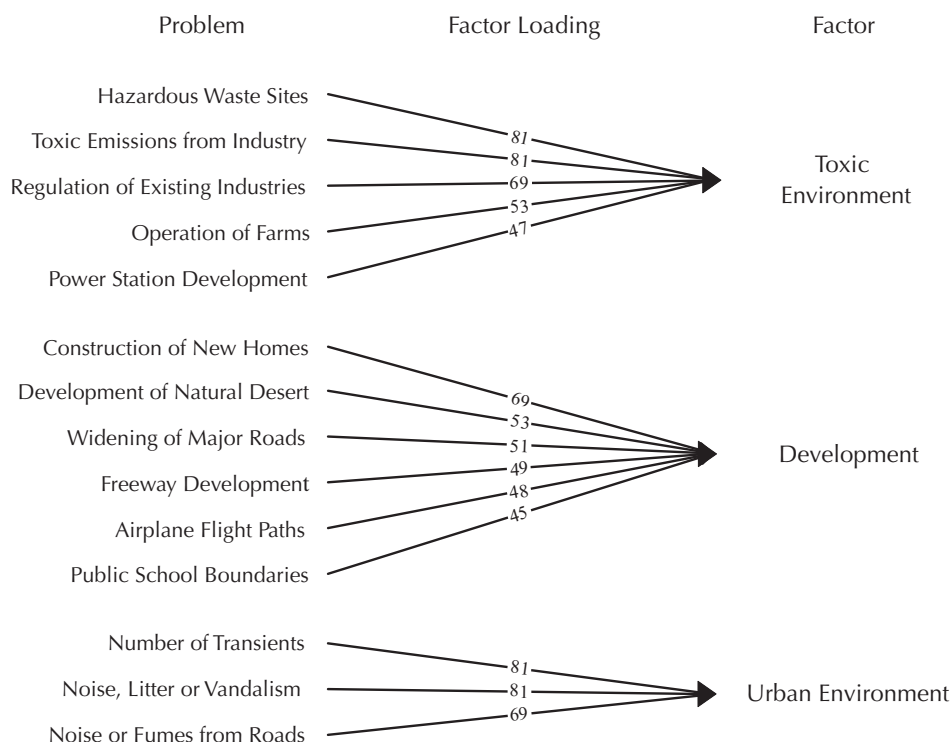
The Development Factor features problems related to land use and development that are chronicled daily in the local news media and often are the subjects of hearings, protests, and legal actions designed to stop the problem or relocate it elsewhere—the NIMBY (not-in-my-back-yard) syndrome.

The items in the Urban Environment Factor are familiar from years of social science studies that document the existence of problems such as vandalism, violence, drugs, and transients, especially in inner-city urban neighborhoods with high rates of joblessness, poverty, and social disorganization.

As expected, residents in different types of neighborhoods experience varying amounts of these problems. PASS respondents from lower-income neighborhoods near the central city have a statistically significant higher mean

**Figure 6.4**

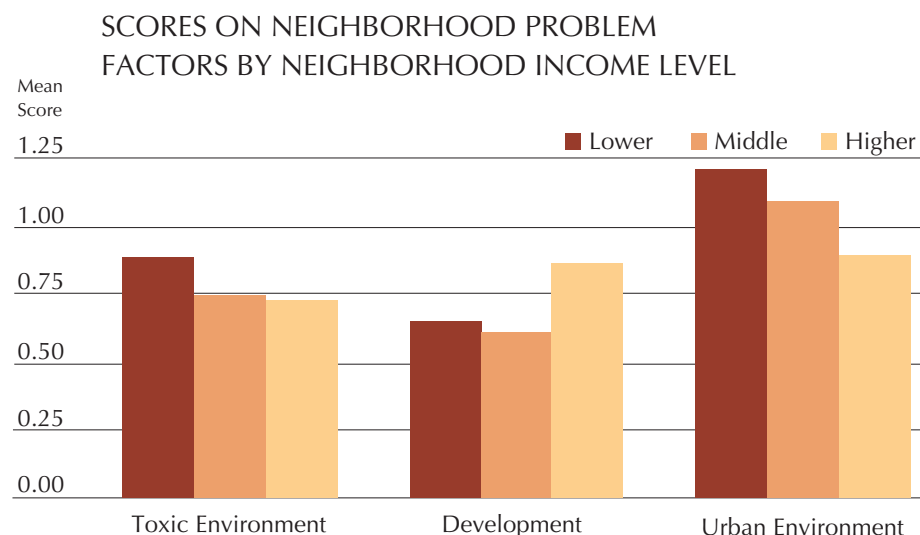
#### CLUSTERS OF NEIGHBORHOOD PROBLEMS THAT DEFINE THREE FACTORS



score on the Toxic Environment Factor, indicating they face more serious environmental problems than the other neighborhoods (see Figure 6.5). Residents of higher-income neighborhoods face significantly more problems stemming from growth and development near them, which is not surprising given their location on the urban fringe. Finally, residents of

both middle- and lower-income neighborhoods have significantly higher mean scores on the Urban Environment Factor, indicating that they are plagued by the typical problems of city neighborhoods. Within each income level, however, the highest mean score is on the Urban Environment Factor.

**Figure 6.5**



## Neighborhood Efficacy and Problem-Solving Behavior

This section focuses on the relationship between social capital and how residents respond to common neighborhood problems. “Capital” is used to the advantage of those who own it. One of the reasons to be concerned about the amount of social capital neighborhoods have is that the outcome of having it is to “increase the capacity for action and facilitate the production of some good” which is beneficial to individuals and the group as a whole.<sup>11</sup> Thus, having a lot of neighborhood social capital should enable residents to maintain a better quality of life by increasing their capacity to overcome problems and threats to their safety and convenience. In short, having social capital should increase the resilience of neighborhood communities.

*Neighborhood Efficacy* (feeling empowered to solve problems) is measured on a three-point scale of whether respondents feel that “you and your neighbors have a lot of control about what goes on in your neighborhood, a

little control, or no control at all?” Twenty-eight percent felt that they had “a lot” of control, 54 percent said “a little,” and 18 percent said “none.”

Problem-solving behaviors are investigated in PASS with questions that tap a general neighborhood style of addressing problems that occur in the neighborhood and specific actions taken on the biggest environmental problem the neighborhood has faced.

- For *General Problem-Solving* behaviors, only 12 percent said they and their neighbors act directly to confront neighborhood problems, 44 percent said they complain to proper authorities, and 44 percent said they did nothing or had no problems.<sup>12</sup>
- For *Specific Environmental Problem-Solving*, 29 percent of the respondents said they personally or a neighborhood organization had done something about the biggest problem their neighborhood had faced (see Figure 5.3 for a list of these problems).<sup>13</sup>

The responses to these questions indicate that most people believe they can moderately influence the direction of events in their immediate environment and that quite often people complain about problems to police and other organizations to help solve them. Few people actually do something on their own initiative or in concert with their neighbors to solve a neighborhood problem.

The Social Ties Index and the Social Cohesion Index are indeed associated with responses to efficacy and problem-solving behavior. Residents who report high scores on social ties and social cohesion in their neighborhoods are much more likely to think they have a lot of control over what goes on in their neighborhoods (see Figure 6.6). Respondents with very low scores on social ties and social cohesion say they have no control. The relationship between social cohesion and efficacy, two perceptual measures, is highly significant. The relationship between social ties and efficacy is only marginally significant.

The same types of relationships hold between social capital measures and problem-solving behaviors. People who report higher levels of social ties and social cohesion are more likely to deal directly with neighborhood problems and to take action on environmental problems (see Figures 6.7 and 6.8). The stronger relationships in these cases are between the actual behaviors: social ties (associations) and problem solving (action).

Neighborhood efficacy and specific problem-solving actions are associated with the median income of neighborhoods. This is not surprising since neighborhood income and social capital are significantly related to each other. Respondents in higher-income fringe neighborhoods are more likely to say the neighbors have “a lot” of control over

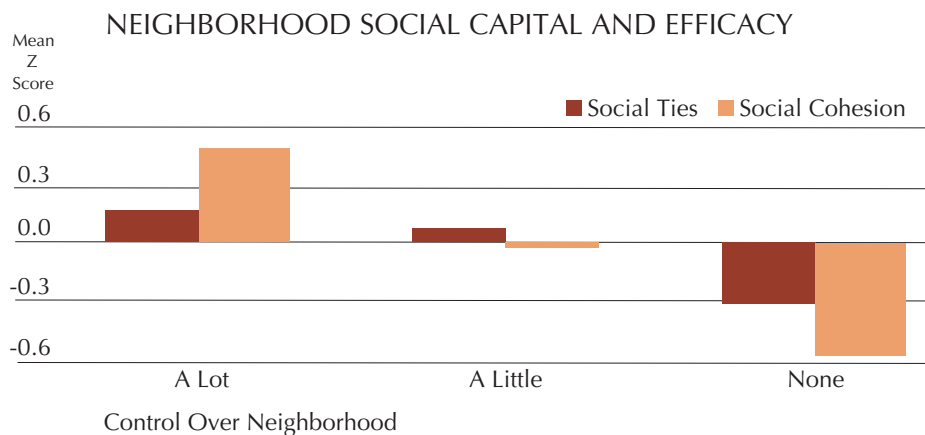
what happens (35 percent) than residents in middle-income suburban (26 percent) and lower-income core (23 percent) neighborhoods. Similar percentages for higher-, middle-, and lower-income neighborhoods pertain to residents who answered “yes” to taking action on a neighborhood environmental problem.

None of the efficacy or problem-solving variables has a statistically significant relationship with how long respondents have lived in their neighborhoods. In fact, some people who have lived there longer feel less control and are less likely to act.

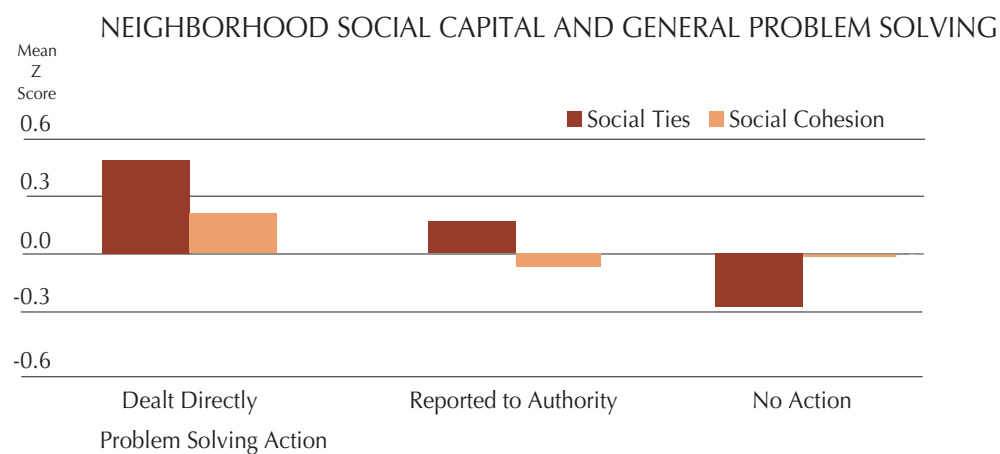
The relationship between median neighborhood income and residents’ efficacy or problem-solving may be due to the income of residents or to other coexisting variables—such as age and location of neighborhood, education or ethnicity of respondents, or types of problems—any of which might influence residents’ perceptions and actions. Based on the experiences in a half dozen neighborhoods, it appears that a constellation of factors representing neighborhood “capital” advantages some and disadvantages others in controlling their own fate.

The upper-income fringe neighborhoods that have greater social capital solve significantly more problems (mean = .89) and the lower-income core neighborhoods with the least social capital solve the fewest problems (mean = .33) in their neighborhoods. This could imply that problems concerning land use and development, most often faced by upper-income neighborhoods, are more likely to be resolved in the neighborhood’s favor than the toxic environment and urban problems most often faced by lower-income neighborhoods. Or it could mean simply that neighborhoods with more capital are more effective problem solvers.

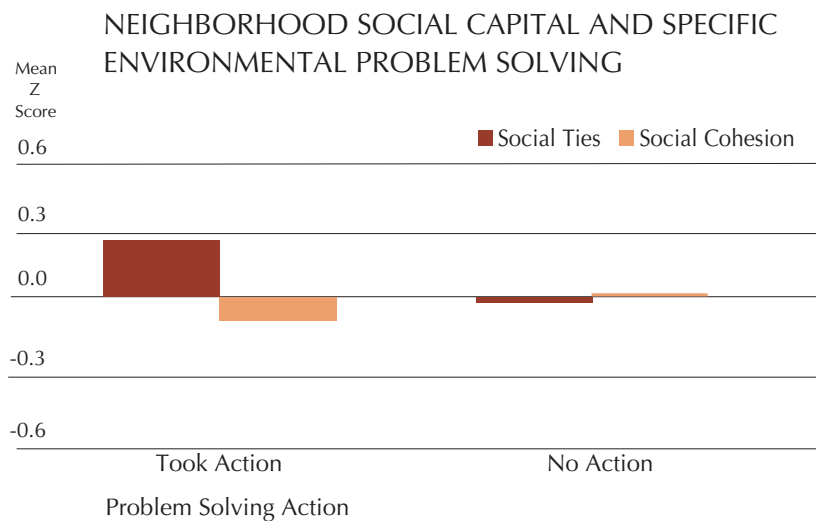
**Figure 6.6**



**Figure 6.7**



**Figure 6.8**



1. Robert Sampson, Stephen Radenbush and Felton Earls. 1997. "Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy." *Science* 277 (15 August).
2. Pamela Paxton. 1999. "Is Social Capital Declining in the United States? A Multiple Indicator Assessment." *American Journal of Sociology* 105 (1): 88–127.
3. The items in this scale are: How often do you or members of your household (1) stop and chat informally with neighbors, (2) invite neighbors over or have neighbors invite you over, (3) help your neighbors by lending things, giving someone a ride, or assisting with household tasks, and (4) How well do you feel you know your neighbors? Minimum score = 4, maximum = 16, midpoint = 10. The alpha reliability coefficient for the scaled items is .81.
4. The items in this scale are: (1) How close-knit is your neighborhood? (2) How much can people in your neighborhood be trusted? (3) How much do people in your neighborhood generally get along with each other? (4) How much do people in your neighborhood share the same values? (5) How much are people in your neighborhood willing to help each other? Minimum score = 5, maximum = 20, midpoint = 12.5. The alpha reliability coefficient for the scaled items is .84. The Social Ties and Social Cohesion indexes are correlated .59.
5. For the following analyses, the indexes were converted to z-scores (mean = 0, standard deviation = 1) in order to place Social Ties and Social Cohesion on a common metric.
6. Patricia Gober, "Phoenix: A City of Migrants," also found that people who live on the urban fringe are more attached to their neighborhoods than residents in the urban core.
7. J.D. Kasarda and M. Janowitz. 1974. "Community Attachment in Mass Society." *American Sociological Review* 39: 328–339, and many others.
8. The higher initial score could represent the effect of meeting new neighbors and "saying hello" that tapers off for awhile after the initial round of greetings and then resumes as people begin to integrate into the neighborhood.
9. Respondents also were asked if there were other problems, but only a few replied to the open-end question.
10. Factor analysis is a statistical technique used to find the underlying commonalities in a group of measured variables. Each item was coded as follows: 3 = big problem, 2 = little problem, 1 = no problem. The solution works from a covariance matrix of variables and "rotates" the resulting factors so that they are uncorrelated with each other. Two items did not load highly on any factor: construction of new industrial buildings and nearby vacant land.
11. Pamela Paxton, 1999.
12. These categories were developed from open-end responses to the question, "Sometimes problems occur in neighborhoods . . . If problems have occurred, what did you and your neighbors do about them?"
13. This percentage combines three questions about whether the respondent, a homeowners association, or a neighborhood group had taken action on the problem.

## THE FUTURE OF THE PHOENIX AREA SOCIAL SURVEY

The overarching goal of the PASS project is an improved understanding of the relations between communities and environment in a metropolis undergoing extremely rapid growth within the constraints imposed by an arid climate. How do residents of Greater Phoenix—many of whom have migrated here from other parts of the country and from other nations—think about their quality of life and how do they interpret the natural environment? A key component of this research is its focus on neighborhoods, as these are the social contexts through which residents perceive their surroundings and in which they operate as individuals and as part of the community.

In order to fulfill this mission, PASS must expand in three complementary directions, which will require additional resources and sponsors:

- First, the numbers of households and neighborhoods in the social survey need to increase so that a wider variety of communities across the 24 municipalities in the metropolitan area are represented. Of the 200 CAP LTER ecological monitoring sites, 117 are located in residential areas, all of which are potential locations for survey research. Identification of CAP LTER undeveloped sites that soon will be under construction is a priority so that the first generation of homeowners at the inception of the neighborhood can be surveyed. Ideally PASS will be a longitudinal study in order to track residential mobility and changes in environmental attitudes and behavior over time.
- Second, the project must draw upon an array of research methodologies in addition to the sample survey. Ethnographic case studies of selected neighborhoods would deepen understanding of community dynamics. Historic demographic analyses of all census tracts in the study area would enable projections of the effects of development on the social and natural environment into the future. GIS and spatial analyses are valuable tools for representing the pattern and pace of change.
- Finally, a unique aspect of this project is its ability to connect numerous data streams from other disciplines to the social survey responses. For example, collaborative efforts are underway in the pilot neighborhoods to collect temperature and humidity data from stationary climate monitors, to remotely sense thermal temperature and vegetation data, and to analyze water and energy usage data for the PASS households. These data are being used to analyze human interactions with the functioning of neighborhood ecosystems and microclimates.<sup>1</sup>

In conclusion, universities in many major metropolitan areas have established social surveys that monitor residents' attitudes on urban issues. Academics and decisionmakers in Greater Phoenix, a growing and changing metropolis in an understudied region of the country, need to know much more about the people who live here. PASS, a new multidisciplinary approach to urban studies, would afford this opportunity.

1. NSF Grant No. 0216281. "Neighborhood Ecosystems: Human-Climate Interactions in a Desert Metropolis," September 2002–February 2004. Co-Principal Investigators Sharon Harlan, Anthony Brazel, Larissa Larsen, and William Stefanov.

# APPENDIX A

## SAMPLING AND SURVEY ADMINISTRATION

The PASS pilot study was based on an area probability sample of housing units within selected census block groups in the city of Phoenix. Block groups (which generally consist of between one-eighth and one-half of a square mile) were used to define the boundaries of neighborhoods because their residents are relatively homogenous in demographic and social characteristics and because block groups can be linked readily to decennial census and other sources of spatially referenced data.

To coordinate PASS data with ecological measures gathered by the CAP LTER, the sampling frame for block groups was Survey 200, randomly selected plots in Maricopa County that are long-term monitoring sites of the CAP LTER. By choosing Survey 200 sites, data on human behavior can be coordinated with an array of biotic and abiotic data collected by CAP LTER scientists.

Of those census block groups that overlay the Survey 200 plots, 117 are located in residential areas and 45 sites are within residential areas in the city of Phoenix. Selecting only block groups within the city of Phoenix allowed for a constant level of municipal services and a uniform government structure among neighborhoods.

Decennial census data from 1990 and 2000 were collected for the 45 block groups within the city of Phoenix. After visiting a variety of possible survey sites, a purposive sample of six block groups was chosen in order to maximize differences between location (fringe,

suburban, and core) and family income (higher, middle, and lower) of the neighborhoods. The term “neighborhoods” in this study generally corresponds to the boundaries of the census block group. However, the two fringe block groups are geographically large due to low population density, so these neighborhoods consist of only a portion of the block group.

PASS was administered by the ASU Survey Research Laboratory. Using Maricopa County Assessor maps of the targeted block groups, the dwelling units were enumerated by neighborhood and an area probability sample was drawn. Interviewers visited the households and recruited participants for the survey. An incentive (pair of movie tickets) was offered to those who would complete the interview. Interviews were conducted in English and Spanish either at the house or by telephone using a Computer Assisted Telephone Interviewing (CATI) system. The survey consisted of more than 370 items.

A total of 217 interviews were completed with approximately equal numbers per neighborhood: HF1 = 32, HF2 = 38, MS1 = 32, MS2 = 37, LC1 = 39, LC2 = 39. The response rate was 43 percent overall, calculated as the number of completed surveys divided by the sum of completions and refusals (at the door and on the phone). By neighborhood, response rates ranged from 35 percent to 57 percent, with the highest rate in the poorest neighborhood, LC1. Interviews were conducted from October 9, 2001 through April 20, 2002.

# APPENDIX B

## REASONS FOR RESIDENTIAL MOBILITY

Lending credence to the idea that most people who move locally are improving their position in the housing market, 59 percent of the respondents say their current neighborhood is a better place to live than their prior neighborhood. An even higher 80 percent of homeowners and 68 percent of renters say that people

would be making a good financial decision to live in their current neighborhood. Among the three-quarters of PASS respondents who most recently moved from a home in the Valley to their current one, multiple factors played a role in their decisions.

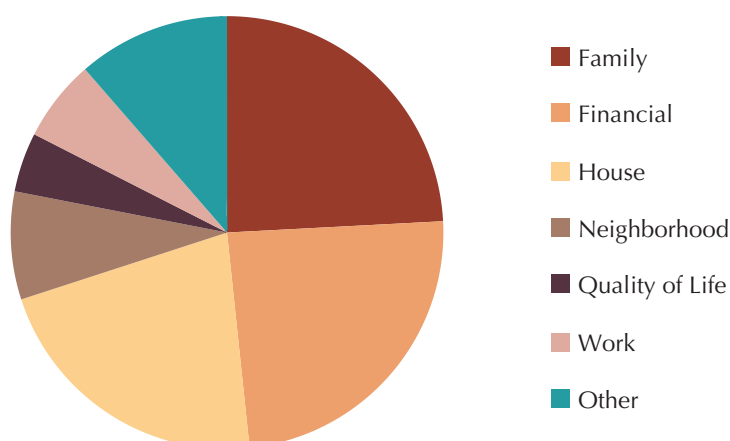
### Local Moves: The “Push” Factors

Respondents who already were living in the Valley cite three main push factors for moving from their prior home: family, finances, and house are about equally important and account for 70 percent of their responses.<sup>1</sup> The most typical family reasons are changes in marital status and children being born or leaving home. The most common financial reason is to move from being a renter to purchasing a home, indicating that when

people move, most tend to move up in the housing market. Affordability also is a factor. People who mentioned the house itself as a reason to move generally thought their prior house was too small. Thus, factors relating to the quality of life or other concerns about the old neighborhood do not play much of a role in “pushing” people to move locally (see Figure B.1).

**Figure B.1**

REASONS FOR MOVING FROM LAST HOME:  
RESPONDENTS MOVING FROM WITHIN THE VALLEY

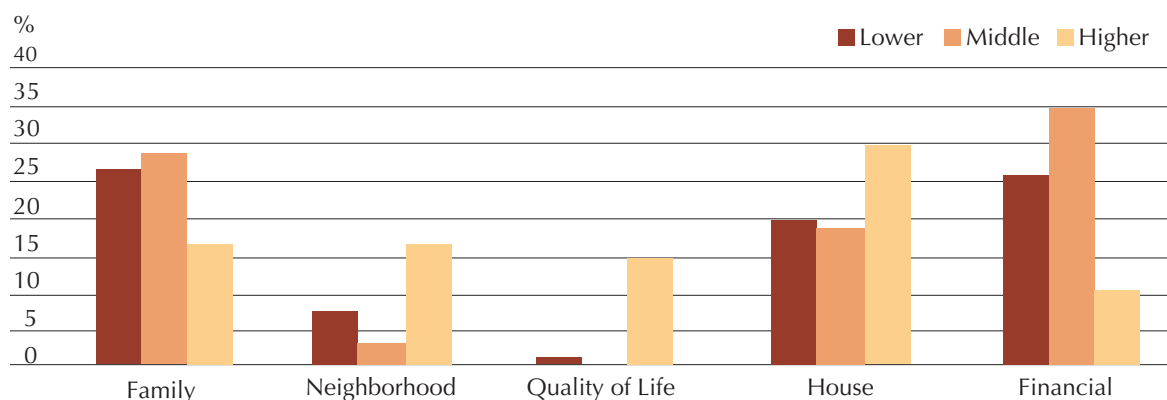


Push factors in the higher-income fringe neighborhoods are considerably different from those in the other neighborhoods. Quality of life, community and neighborhood, and house-

related reasons are more important among the respondents in higher-income neighborhoods, whereas family and financial reasons are less frequently cited (see Figure B.2).

**Figure B.2**

REASONS FOR MOVING FROM LAST HOME BY NEIGHBORHOOD INCOME LEVEL:  
RESPONDENTS MOVING FROM WITHIN THE VALLEY



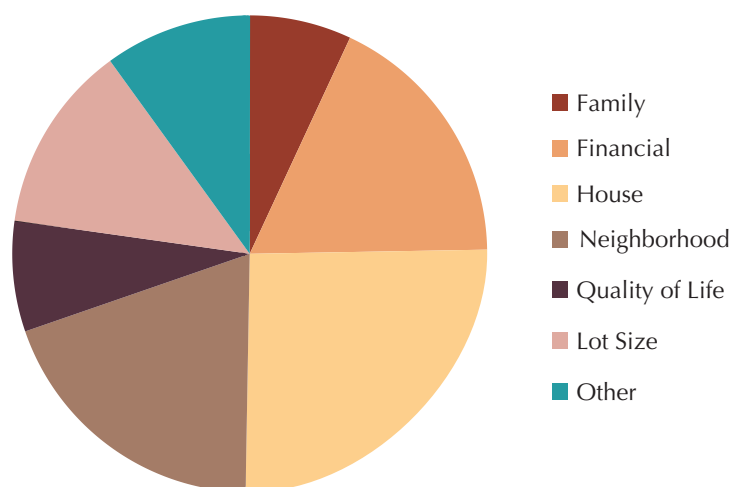
## Local Moves: The “Pull” Factors

Respondents chose their current home for a different set of reasons than they left their prior home. In particular, family factors are much less important, whereas the house, the neighborhood, finances, and lot size emerge as the four most important pull factors (see Figure B.3). Typically, movers want a larger, quality house on a larger lot that is affordable. Location is a prime factor in choosing the new house and neighborhood, as is a desire for a better neighborhood.

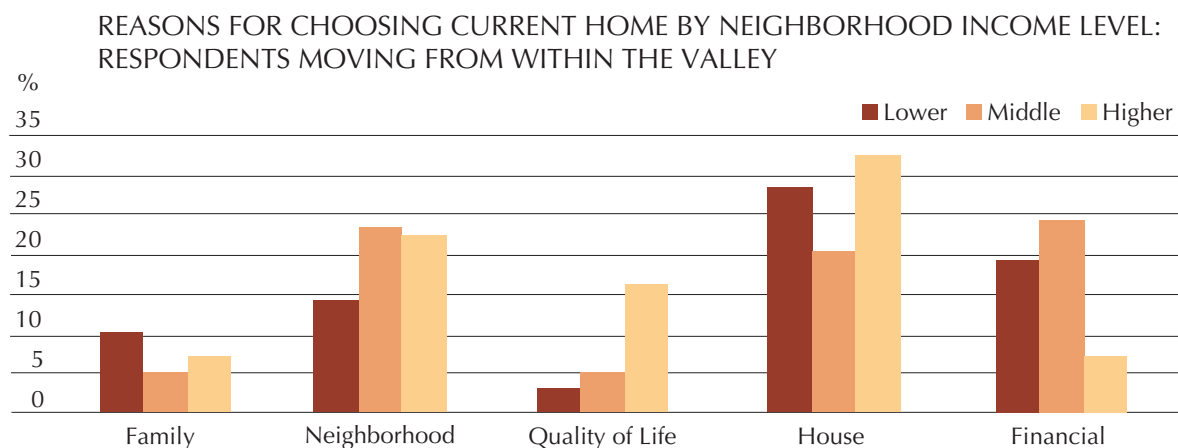
Differences between neighborhoods are not as great on the reasons for choosing the new home as they are on moving from the prior one. Finances are of much less concern to residents of the higher-income neighborhoods than to the other groups. Quality of life issues are most often mentioned in higher-income neighborhoods. Community and neighborhood factors are less often cited in lower-income neighborhoods (see Figure B.4).

**Figure B.3**

REASONS FOR CHOOSING CURRENT HOME:  
RESPONDENTS MOVING FROM WITHIN THE VALLEY



**Figure B.4**



## Long-Distance Moves

Reasons for making a long-distance move differ from the reasons for moving within the Valley. Among the one-quarter of respondents whose most recent move was from outside the Valley, the most important reason for leaving their former home was work-related (primarily due to job opportunities, including transfer, relocation, or promotion). Quality of life played a lesser role. Relative to those moving from within the Phoenix area, work-related reasons

were far more important, and quality of life also was cited more often.

The most important reason attracting people to their present home was community and neighborhood (especially location), but the house, quality of life, and financial reasons (especially affordability) all contributed. Neighborhood and quality of life reasons were more important than among those moving from within the Valley.

1. Respondents could provide more than one answer to these questions.

