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EVIDENCE OF AGRARIAN URBANISM:
LAND USE PREFERENCES OF RESIDENTS LIVING ON SMALL ACREAGE
FARMS OR LARGE LOTS WITH ANIMAL RIGHTS
IN CACHE VALLEY, UTAH

by

Laurie B. Hurst

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF LANDSCAPE ARCHITECTURE

Approved:

David L. Bell
Major Professor

Carlos V. Licón, PhD
Committee Member

John C. Allen, PhD
Committee Member

Mark R. McLellan, PhD
Vice President for Research and
Dean of the School of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

2013

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ABSTRACT

Evidence of Agrarian Urbanism:
Land Use Preferences of Residents Living on Small Acreage
Farms or Large Lots with Animal Rights
in Cache Valley, Utah

by

Laurie B. Hurst, Master of Landscape Architecture

Utah State University, 2013

Major Professor: David Bell

Department: Landscape Architecture and Environmental Planning

Until the last half century, land development patterns in the Intermountain West were designed after the Mormon settlement pattern. With its gridiron streets and in-town farmsteads, this pattern gave families the opportunity to grow crops and raise a few animals on their one acre or less in town with the added advantage of having a social life. Over the last century, small farms have dwindled and large farms have increased in size. However, in the Intermountain West the farmstead tradition continues with families who grow gardens and raise animals on their large city lots, who value self-sufficiency, and who thrive in wide open spaces.

To better understand the land uses and preferences of this population, a research survey was mailed to a sample pool of residents of Cache Valley, Utah who live on large lots with animal rights. They contributed an array of data about their backgrounds and how they are

specifically using their land. Their responses validated the existence of a continued agrarian culture and gave insight on how they felt about trends in conservation subdivisions and common open space. A range of opinions about ideal lot size supported rural planners' suggestions to develop lots of varying sizes to meet the needs of a diverse population.

Small farms on large lots can be a valuable part of a sustainable urban and rural environment. Local vegetables and agricultural products bring nature and natural processes back to an urban setting and reduce the environmental footprint imposed by extensive shipping. Culturally, small farmers provide a connection to the past and fulfill a lifestyle choice for a rural-minded population. Particularly in the Intermountain West, planners need to integrate these small farms into their developments to preserve the rural character of towns and cities of the region.

(156 pages)

PUBLIC ABSTRACT

Evidence of Agrarian Urbanism: Land Use Preferences of Residents Living on Small Acreage Farms or Large Lots with Animal Rights In Cache Valley, Utah
Laurie B. Hurst

Until the last half century, land development patterns in the Intermountain West were designed after the Mormon settlement pattern. With its gridiron streets and in-town farmsteads, this pattern gave families the opportunity to grow crops and raise a few animals on their one acre or less in town, with the added advantage of having a social life. In many places over the last century, cities have grown, small farms have dwindled, and large farms have been pushed to the fringe. However, in the Intermountain West the agrarian tradition continues with a number of families who grow gardens and raise animals on their large city lots, who value self-sufficiency, and who thrive in wide open spaces.

Modern development methods, such as smart growth, New Urbanism and conservation subdivisions seek to minimize individual lot size and emphasize public open spaces. These may work in other parts of the country, but how do people in the Intermountain West feel about them? Do development patterns that encourage small lots and/or shared amenities appeal to Westerners who are accustomed to plenty of space for growing gardens or raising livestock? Or are people who live on large lots in this region even still using their land in those ways?

To better understand the land uses and preferences of this population, a research survey was mailed to a sample pool of residents of Cache Valley, Utah who live on large lots with animal rights. They contributed an array of data about their backgrounds and how they are specifically using their land. Their responses validated the existence of a continued agrarian culture and gave insight on how they felt about trends in conservation subdivisions and common open space. A range of opinions about ideal lot size supported rural planners' suggestions to develop lots of varying sizes to meet the needs of a diverse population.

Small farms on large lots can be a valuable part of a sustainable urban and rural environment. Local vegetables and agricultural products bring nature and natural processes back to an urban setting, plus reduce the environmental footprint imposed by extensive shipping. Culturally, small farmers provide a food connection to the land, a persistence of local heritage, and fulfill a lifestyle choice for a rural-minded population. Particularly in the Intermountain West, planners need to integrate these small farms into their developments to preserve the rural character of towns and cities of the region.

This study serves as a resource for planners who seek to develop region-specific planning techniques that will best serve the people of the Intermountain West. Results from the questionnaire display many of their preferences for amenities, open space and needs. Planners can use this information to adapt modern planning methods to preserve not only the land, but the culture and lifestyle of urban agrarians.

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Laurie B. Hurst

CONTENTS

	Page
ABSTRACT.....	iii
PUBLIC ABSTRACT	v
ACKNOWLEDGMENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
CHAPTER	
I. INTRODUCTION	1
Research Objective	4
Previous Work.....	5
Implications of Research.....	7
II. BACKGROUND OF THE STUDY.....	9
Why Large Lots?.....	9
Benefits of Small Farms to Society.....	10
Mormon Settlement Pattern	12
Unique Characteristics of the Intermountain West.....	15
New Urbanism and the West.....	16
Conservation Subdivisions and the West	18
Summary	19
III. METHODS OF RESEARCH	21
Selection of Survey Sample Group.....	21
Administration of the Survey.....	25
Documentation and Analysis of Returned Surveys.....	27
IV. DEMOGRAPHICS OF SAMPLE GROUP AND BASIC ANALYSIS OF RESPONSES.....	35
General Demographics (Q31, Q32, Q33, Q35, Q36).....	35
Respondents' Life Background (Q29, Q30, Q34)	37
Characteristics of Respondents' Current Neighborhoods (Q13, Q21).....	40
Common Open Space in Respondents' Neighborhoods (Q8, Q8a, Q8b, Q8c, Q9).....	42

Characteristics of Respondents' Current Lot and Living Patterns (Q6, Q7, Q18, Q19, Q20, Q26)	44
How Respondents Use Their Land for Agrarian Purposes (Q14, Q16, Q22, Q23, Q24, Q27)	49
Summary	54
V. ANALYSIS OF PREFERENCES QUESTIONS AND CROSTABULATION OF RESULTS	56
Respondents' Feelings about Their Neighborhoods (Q1, Q2, Q3, Q4)	56
Respondents' Feelings about Shared Amenities, Common Open Space and Smaller Lots (Q9, Q10)	59
Respondents' Feelings about Their Lots and Development Alternatives (Q11, Q12, Q15, Q17)	63
Respondents' Preferences on Four Types of Developments (Q25a, Q25b, Q25c, Q25d)	68
Respondents' Desired Characteristics in Their Ideal Neighborhoods (Q5)	72
Summary	74
VI. SUMMARY OF RESULTS AND RECOMMENDATIONS	76
Summary of Research	76
Limitations of Research	77
Possible Solutions	78
Conclusion	81
REFERENCES	82
APPENDICES	88
A: Correspondence with Respondents and Recordkeeping	89
B: Quantitative Results of Survey	107
C: Investigation into Factors Influencing Respondents' Likelihood to Live on a Smaller Lot with Shared Amenities	134
D: Written Responses for Q10, Q28 And Back Cover	138

LIST OF TABLES

Table	Page
1. Years Respondents Lived in Utah and Cache Valley (Q34)	40
2. How Respondents Feel About Their Neighborhood (Q1)	56

LIST OF FIGURES

Figure	Page
1. The Intermountain West.....	1
2. Small farm located two blocks west of downtown Logan’s Main Street	13
3. Cache Valley, UT context map	21
4. Close-ended question, single response (Q4)	28
5. Close-ended question with multiple responses (Q2)	29
6. Single question, with multiple single close-ended sub-questions (Q5).....	30
7. Partially close-ended question with both numbered and written responses (Q11)	31
8. Open-ended question with written response (Q28)	31
9. Age of respondents (Q31).....	35
10. Gender of respondents (Q32).....	36
11. Pre-tax annual household income from all sources in 2008 (Q33)	36
12. Religious affiliation (Q36)	37
13. Places where respondents grew up (Q29).....	38
14. Type of neighborhood where respondents grew up (Q30).....	39
15. Best description of current property type (Q13).....	40
16. How long respondents’ development/neighborhood has been around (Q21).....	41
17. Whether or not neighborhoods have common open space (Q8)	42
18. How well respondents feel common open space is maintained and managed (Q8a)	43
19. Number of times per month respondents or family uses their neighborhood’s common open space (Q8b).....	43

Figure	Page
20. Whether or not the common open space contributes to the overall quality of life in respondents' neighborhoods (Q8c).....	44
21. Acreage of current property (Q6).....	44
22. Shape of current lot (Q7).....	45
23. Number of people living at home (Q19).....	46
24. Children under 18 living at home (Q20).....	46
25. Average number of times respondent leaves home by car each day (Q26).....	47
26. Percentage of respondents who possess specified elements on their land (Q16).....	48
27. Presence or absence of farm animals on property (Q14).....	49
28. Types of animals kept on property in the last year (Q14).....	50
29. Percentage of respondents who have a garden plot (Q22).....	51
30. Sizes of vegetable garden plots (Q22b).....	51
31. Types of water available on property (Q23).....	52
32. How respondents use products raised on their property (Q27).....	53
33. Gross annual income from agricultural goods/services (Q24).....	53
34. Agricultural income according to lot size (Q24 & Q6).....	54
35. Reasons respondents live in their neighborhoods (Q2).....	57
36. Spacing of houses in current neighborhood (Q3).....	57
37. Respondents' feelings about distance between houses (Q4).....	58
38. Respondents' satisfaction with spacing of their houses (Q3 & Q4).....	59
39. How likely respondents would want to share amenities and cost (Q9).....	60
40. How likely respondents would live on a smaller lot with all desired amenities (Q10).....	61

Figure	Page
41. Respondents' feelings about who should own common open space (Q11)	62
42. Type of space most important to respondents (Q12)	63
43. Importance of certain characteristics in choosing current property (Q15).....	64
44. Respondents' feelings about the size of current lot (Q17)	65
45. Respondents' satisfaction with their lot size, actual number of responses (Q17 & Q6)..	67
46. Respondents' satisfaction with their lot size, percentage of satisfaction category (Q17 & Q6)	68
47. Likelihood of choosing rectangular lots (Q25b).....	69
48. Likelihood of choosing a farmstead subdivision (Q25a)	70
49. Likelihood of choosing a cluster subdivision (Q25d)	71
50. Likelihood of choosing a block subdivision (Q25c)	71
51. Characteristics in respondents' ideal neighborhood (Q5).....	73

CHAPTER I
INTRODUCTION

The Intermountain West was settled by people with Jeffersonian ideals—families establishing themselves on their own self-sustaining property (Figure 1). These small-scale family farmers valued the challenges, the satisfaction, the autonomy, and the rewards that working their own portion of land offered them as they provided for their families and communities (Flinn & Johnson, 1974). Their intrinsic connection to the land, their lifestyle of self-sufficiency, of hands-on work ethic and grit, is an exceptional part of the American story.



Figure 1. The Intermountain West. This region is comprised of Utah, Northwestern Arizona, Nevada, Southern Idaho and Western Wyoming. Adapted from *The Intermountain West: A Story of Place and People*, by R. H. Blake, 2002, Boston, MA: Pearson Custom Publishers.

The author of *The Fate of Family Farming* explains the significance of their farming lifestyle.

Perhaps other nations too have regarded their family farm tradition as central to their life, but we Americans have been especially blatant about it. For us it is not only a matter of food and livelihood, not just pride and tradition; it has to do with our national origins, our history, our literary culture, and our perceived character as well. (Jager, 2004, p. ix)

The legacy of family farming lives today in a large number of households of the Intermountain West who continue the small farmstead tradition of those early settlers in (Blake, 2002; Hoppe, MacDonald, & Korb, 2010;). Many of them live on large lots in suburbs or in small towns of the West that were developed in the historical Mormon Settlement pattern with space for small-scale agriculture. For both pleasure and production, they raise livestock animals, homegrown produce, honeybees, orchards and more. Some contribute in small ways to farmers' markets and other agricultural venues, others to their own food storage. But in a contrasting modern world of concrete and high rise buildings, these family farmers pass on a cultural heritage that equals or exceeds the productive value of their small plots of land.

Unfortunately modern planners see their large lots as threats toward sprawl. For the most part, the spacious West has been able to accommodate the 1 to 10 acres of land needed for their worthwhile ambitions and desires, even when situated within city boundaries. However, as population has increased over the past century, rural towns and cities have begun to sprawl over the green fields of farmers of past generations at least partly due to large lots. Ironically, in addition to urban development, corporate mega-farms have also swallowed up many of the small, independent farms that so characterized the culture of the West (Northrup & Lipscomb, 2003).

To combat sprawl in urban growth, ideas such as New Urbanism and Smart Growth have been used to encourage compactness, walkability and livability (Duany, Speck, & Lydon, 2009). In rural areas and along the outer fringe of cities, development methods like conservation subdivisions encourage higher density neighborhoods and more common open space (Arendt, 1996). Each of these development strategies strives to preserve the green vistas and open space of farmland, most often as it relates to large or medium-scale agriculture, for its aesthetic value and food production.

However, the small-scale farmers have somehow, until recently, been overlooked in development trends and in some ways are more endangered than large farms. Urban planning often suggests conserving large tracts of farmland on the fringes of cities for their visual, environmental and spatial value to an area, but small farms are not necessarily distinguished from large lots (Duany, Plater-Zybeck, & Speck, 2000). In New Urbanism large lots equal sprawl, and small farms require too much land for a New Urbanist city lot, but too little to be what they consider a bona fide farm. When judgment is based on lot size alone, the cultural and sociological value of the small farms in cities and rural areas is underemphasized.

Recently, proponents of smart growth have begun to recognize the value of small farms located within nearer proximity to consumers as a “green” resource for using less energy to transport produce. The most recent edition of *The Smart Growth Manual* (2009) suggests including small farms, from one to five acres, along the rural edge. Although this inclusion shows progress for the integration of small farms in New Urbanist planning, it does not conform well to cities in the Intermountain West, whose original city planning placed small farms interspersed throughout their city blocks.

The problem rests not in the methods of New Urbanism or conservation subdivisions, but in an over generalized application of these planning methods upon a unique situation. The West is unique in its physical aspects, cultural background and in its land development patterns. While one goal of any land use plan is unquestionably to preserve the open spaces and farmland, this cannot be at the expense of other important physical and cultural aspects of the West's unique character, which includes these small farmsteads. J.B. Jackson described this as the finding the "vernacular of landscape," or considering the traditional social and environmental traits that are best suited to the West (Jackson, 1984).

Any effective development method for cities in the Intermountain West will require adaptation to the specific needs and cultural and environmental commodities of each location. In other words, the best planning approach "will draw on the wisdom of historical precedent mixed judiciously with the best thinking of today based on our growing knowledge of the environment and technology" (Duerkson & Van Hemert, 2003).

Research Objective

Understanding the attitudes, preferences, habits and backgrounds of the people who choose large lots in the Intermountain West, or in Jackson's words, finding the "vernacular" of the region, will better enable planners to develop subdivisions and lot sizes that both preserve open space and meet the physical and cultural needs of the people who live on them. Adaptations can then be made to land development methods that will both conserve open spaces as well as blend with the historical patterns of the area.

The objective of this thesis was to generate evidence, based on a mailed survey in Cache Valley in Northern Utah, of the attitudes and preferences of people who live on lots between

one and ten acres in size. The gathered data serves as a resource for planners who will adapt current development methods to areas of the Intermountain West that have similar demographics and backgrounds, or that have similar lot configuration and agricultural focus.

Specific objectives of this survey were to:

- Develop evidence to show there are, in fact, people who use their large lots for agricultural purposes
- Understand demographics and general backgrounds of people who live on large lots
- Understand how these people feel about conservation subdivisions, common open space and shared ownership
- Establish general preferences of their “ideal” neighborhoods and their current lots

Previous Work

Over the years numerous surveys have been conducted on issues related to open space preservation, sprawl and economic benefits of open farmland. Unfortunately, most previous work has focused on large-scale farmers and farmland and no survey work has been found that focused specifically on small-scale farmers in the Intermountain West. Certain principles learned from these studies are nevertheless applicable to this thesis.

One survey conducted in Michigan (Kaplan, Austin, & Kaplan, 2004) found that while open space is considered desirable, the definition of “open space” and “nature view” differed substantially as a matter of personal opinion. Some preferred wooded areas, while others did not consider wooded areas “open” space. However, “nature view from my home” was by far the highest priority for homeowners when selecting their home, whether they currently lived in a conventional community or in an open space community.

A preferences survey conducted by the National Association of Realtors (2004) found that of 1004 American participants, most prefer smart growth communities over sprawling

communities. The survey also concluded that most people prefer shorter commute times over larger lots, and that governments should invest in improving present communities rather than in new communities. The survey also found that 73% of people who prefer sprawl communities also prefer large houses on plots of one acre or more. Interestingly, only 56% of people in the West said that living on a lot larger than an acre was important. This was no more important to them than it was to people in the Midwest (56%) and only slightly more important than to those in the Northeast (53%). Of notable significance, “the West” as defined in the NAR survey included large metropolitan areas on the West coast, not exclusively the people of the Intermountain West whose views may vary completely, as will be evidenced by the survey results of this master’s thesis.

Another study looked at how rural people and places are viewed by urban people in Pennsylvania (Willits & Luloff, 1995). Their findings indicated that “urban people view rural places in positive terms and feel that rural lifestyles should be preserved” (p. 454). Moreover, the study concluded that a majority of urban people felt (1) rural values are an important part of our national heritage, (2) life is less stressful in rural areas, (3) there is less crime and violence in rural areas, (4) rural areas have more peace and quiet, neighborliness, and friendliness, and (5) operating farms in suburban areas should be preserved. Only a minority of respondents said that lifestyles of rural people should change as society changes (25.7%) and a few believed that rural beliefs and values are inappropriate in today’s world (11.6%).

Envision Utah, a joint public-private campaign to shape sustainable land use planning in the state, has conducted several surveys that address the strong values placed on agriculture in balance with growth, but the more recent survey “Utah Values and Future Growth” (Envision Utah, 2007) is quite relevant to this thesis research. It notes that one third of Utahns lived on a

farm at some point in their lives, and that only 38% of those who currently work on a farm live in a rural area, meaning that the remainder either live on an urban farm or commute to their farm work. This particular survey would go hand in hand with some of the results from this thesis in making development decisions. Like the other surveys previously mentioned, the Envision Utah survey makes no distinction between farms and large lots being used as mini-farms. An earlier Envision Utah survey (1999) breaks down existing housing types, lot sizes, and locations that could be helpful to planners, but makes no distinction as to how homeowners are using their lots.

Implications of Research

Results of the survey in this thesis project provide data about a unique population that threatens open space, but probably feel they are preserving it because they are using the land for productive purposes. With the information generated in this project, planners can take a fresh look at development patterns that will suit the needs of people of the West who live on large lots while preserving precious open space for all to enjoy.

Planners from many threatened agricultural areas of the country would be able to use this project as a reference for creating alternative land development strategies for their specific rural applications. This project would be particularly useful to rural development agencies, small town planning commissions and state quality growth commissions throughout the Intermountain West as an aid in setting zoning regulations and recommendations suited to this unique population who choose large lots for mini-agriculture. Rural sociologists may be interested in this project to better understand some of the social aspects of western settlement patterns.

Data from this study may also be used to educate the public about reasonable spatial alternatives to large lots for mini-agricultural uses, just as the idea of square foot vegetable gardens has brought spatial awareness to gardening. Families from large-scale farms could use the survey results to determine how to conservatively divide their land for posterity or for development while conserving large open farm fields. Above all, this thesis will bring awareness to planners of the significance of this small but hardy population who desire to pass on the hard-working, earth-respecting values of their progenitors on just a small piece of land.

CHAPTER II

BACKGROUND OF THE STUDY

Before addressing the survey, it is important to further discuss specific topics included in the survey and to better understand the cultural, physical and historical background of the study zone. This will include general discussion of large lots, benefits of small farms, the Mormon settlement pattern, characteristics of the Intermountain West, and how New Urbanism and conservation subdivisions relate to the region.

Why Large Lots?

Who lives on large lots? What are their backgrounds and why do they choose a large lot over a smaller, lower maintenance lot? Nelson and Gentle (1978) wrote about this group of people who come from a variety of backgrounds and professions. Most have full-time outside employment and use their property for a myriad of agricultural purposes. They live on lots varying in size from enough for a home with a large backyard to small-scale farms with several acres.

Some use their acreage is for their residential enjoyment only, while others pursue hobbies or use their land for recreational activities (Bunce, 1982). A number of them produce a large garden for their family's needs alone, and others supplement their family income by selling their home-grown products from home or at local markets (Nelson & Gentle, 1978). Some might settle in city neighborhoods with animal rights, some prefer to live in the urban fringe, and others favor purely rural areas (Lasley & Hanson, 2003). Without regard to where or why they choose their large lots, all benefit from the extra space between neighbors, finding what

Leo Marx described as “middle landscape” or somewhere between the progressiveness of modern cities and pastoral ideals (Marx, 1991).

These people have been labeled with a number of monikers in an assortment of literature: “rural residents,” “hobby farmers,” “alternative farmers,” “part-time farmers,” “new ruralists,” “urban agrarians,” “adaptive metro-farmers,” “rurbians” and more. Some of these folks are “next generation farmers” who desire to pass on to their children the satisfaction, skills and work ethic of farming their own smaller portion of land when a larger farm is not economically possible (Barlett, 1993). Some of them may come from generations of large-scale farmers, while others may be city folks who want to test out the nostalgic lifestyle.

Benefits of Small Farms to Society

Some argue that large lots, whether for hobby farming or recreational purposes, merely perpetuate sprawl and that emphasis should be placed on preservation of large farms (Daniels, 1986). However, there is growing argument of the value small farms, both in urban and rural areas, as a benefit to society and as part of the solution to many environmental concerns (Viljoen, Bohn, & Howe, 2005). In fact, one author notes the decline of family farming hurts not just farmers but the quality of life for the whole society (Pretty, 1995). A mounting number of resources branded as “new ruralism,” “urban or metro-agriculture,” “agricultural urbanism” and farmer’s markets show evidence of a trend to return to small farms (Mullinix et al., 2010; SAGE, 2009). As mentioned earlier, smart growth planning now advises the inclusion of small farms (1-5 acres) in the rural edge, yard gardens on suburban house lots, container gardens in window boxes, roof top gardens and community gardens “for the sustenance and pleasure of all residents” (Duany et al., 2009).

In contrast to some of their suburban neighbors who live on large lots for pleasure alone, many of these small-scale farmers are careful stewards of the soil and land they use for food production, not just for lawns and concrete. They have the potential to grow a substantial amount of food and provide a better variety of produce for local farmers' markets, restaurants and personal use. Small farms can be part of sustainable processes to improve environmental conditions in cities and towns (Moughtin, 1996). When organic methods are used on small farms, pesticide use is eliminated which improves biodiversity and reduces potential side effects. Since they are locally grown, the products need only to be transported a few blocks and not across the country. Worldwide this has the potential to reduce air pollution, decrease road congestion, decrease wasteful packaging and improve quality of products (Funches, 1992; Viljoen et al., 2005).

Perpetuating the farming culture on a smaller scale can provide a way for more people to benefit from the lifestyle of farming (i.e., physical labor, self-sufficiency, satisfaction of raising produce/animals) and also connect urban people with the process of food production (Viljoen et al., 2005). For some, being able to produce food on their land and sell it is economically invaluable, helping them break the cycle of poverty and improve physical health from consumption of their fresh products (Mougeot, 2006).

Small farms bring nature and natural processes back to the city by linking people back to the land for food and small animal production. Aesthetically, small farms contribute to the rural feel of smaller towns. They are an icon of American culture, especially in the Intermountain West.

On a psychological level, one study found that part-time farmers find more satisfaction out of their farm work than they do at their regular nonfarm jobs (Coughenour & Swanson,

1988). Men of part-time farms have reported satisfaction of physical labor, the excitement of the gamble and freedom from job supervision, while women appreciate living in the country, having a wholesome environment for rearing children and the opportunity to grow more of the family's own food. Both men and women say they value the security of having something to fall back on in hard times, as well as the opportunity to continue aspects of a family agrarian tradition. The agrarian ethic, they say, "values nonmonetary dimensions of success, including daily work autonomy, opportunities for achievement and reward, and spiritual connections to nature and to the work of farming" (Barlett, 1993, p. 97).

Mormon Settlement Pattern

The lifestyle of part-time farmers is found all across the country, but in the Intermountain West it was part of the original plan that the Mormon pioneers laid out for their abundant settlements in the region. Other settlers of that time period were homesteading on isolated farmsteads, while the Mormons chose to follow an agrarian village pattern as directed by their leaders, Joseph Smith and Brigham Young. Richard V. Francaviglia observes that these farm settings right in the middle of town are one of the most significant characteristics of Mormon villages (1978).

The Mormon settlement pattern called for wide streets in a gridiron pattern, creating large blocks in towns that were intended to be limited to 20,000 people. Each block was divided into a number of home sites, most often as rectangular lots with the narrow edge along the street. Here on their village lot each family built a home, a barn, chicken coops, livestock corrals and stack yards, as well as planted a garden and orchard. Similar to Howard's garden cities developed a half century later, the Mormon settlements' main farmland was situated outside of



Figure 2. Small farm located two blocks west of downtown Logan's Main Street. Approximate street address is 200 West 600 North. Homes lie adjacent to the property and across the street, while a busy shopping area is just two blocks east. Photo taken April 25, 2010.

town, lending more compactness inside the village (Howard, 1965). This pattern gave settlers the opportunity to experience the culture and sociality of city life with the convenience of having gardens, orchards, and animals at their back door (Nelson, 1952).

As the cities grew and became less agrarian-centered, large lots were subdivided and a mid-block road was often added to accommodate higher density. While this adaptation was not without problems, it was an effective way to increase density in the city core and keep the village compact. Charles L. Sellers points out that “despite its basically agrarian nature, the standard plan for cities of Zion was adaptable to cities with differing functions” (1962, p. 28). Today remnants of this settlement pattern are evident where, even in the largest cities of the Intermountain West, a random farmstead in the middle of a city block is not unusual (Figure 2).

In fact, it is a cultural and historical trademark of rural life in many Mormon settlements, manifest as remnants of agrarian lifestyle in the larger cities or as typical present-day streetscapes in satellite villages.

Another important feature of these settlements was the ingrained values that these people possessed. These people were pioneers who came to settle a region where little existed before. They worked hard and long hours, valued frugality and thrift, toiled to prosper economically and gain self-sufficiency as individuals and as a community (Nelson, 1952). These values were not only obtained by consequence of their pioneering efforts, but they were values stressed in their Mormon faith. The Mormon religion places great emphasis on self-sufficiency and preparation for difficult times as it counsels families to grow a garden and learn basic skills of an agrarian lifestyle (Church of Jesus Christ of Latter-day Saints, 2010). The cultural heritage of the region has been strongly influenced by these values.

As effective as the Mormon settlement pattern was in providing a social community for an agrarian society, the pattern was not without problems. With so many animals living right in town, sanitation issues had to be resolved. Eventually the larger livestock were moved to the farmland areas where the odors and waste were not such a nuisance (Nelson, 1952). Urbanization of larger towns also eventually frowned upon keeping chickens, but small gardens were still feasible. The wide streets did not support cozy neighborhood streetscapes that modern planners desire, and the gridiron pattern was remiss in complementing the topography and environment, although it worked nicely in downtown areas (Sellers, 1962).

The process of urbanization that has occurred in the larger cities of Mormon settlements, such as Salt Lake City, foretells the likely eventual fate of most of the growing towns in the region. In due course, the open fields within core areas of these towns will infill

with houses and businesses and large lots will be subdivided to accommodate higher density. However, many of these towns still possess the rural, agrarian characteristics that were prescribed in the original village farmstead pattern and are not likely to grow substantially for a number of years. Wide streets without curb and gutter, farmsteads along Main Street, gridiron street patterns, wide open farmland on the outskirts of town, sparse trees planted to shade farmhouses or bungalows, and a pleasant informality are all characteristics of these small towns (Ellis, 1996).

The modern planner's dilemma then is at what point in a town's growth to encourage the conversion of the village farmsteads into more urbanized city lots, and also whether to sacrifice the cultural and historical lifestyle for the sake of preventing sprawl. Perhaps the ultimate goal would be to maintain both culture and compactness in planning with "vernacular" integrity.

Unique Characteristics of the Intermountain West

In addition to the unique cultural characteristics of the region, the Intermountain West has a number of distinct physical characteristics that challenge the use of mainstream development patterns. In fact, using rural design patterns that have been developed in the East or Midwest, such as narrow roads or certain development styles, might be impossible or inappropriate—even the "antithesis of true western development patterns" (Duerkson & Van Hemert, 2003, p. 6). The very definition of "rural" varies from region to region, so a place that someone from North Dakota feels is a metropolis may seem like a small hamlet to someone from New Jersey (Hart, 1995). This is yet another reason to be cautious in applying "rural design principles" to all rural areas.

Duerkson and Van Hemert (2003) outlined region-specific traits in *True West*, one of the leading handbooks currently available for development patterns specific to the West.

Significant characteristics of the West include: (a) a very dry climate, (b) wide open spaces, (c) majestic and unique scenery, (d) geographical extremes, (e) high altitude and high sun exposure, (f) federal government land ownership, and (g) Native American cultural influences

Variations of these characteristics occur even within the West, which makes site-specific evaluations even more critical in designing development. In any rural planning project:

The first and most difficult task in preserving rural character is to define very specifically which elements of the community's rural character are most desirable and to focus on methods of preserving them. Which characteristics should be preserved? Some might include distant views, rolling topography, country roads, open space, stone rows and tree lines, barns and silos, ponds and other specific attributes that merit preservation. (Heyer, 1990, p. 1–2)

Adding to Heyer's suggestions, rural character should be defined not only by the physical traits, but by the cultural traditions and regional social values as well (Jackson, 1984).

New Urbanism and the West

New Urbanism prescribes higher density with compact housing and a small setback, with little private space for people to till the soil and raise animals. The loss of personal space is compensated by public squares and parks for all to use. Streets are walkable and aesthetic, and cars are optional and discouraged since the walkable environments reduce the need for automobile use (Calthorpe, 1993). Emphasis is placed on architectural codes to coordinate the look of neighborhoods and cater Main Street to what has been coined as a "traditional American town." Building sizes are proportional to the width of the street so that "people feel sheltered and protected." One author states this fulfills the human "desire for enclosure in an everyday setting [that] is probably innate" (Kunstler, 1996, p. 134–135).

Smart growth, which expands ideas from New Urbanism, promotes similar ideas, but leaves more flexibility in suburban growth. The “transect” of smart growth describes multiple levels of planning organization from regions to neighborhoods. It strives to preserve open space and natural resources outside the fringe of cities, provide rural and suburban neighborhoods at the fringe, and encourage compact urban neighborhoods and economic development in city centers (Duany et al., 2009). Smart growth doesn’t maintain a “no-growth” or “slow-growth” position, but encourages “managed growth” (Dewberry, 2002).

Envision Utah (1999) organized a public values study to collect opinions for what growth in Utah should look like. They collected input from a spectrum of individuals, including residents, planners, conservationists, city officials and business leaders to formulate an economic plan and managed growth strategy for the state of Utah. While this project had been invaluable as a resource across the state of Utah, it mainly focuses on the greater Wasatch Front and little is mentioned about rural areas or urban small farms.

While strategies such as these may work well for growth in urban areas, they seem to conflict with political and spatial ideals of small towns in the Intermountain West. Their resistance to accepting the full package of smart growth may reflect their varied views about how much control government should have in decisions about private land use (Jackson, 2006). New Urbanism and smart growth assess that enclosure is a common need (Katz, 1993). In the wide open West, the “innate need for enclosure” might be provided on a grander scale by majestic mountain ranges, or may be unqualified whatsoever. Westerners might even say they have the opposite “innate need”—that of space.

Conservation Subdivisions and the West

Cluster developments originated as a solution for making denser residential neighborhoods while maintaining open spaces, privacy and safe flow of traffic (Harman, O'Donnell & Associates, 1961). Randall Arendt (1996) has expounded upon this idea, stressing that only after the most valuable open space is delineated should the residential development be placed. His general formula for conservation subdivision design calls for at least one-fourth of the buildable land to be left as undisturbed open space, one-fourth as modified open space (parks), and up to one half of the land as developed lots at twice the normal density.

Arendt's ideas are very useful to planners of rural towns. He has published a number of works that emphasize maintaining a rural feel and putting new developments in context with the natural and historical environment. Conservation subdivisions offer some useful alternatives such as variable lot sizes within zones that allow diverse neighborhoods for people at different stages of life or with unique preferences (Arendt, 1999).

Unfortunately Arendt's ideas have a major setback for planners of rural areas in the Intermountain West. His ideas were developed based on his experience with rural New England where trees and rainfall are plentiful. In the East, spotted conservation subdivisions can be hidden by trees, whereas in the West they often stick out like a sore thumb. Open space in the Northeast often means an outcropping of forest or a green field. In the Intermountain West where rainfall is sparse, untouched open space often equates to sagebrush and dust. For open space to be palatable and enjoyable, one necessary and scarce resource is needed: water.

Western planners have come up with several adaptations of conservation subdivisions that would be more suitable to desert conditions by using irrigated farmland as open spaces. In *Western by Design* (Western Rural Development Center, 2001), planners suggest converting old

farmsteads into a cluster of homes where barns and sheds stood. Surrounding farm fields would be preserved, individual home lots would be small, and a single shared driveway would access the cluster from the main road. Another alternative divides a large piece of farmland into thirds, with the middle portion sectioned off in a cluster subdivision of small lots and farmland remains on either side. This plan also exhibits examples of shared amenities like a barn, pond, guest houses, pasture, and orchard. These ideas of shared amenities were included in the survey for this thesis to see how respondents felt about sharing these agrarian features.

Summary

Designing suitable new subdivisions that fit the values and lifestyles of people in the Intermountain West, while also preserving open space, will require weighing in on all the factors that make the West unique, taking cues from people who live here, and choosing to include the most relevant parts of the best development methods available. In summary:

1. Large lots fulfill a variety of lifestyles and needs. One of those is an agrarian lifestyle chosen for cultural, economical or personal reasons.
2. If all new developments for a city or rural town are full of large lots, sprawl and infrastructure costs can be a problem.
3. Mormon settlement pattern, prominent throughout the Intermountain West, originally had large lots with agrarian lifestyles, but in larger cities these lots have subdivided and infilled to create urban neighborhoods.
4. Smaller towns in the Intermountain West have certain physical, cultural and historical characteristics that are contrary to New Urbanist and smart growth principles, making conservation subdivisions a bit tricky.

5. Land in the Intermountain West is vast, varied, beautiful and worth conserving.

Planners have the challenge to apply good design principles to the unique circumstances in the region.

CHAPTER III
METHODS OF RESEARCH

Selection of Survey Sample Group

Selection of Study Area

Cache Valley, Utah was selected for its proximity to Utah State University, but more importantly for its qualities deemed representative of most areas in the Intermountain West (Figure 3). The valley contains some of the oldest modern settlements in the region and is known for its agricultural heritage that valley dwellers actively fight to preserve. On another token, the presence of Utah State University in the valley has brought a mix of outside ideas and the valley has become known as progressively environmentally-minded, even on the leading edge of this movement in Utah and in the region. This added diversity, in addition to traditional

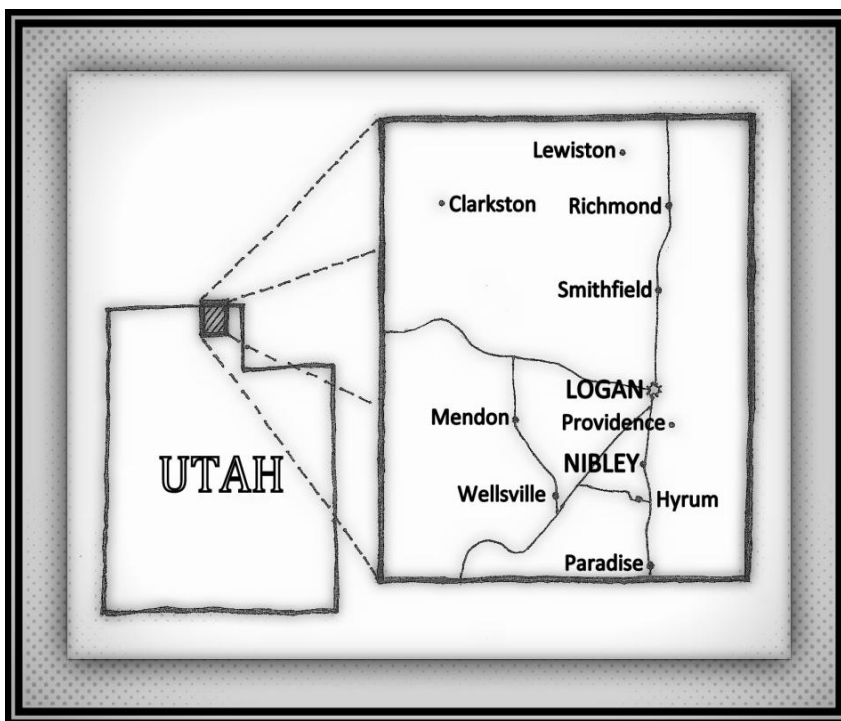


Figure 3. Cache Valley, Utah context map. Cache Valley is located in Northern Utah. Sample pool for this study included the cities of Logan and Nibley.

and cultural values, made the valley an ideal mix for acquiring a variety of opinions about land use.

Cache Valley contains over 30 towns of varied sizes. Due to budget restraints, only 200 surveys could be distributed, so the study had to be limited to two towns: Logan and Nibley. Criteria used for selection of those towns included: (1) The towns must be representative of the whole valley, both in size and perceived diversity of residents and ideas; (2) The towns must have conservation subdivision ordinances as part of their city code; and (3) The towns must have animal rights for residential lots.

Logan, the largest and second oldest city in the valley, was selected because of its centrality and influence on the valley's residents. Most commerce and governing for the area is centralized there, yet there are many parts of the city that would be considered rural and agricultural. Logan has a conservation subdivision ordinance in place and has several residential conservation developments. All lots—regardless of size—have animal rights as long as the animals do not create a public nuisance (Logan City, 2009).

Established in 1935, Nibley is a relatively new community in the valley and was primarily agricultural until the last decade. As in many areas of the valley, population has increased exponentially since then, as have residential developments. The town implemented a conservation subdivision ordinance in 2006 and has subsequently approved a number of these subdivisions. Nibley's animal rights for residents are based on lot size and animal type, but most residents would qualify to keep some type of farm animal on their property (Nibley City, 2009).

Selection of Lots within Study Area

In some types of conservation subdivisions, common areas allow people who enjoy raising produce or animals to do so in a shared environment. This study assumed that people

who presently enjoy doing these activities on their own large lot would be most able to consider how they would feel about doing these types of things in a conservation subdivision. For this reason, selection of specific properties was focused on people who lived in residential areas, but who could still potentially maintain a small farmstead on their property. Lot size was limited to between one and ten acres, which would be large enough to carry on farming activities, but too small for large-scale agricultural business that would disqualify them from the parameters of the study.

Qualified lots, property addresses, and mailing addresses for owners were obtained through public records at the offices of Logan City GIS Specialists, Nibley City, and the Cache County Recorder. Through GIS queries and a database search of individual tax records, a preliminary sample pool of 356 potentially qualified properties was obtained (hereafter named the preliminary potential sample pool). Criteria for selection of this preliminary potential sample pool included:

- Lots larger than 1 acre, but less than 10 acres
- Must have a single-family residential home on the property
- Owner of property must be living on the land (mailing address same as property address)

Further hand filtering of the preliminary potential sample pool was necessary after computerized sorting was complete. Properties were discarded from the preliminary potential sample pool for any of the following reasons:

- When P.O. Box was listed as property address, the lot was discarded because of uncertainty whether land owner actually lived on the property.
- Where there was a corporation or an estate listed as an owner of the property
- When owner's name was duplicated, only the property where the mailing address was the same as the property address was included in the pool, as long as it was larger than

1 acre. If not larger than 1 acre, the property was checked to see if additional properties were adjacent to the lot where the owner lived. If the total acreage of adjacent lots owned by the same individual was more than 1 acre but less than 10 acres, the lot was included in the potential sample pool because the owner could use that immediately adjacent property in the same way as a homeowner of one larger lot.

Selection of Respondents and Privacy

After final filtering of the preliminary potential sample pool, a final potential sample pool of 282 respondents remained. The budget for this study allowed a final sample pool of 200 respondents. Properties in the final potential sample pool were ordered in a list according to lot size so respondents' names were not in alphabetical order. Each property was assigned a unique number between 1 and 282. Using a random number table generated from an online random number generator (Random, 2009), 200 random numbers out of 282 were selected. Corresponding properties in the numbered list were set aside as properties to be included in the final sample pool.

Once all of the 200 properties were separated out in a new list, they were renumbered 1 through 200. This final number was assigned to them as their sample respondent number. Because respondents were originally ordered according to lot size rather than alphabetical listing, and because their property size was not included as part of the generated list, no connection remained between a respondent's number order and any identifiable data, ensuring privacy for respondents in compliance with IRB guidelines. At a later point in the survey, all remaining data about each respondent was removed, leaving just the respondent number for identification.

Administration of the Survey

The main instrument of research for this thesis was a mailed survey requesting respondents' opinions and preferences about how they used their land, how they felt about the idea of conservation subdivisions, and basic demographic data. Questions in the survey were compiled by the author based on research of conservation subdivisions, geographical and cultural values, and personal experience with the people of the area. The general format of the survey was modeled after a similar survey (on an unrelated topic) prepared for the city of Richfield, Utah by the USU Department of Sociology (USU, 2008).

Correspondence with Respondents

The research was administered as a survey sent in three or four mailings: an advance notice letter, the survey, and a follow-up postcard. A fourth mailing was used in cases of no response from the first three mailings. Complete copies of all correspondence material are found in Appendix A.

Part 1—Advance notice letter and IRB letter of information. The first mailing sent to all respondents was a letter of introduction explaining the survey, why they were selected and what they could expect as a participant in the survey that was to arrive during the next week. Also included was the official "Letter of Introduction" required by the Institutional Review Board (IRB) to assure privacy practices. The two letters were printed on 8 ½ x 11" white paper, folded in thirds and placed in a stamped #10 white envelope with return address label and mailing label.

Part 2—Survey and stamped return envelope. Within one week after the advance notice letter was mailed, the second mailing, containing the survey itself, was sent. A white, 6 x

9" stamped return envelope was also included. The survey was a twelve page document which had been printed double-sided on six 11 x 17 sheets of paper, folded in half to 8 ½ x 11" size, and stapled along the center fold. Surveys and stamped return envelopes were each numbered from 1 to 200 in a bottom corner with a permanent marker, corresponding to the each of the numbered respondents. The survey and return envelope were folded in half to fit into a 6" x 9" white envelope and labeled with respondents' addresses.

Part 3—Follow-up postcard. One week later, a follow-up postcard was sent to everyone in the sample, whether their survey had been returned by that point or not. The postcard was printed on quarter sheets of 8 ½ x 11" white cardstock. The note thanked participants for their efforts to complete the survey and encouraged them to send it back if they had not yet mailed it.

Part 4—Follow-up letter and second survey. If no response had been received from a respondent after two weeks from the time the follow-up postcard was mailed, a fourth and final mailing was sent. Mailed in a 6 x 9" white envelope, this contained a letter re-explaining the survey, an additional survey and an additional stamped return envelope.

Dealing with Returned Mail and Removing Respondents from the Sample Group

If letters were returned by the post office, the name and address of the respondent were double-checked. If necessary, the address was also cross-checked with the local telephone directory. If no problem was found, or after any problems were corrected, the letter was resent in a clean envelope. If letters still came back or if corrections could not be made, the respondent was removed from list and no further correspondence was sent. One respondent had to be removed from the sample because he hadn't picked up his mail after an extended time and the letter was returned.

Even after careful filtering during the sample selection process, a few cases were found that caused a respondent to be removed from the sample group. In one case, a letter came back that was commercial property because it was either listed incorrectly in county records or had changed since the data had been acquired. One respondent had moved since data was collected, and one respondent asked to be removed from the study.

After all returned mail had been cycled and ineligible or unwilling respondents had been removed, only 6 out of the original pool of 200 respondents were eliminated. No alternate respondents filled those 6 slots, which left 194 respondents remaining in the sample pool.

Documentation and Analysis of Returned Surveys

Documentation of Surveys

A main tally worksheet (Appendix A) was used to track each of the three (or four) mailings for the respondents. The assigned number for each respondent in the final sample pool was used to keep track of letters sent to them. The moment a respondent's completed numbered survey was received back by the researcher, the respondent's name and address were removed from the numbered list, leaving no identifiable connection between the completed survey and the respondent number. The received survey number was checked off on the tally worksheet.

Data Entry of Responses

After documenting receipt of the survey, individual responses for survey questions were then entered into a Microsoft EXCEL 2007 workbook. One sheet of the workbook was assigned to each question, with one row assigned to each numbered survey. To ensure accuracy, the

responses were entered upon receipt of the survey, and then double-checked as if entering them again at a later time.

There were three basic types of questions on this survey: close-ended (with single or multiple responses), open-ended (blank line allows respondent to write a response), and partially close-ended (where one of the given response choices was to write something in a blank). All closed-ended and partially closed-ended questions listed numbered variables to choose from, while open-ended questions left a blank line on which a respondent could write something. Each question type required a slightly different setup and recording method in the EXCEL worksheet.

For close-ended questions that required a single response, the number of the chosen variable was simply input into the worksheet next to the respondent number, and variable responses were listed in separate columns across the top for reference only (Figure 4). While

4. When you think about the distance between houses in your neighborhood, would you say they are:	1. Much too close together	2. A little too close	3. Just right	4. A little too far apart	5. Much too far apart
RESPONDENT NUMBER	1				
	2				
	3				
	4	2			
	5				
	6				
	7				
	8	2			
	9	3			

Figure 4. Close-ended question, single response (Q4). Number of answer simply entered in first column. (Partial view of worksheet.)

there are alternative ways of recording these single response questions, this configuration was found to be the most convenient to facilitate the COUNT feature in Microsoft Excel.

When multiple responses were possible, one column for each variable was set up on the worksheet. For each variable the respondent chose, a “1” was entered in each corresponding variable column next to the respondent number, and for each variable not chosen a “0” was entered (Figure 5.). Some single-numbered questions contained multiple sub-questions with single close-ended answers requested for each. Where this was the case, a single worksheet was set up for the main question, but one column was made for each of the sub- Responses were recorded in each column of the row for the respondent number (Figure 6).

2. When you think of your neighborhood, would you say that you live here because: (check all that apply)	1. I like the people	2. I like the neighborhood structure	3. I like the views	4. I've always lived here
RESPONDENT NUMBER 1				
2				
3				
4	0	0	1	0
5				
6				
7				
8	0	0	1	0
9	1	1	1	0
10				
11	0	0	1	0
12	0	1	1	0
13	1	0	1	1
14	1	1	0	0

Figure 5. Close-ended question with multiple responses (Q2). (Partial view of worksheet.)

5. If you were designing an ideal rural neighborhood where you would live, how likely would you include the following characteristics?		Characteristics							
		Sidewalks, curbs and gutters	Streetlights and yard lights	Large fields of crops	Small farmsteads	Farm animals	Pastures and farm buildings	Large home lots with large landscaped yards	
RESPONDENT NUMBER	1								
	2								
	3								
	4	2	2	2	1	2	2	2	
	5								
	6								
	7								
	8	3	4	2	2	2	2	4	
	9	1	1	3	1	1	1	1	

Figure 6. Single question, with multiple single close-ended sub-questions (Q5). One column was dedicated to each sub-question, while numbered variable responses (in example: 1=very likely, 2=somewhat likely, 3=neutral, 4=somewhat unlikely, 5=very unlikely) were recorded in appropriate respondent row for each sub-question. (Partial view of worksheet.)

Partially close-ended questions were dealt with exactly the same as closed-ended questions, except that when “other” or the open-ended variable was chosen, the variable number was input into the questions.response column and the written response was typed in an adjacent column (Figure 7).

Open-ended questions were recorded verbatim (including grammatical errors) in a column next to the respondent number (Figure 8). Miscellaneous comments written in margins were also recorded in the column next to a response, regardless of question type. When an adjacent column was not empty, an inserted comment box was used instead. The last page of the survey contained a space to write additional comments. This was treated as an open-ended question and numbered Q37 for recording purposes, even though the question was not numbered on the survey.

11. In your opinion, who should own common open space?		1. Government (city, county, state, federal)	2. Neighborhood association	3. Other
RESPONDENT NUMBER	87	1		
	88	1		
	89			
	90	3		The community or individuals
	91			
	92			
	93	3		whoever holds deed
	94			
	95	3		both

Figure 7. Partially close-ended question with both numbered and written responses (Q11). (Partial view of worksheet.)

28. How do you feel about development trends that create smaller individual home lots and larger areas of common open space with shared amenities? Please explain.	WRITTEN RESPONSE
RESPONDENT NUMBER	7
	8 It's a good and probably necessary approach, but I wouldn't like it for myself.
	9 I prefer to have my own space.
	10
	11 I think it's a good idea. At least some shared open space is better than no open space.

Figure 8. Open-ended question with written response (Q28). (Partial view of worksheet.)

Dealing with Errors and Omissions

In general, responses were recorded as written by the respondent without interpretation, even when responses seemed illogical or opposite the respondent's pattern of responses in associated questions. There were several circumstances where ground rules had to be established about errors or questionable responses.

- *If more than one response was given to a question that required only one answer, a new response column "multiple responses" was added. For example, in Q29 and Q30, respondents were asked in what type of place they grew up. Since a respondent could have lived in more than one type of place, responses were recorded in a new response column as "multiple responses."*
- *If a question was unanswered, response was recorded as a '99' or 'NR' for no response. This was treated the same whether it was one question or entire pages of questions.*
- *If a response was illogical based on other responses, answer was recorded exactly as written. Question 10 had a numerical response plus a written follow-up explanation. Several respondents' numerical responses conveyed the complete opposite of their written response, as if they had read the question incorrectly. Because there is no way to tell for sure, the responses were recorded as written rather than ambiguously interpreted.*
- *If an open ended question asked for a number and respondent responds with a range of numbers (like "45-50 years") or an open ended number (like "50+ years"), one single number was recorded. Analysis of the results of this question required one single number. For responses that gave a range, the average of those numbers was recorded rounded up to the nearest whole number. For example, if the response was "45-50 years," the recorded answer was "48." When respondent gave an open ended number like "50+ years," just the number, or "50" was recorded.*
- *If a question was a leader question (like Q24) where a "no" response required no further response, and a "yes" response led to follow-up questions, respondent continued to answer questions after answering "no" to the initial question. All follow-up responses were ignored as long as their follow-up answers agreed with the original "no" response. There were no cases where follow-up answers disagreed with the original "no" response.*
- *On a gradation question asked to rate something 1 to 7 (like Q1), between 1 being "friendly" and 7 being "unfriendly," respondent simply circled the word "friendly," the response was recorded as 1.*

- *If a question was answered in an obviously ridiculous way, such as one respondent who chose “other” as his race and then wrote in “Purple People Eater,” the response was scratched.*

Method of Analyzing Responses

After all survey responses were recorded, analysis of data was performed through functions of Microsoft EXCEL 2007, SPSS, and SAS. Analysis included counting of responses, calculation of percentages, medians, averages, chi-square analysis, likelihood ratio tests and pivot tables for cross-tabulating data to compare responses. Detailed information on performing these functions is included with the software and will not be explained here.

The null hypothesis for chi-square calculations was always a normal distribution of responses unless reference information, such as census data, was available to show other distribution patterns. For example, in the predominantly Latter-day Saint (LDS) state of Utah, it would be unreasonable to assume normal distribution of religious affiliation, so religion census data was used to formulate the null hypothesis. For this survey, an alpha value of .10 or less was used to return a significant result.

Abbreviations for statistical analyses are as follows:

Q = question number on the survey

M = mean

Mdn = median

SD = standard deviation

X^2 = chi-square

N = total sample size

n = subsample size

p = probability value or p-value

ps = probability value returns statistically significant results and null hypothesis (or the normal distribution) is rejected

pns = probability value returns statistically non-significant results and null hypothesis cannot be rejected

Here is an example of reported statistical results and an explanation:

$$(Q29). \chi^2 (5, n = 103) = 24.40, p < .10, ps.$$

This should be interpreted as: Question 29, chi-square (with 5 degrees of freedom, subsample size = 103) = chi-square value of 24.40, probability (p) is less than .10, therefore probability value returns significant results (ps) and, therefore, the null hypothesis (of normal distribution) can be rejected.

CHAPTER IV

DEMOGRAPHICS OF SAMPLE GROUP AND BASIC ANALYSIS OF RESPONSES

In order to properly evaluate the results of the survey an understanding of the demographic distribution of respondents in the sample group was pertinent. This chapter describes results from demographic questions about age, gender, income, life background, and current lot and living patterns. Note that the number of respondents ($n =$) varies depending on the number of people who gave no response or a defaulted response.

General Demographics (Q31, Q32, Q33, Q35, Q36)

Respondents varied in age ranging from 26-35 years old up to 75 and older (Figure 9). A majority of respondents were 56-65 years old, while just of 5% respondents were 26-35 years old. There were no respondents under age 26. Age groups between 36 and 75 years made up 75% of the sample group. Forty percent were 36-55 years old, while 49% were 56-75 years old. Median age of respondents was 56-65 years. The majority of respondents (59%) were male (Figure 10).

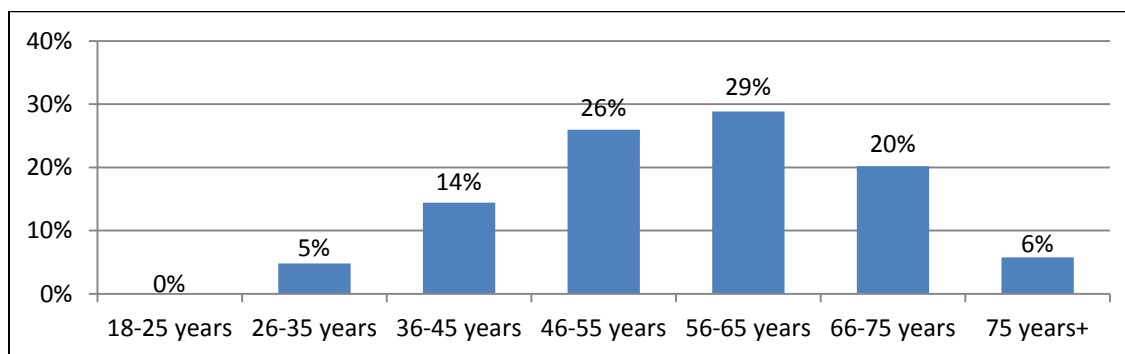


Figure 9. Age of respondents (Q31). $n = 104$, $Mdn = 4.64$ units, $SD = 1.26$ units, where units are numbered categories of age groups, youngest to oldest.

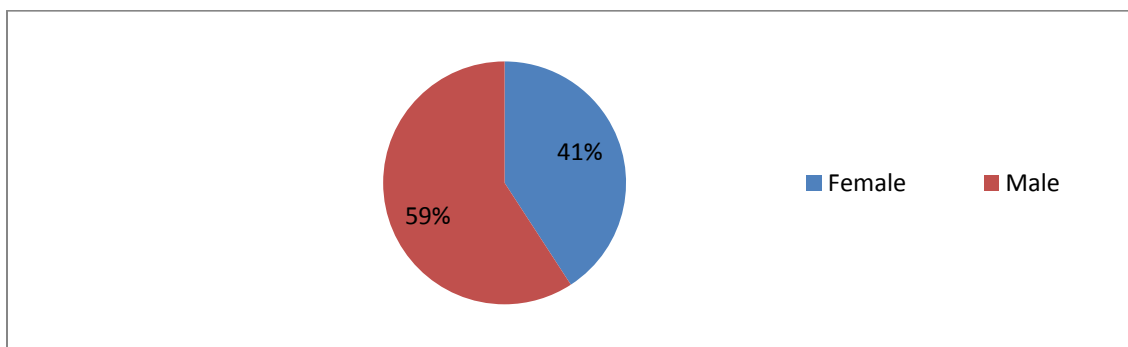


Figure 10. Gender of respondents (Q32). $\chi^2 (1, n = 98) = 3.31, p < .10, ps.$

Household income for the largest group of respondents (24%) was between \$40,000 and \$60,000 (Figure 11). Approximately 13% of respondents made \$40,000 or less, and 12% made \$200,000 or more. The four middle categories summed together shows that 74% of respondents earn between \$40,000 and \$150,000 annually, or that the majority of the sample group comes from this middle range of household incomes.

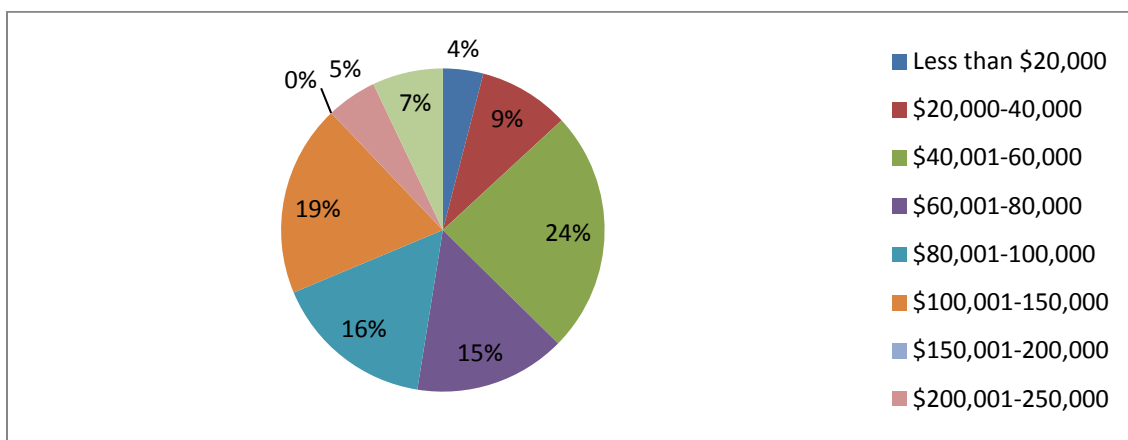


Figure 11. Pre-tax household income from all sources in 2008 (Q33). ($n = 99, Mdn = 4.56$ units, $SD = 2.05$ units, where units are numbered categories, lowest to highest.)

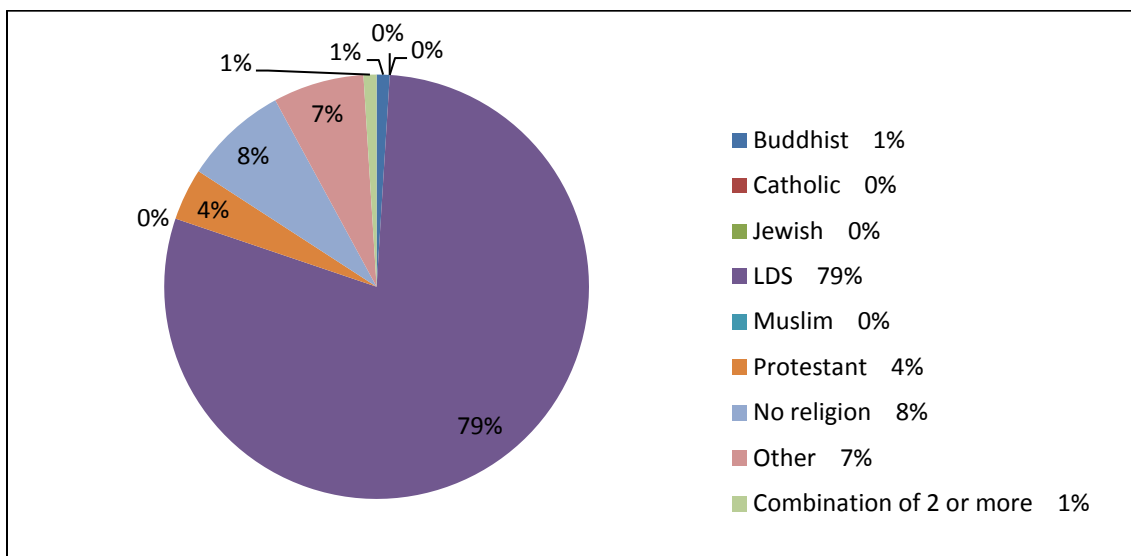


Figure 12. Religious affiliation (Q36). $\chi^2 (3, N = 101) = 28.55, p < .10, ps$. Source of null hypothesis: American religious identification survey, by B. Kosmin, E. Mayer, & A. Keysar (2001). Retrieved from http://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/ARIS/ARIS-PDF-version.pdf?ext=.pdf

Results for race and religion were as expected for an area of predominantly Caucasian, LDS population. Ninety-eight percent of respondents were of Caucasian background, while less than a combined 2% were from all other races (1% African-American, 1% other). Religious affiliation varied only slightly more, with 79% of respondents claiming Latter-day Saint religion, 8% with no religious affiliation, and 7% claiming other religions (Figure 12). Four percent of respondents claimed a Protestant religion, while 1% of the sample group each claimed either Buddhism or a combination of religions.

Respondents' Life Background (Q29, Q30, Q34)

This part of the survey was designed to get an idea of where respondents had come from as a precursor to examining any relationship between their past living arrangements and their choice of living on a large lot. Responses showed that respondents came from a variety of backgrounds, but a majority lived in rural surroundings during growing up years (Figure 13).

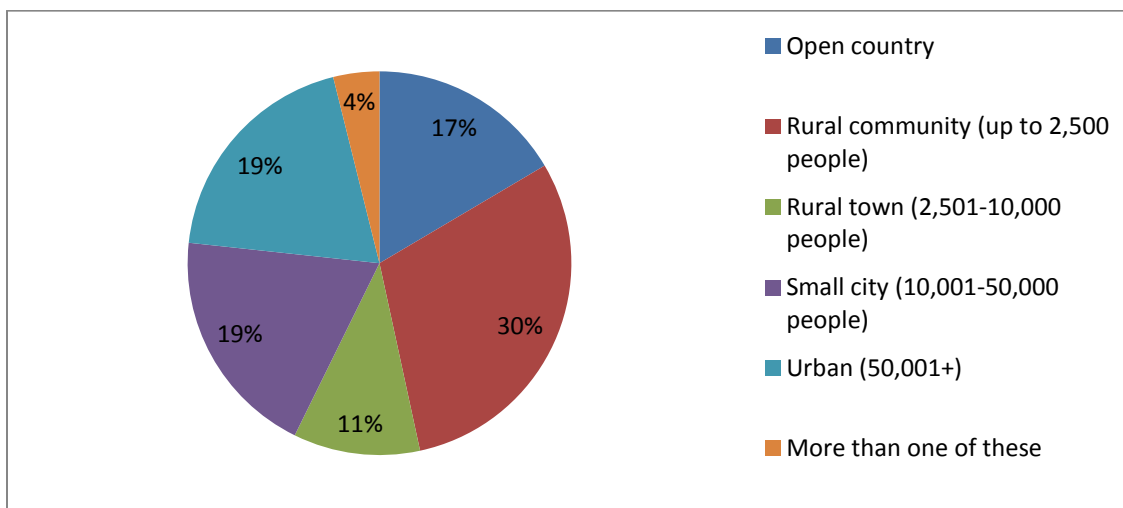


Figure 13. Place where respondents grew up (Q29). $\chi^2 (5, n = 103) = 24.40, p < .10, ps$.

A combined 58% of respondents grew up in open country or a rural area (up to 10,000 people). Nineteen percent came from a small city with 10,001 to 50,000 people, and 19% came from urban backgrounds (50,001 people or more), making a combined total of 38% who came from a non-rural background. A small percentage of respondents, 4%, grew up in more than one of the listed categories.

The type of neighborhood where respondents grew up was also examined in the survey (Figure 14). Interestingly, none of the respondents grew up exclusively in an apartment or condominium complex. Seventeen percent of the sample group grew up on a large farm or ranch, and 32% lived on a small farmstead or large lot with animal rights, for a combined total of 49% who lived in a farm-like situation.

Twenty-seven percent of respondents lived in a residential subdivision and 17% lived in a home built along a main city street, for a combined 44% who did not live in a farm-like situation. Four percent of the group lived in more than one of the listed situations during their formative years, while 2% lived somewhere besides the listed situations. These totals alone do

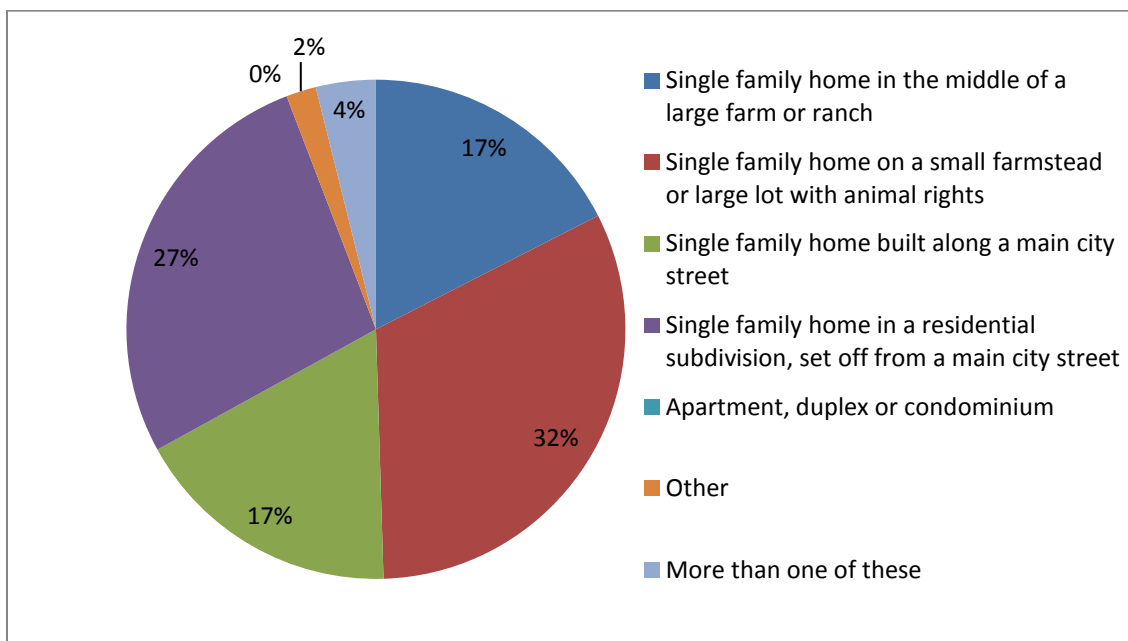


Figure 14. Type of neighborhood where respondents grew up (Q30). $n = 103$, $p < .10$, ps .

not give significant evidence that the people who now live on large lots with animal rights grew up on the same type of lot, but that their background may only be one factor of their current choice. There is also some question in the wording of the survey where a person could have grown up on a small farmstead or large farm, but that the home was situated on a main city street. Similarly, a “residential subdivision” could have been interpreted as a group of houses situated close together, but on property sized and used as small farmsteads.

Respondents had lived in Cache Valley between 3 and 88 years, with a median length of 33.5 years and an average of 34.2 years (Table 1). They had lived in Utah between 4 and 88 years, with a median length of 43 years and an average of 43.9 years. Considering the median age of respondents in Table 1 was between 56-65 years old, that would mean that the median respondent would have lived in Cache Valley over 51-60% of his/her life and in Utah for 66-76% of their life.

Table 1
Years Respondents Lived in Utah and Cache Valley (Q34)

	Years in Utah	Years in Cache Valley
Mean # years	43.9	34.2
Median # years	43.0	33.5
Minimum # years	4.0	3.0
Maximum # years	88.0	80.0

Note. $n = 99$.

Characteristics of Respondents' Current Neighborhoods (Q13, Q21)

Most of the respondents, 79%, claim to live in some type of residential neighborhood with animal rights (Figure 15). Ten percent claims to live on a lot type unlike any listed or like a combination of a few. Four percent live on what they consider a large farm or ranch. One surprising result of this particular question was that 8% of respondents say they live in a residential neighborhood with no animal rights. However, before the sample group was selected every effort was made to ensure that all respondents lived on lots with animal rights.

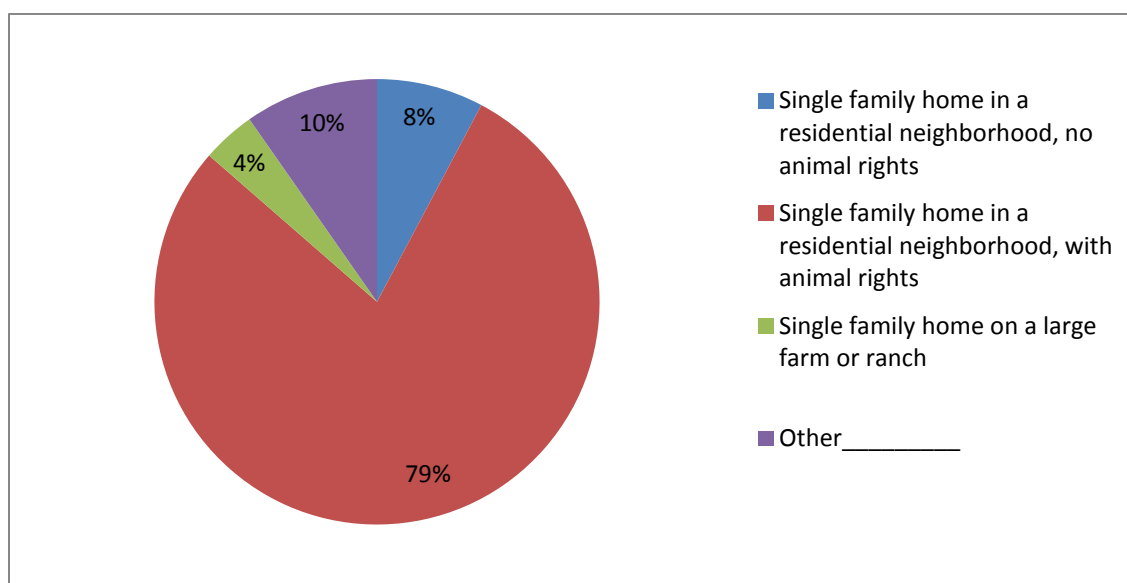


Figure 15. Best description of current property type (Q13). $n = 103$, $p < .10$, ps .

The question was asked to see how many respondents were unaware of their rights to raise animals. There is always a minute chance of an oversight by the researcher or inaccuracy of the GIS data, but more likely it may be attributed to the fact that the respondent does not know they have animal rights. Particularly in Logan, where all residents have animal rights regardless of lot size, respondents may live in a neighborhood that traditionally does not have animals in spite of their right to have them.

Longevity of respondents' neighborhoods varied greatly (Figure 16), but the largest group (27%) stated their neighborhood had been around between 11-20 years. This would historically place their developments as being built in the 1980s or 1990s.

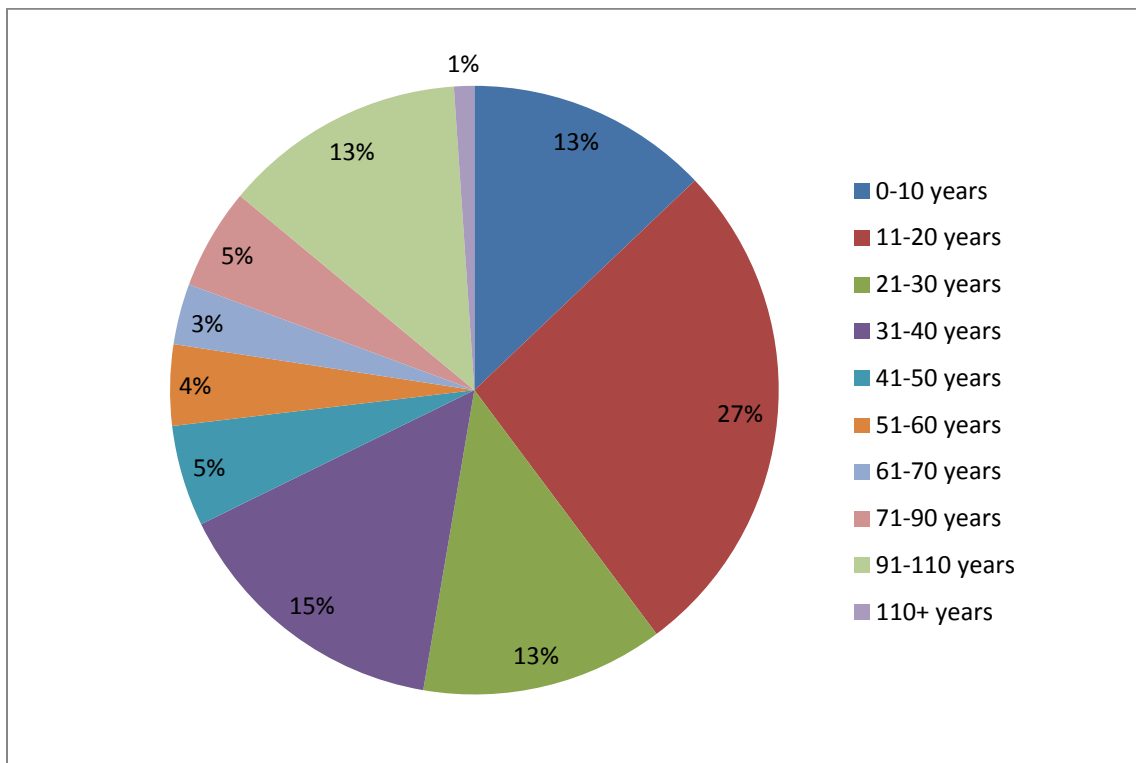


Figure 16. How long respondents' development/neighborhood has been around (Q21). $n = 93$, M , actual years = 40.74 years, $Mdn = 30$ years, $SD = 32.86$.

Common Open Space in Respondents' Neighborhoods (Q8, Q8a, Q8b, Q8c, Q9)

These questions were critical in learning about what exposure respondents had to conservation-type subdivisions and common open space. The questionnaire was useful in finding out whether or not respondents had open space in their neighborhoods, but there was a problem when it came to finding out what type of common open space. Respondents were asked to check what type of common open space they had in Q9 as a follow-up to Q8, but very few checked any of the boxes indicating that an amenity was currently shared in their neighborhood. A better approach would have been to include a blank line on Q8 after asking respondents whether they had open space to specify what type.

The majority of respondents had no open space (53%) or did not know (9%) if they had any. Of all respondents, 38% said they currently have common open space in their neighborhoods (Figure 17). Common open space was owned by either the city (35% of total) or by a home owner's association (3% of total). Some of the few responses received from Q9 included a trail system, grassy area, undeveloped open space, field crops, pasture, barn, and a pond. Some of these noted that they were privately owned, but shared with neighbors which wouldn't qualify for the type of common open space in a typical conservation subdivision.

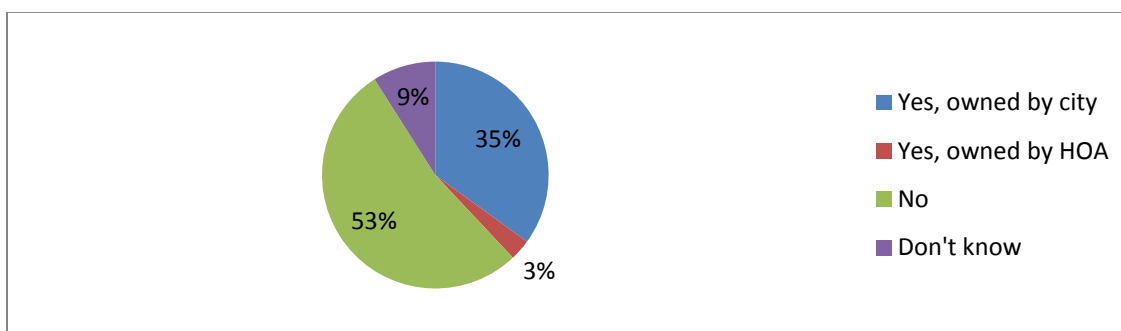


Figure 17. Whether or not neighborhoods have common open space (Q8). $n = 100$, cells < 5, inconclusive significance.

Respondents who claimed to have common open space were asked several follow-up questions. Seventy-two percent of them felt that it was maintained and managed very well or fairly well, while 27% felt it was maintained either not very well or poorly (Figure 18). Most respondents used the common open space less than three times per month, while very few (3%) used it more than ten times per month (Figure 19). When asked whether their common open space contributes to their overall quality of life, 72% said it definitely or somewhat contributed but 27% said it contributed very little or not at all to their quality of life (Figure 20).

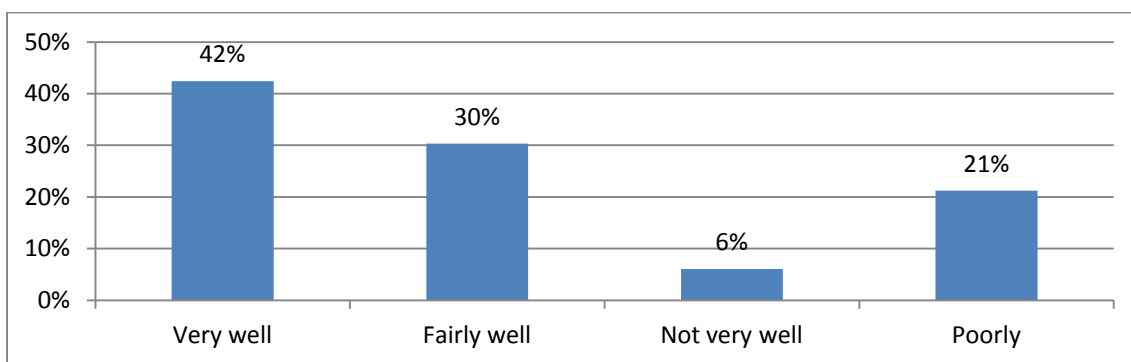


Figure 18. How well respondents feel common open space is maintained and managed (Q8a). $n = 33$, cells < 5, inconclusive significance.

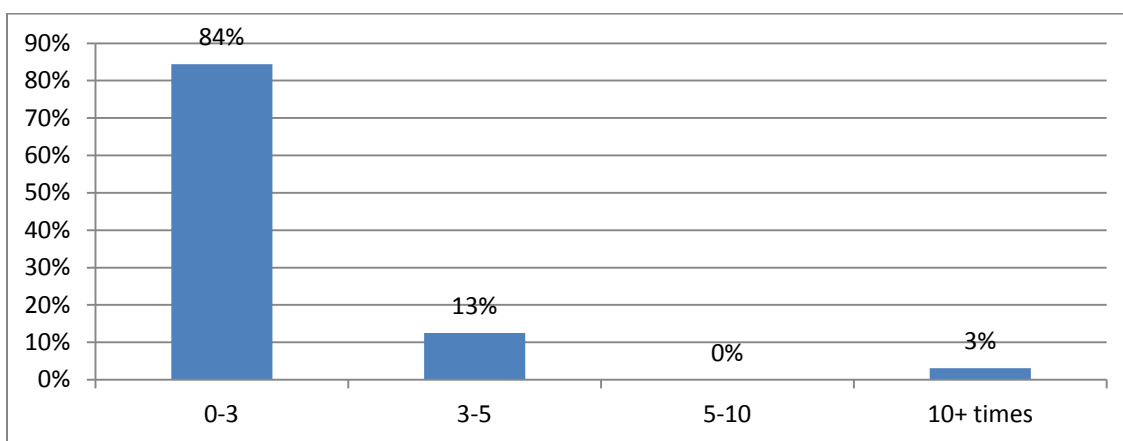


Figure 19. Number of times per month respondents or family uses their neighborhood's common open space (Q8b). $n = 323$, cells < 5, inconclusive significance.

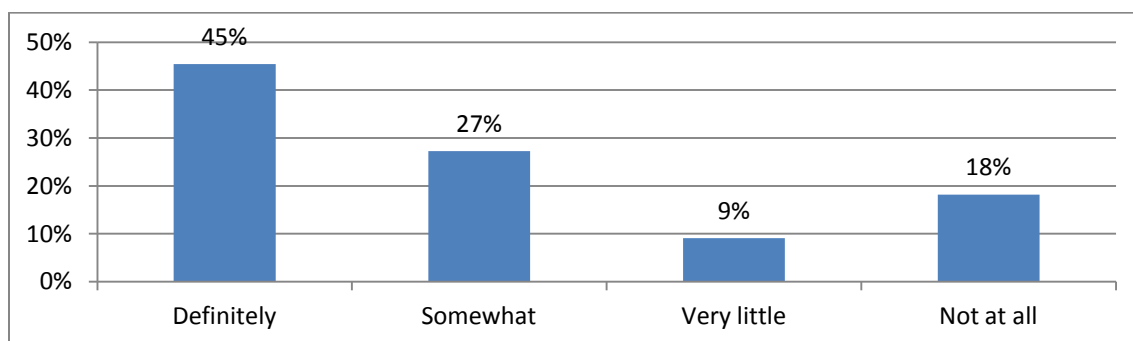


Figure 20. Whether or not the common open space contributes to the overall quality of life in respondents' neighborhoods (Q8c). $n = 33$, cells < 5, significance not tested.

Characteristics of Respondents' Current Lot and Living Patterns (Q6, Q7, Q18, Q19, Q20, Q26)

The next group of questions looked at details of respondents' property and how they were utilizing their lot. Ninety-nine percent of respondents said they owned their home, and the one respondent who claimed to be renting noted that he was renting to own. Thirty-five percent of those surveyed lived on a lot 1.01 to 1.50 acres, which was the most common response (Figure 21). Those living on more than 3 acres comprised a total of approximately 22% of all responses, while those living on less than that totaled about 79%.

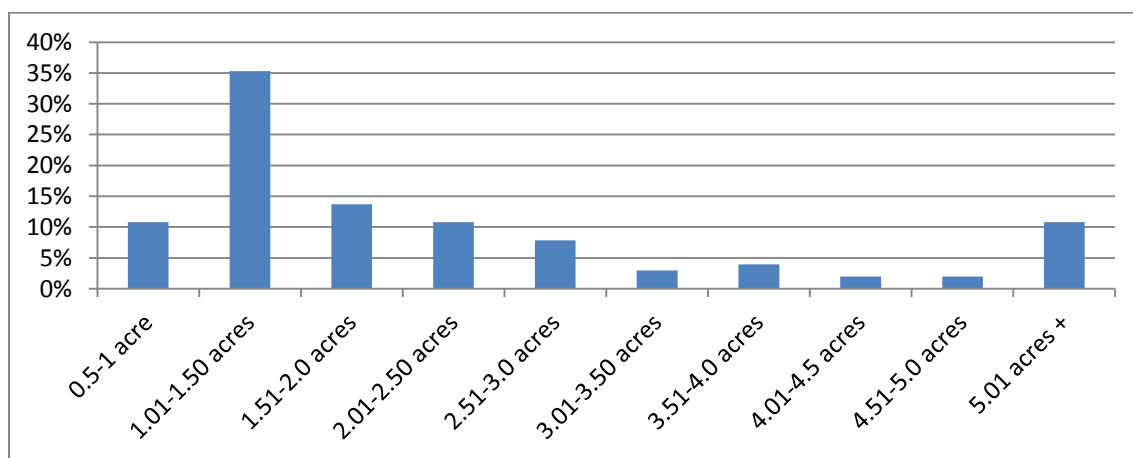


Figure 21. Acreage of current property (Q6). $\chi^2 (9, n = 102) = 14.60, p > .10$, pns.

Most lots were irregularly shaped (42%), but one third of the lots were rectangular with the short edge along the street (Figure 22). Rectangular lots with the long edge along the street made up 16% of the sample pool, and 9% had square lots. Over half (58%) of the lots were regular in shape, demonstrating that they were likely built along gridiron or straight streets following some variation of the Mormon settlement pattern that was original to the area. Lot shapes could also be an indicator of the amount of municipal infrastructure required for these large lots, but was not fully investigated in this study.

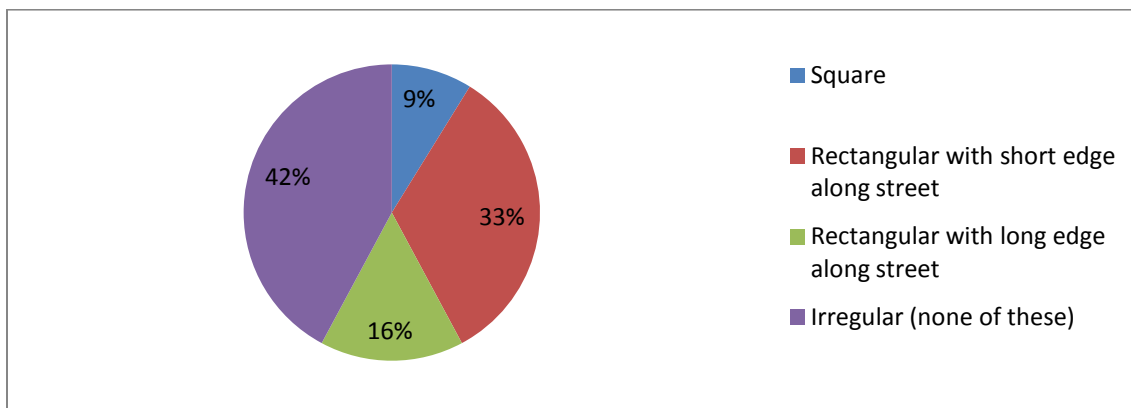


Figure 22. Shape of current lot (Q7). $\chi^2 (3, n = 102) = 27.46, p < .10, ps.$

Questions 19 and 20, which asked for the number of people living at home and the number of minor children, led to some surprising results. Rather than families living on these lots as was originally supposed, the results indicate that these large lots are primarily occupied by empty-nesters or families with grown children living at home. This makes sense, too, when compared with data for average age of respondents (Figure 9). Forty-five percent of respondents have only one or two people currently living at home, while 55% have three or

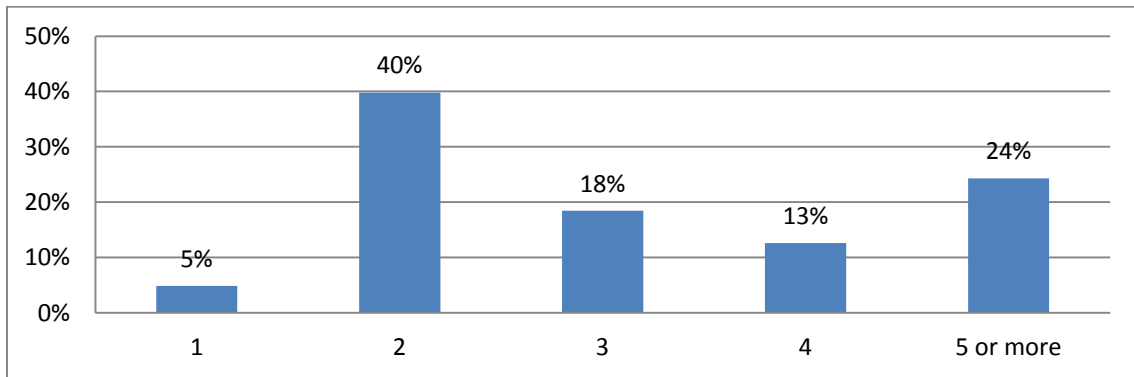


Figure 23. Number of people living at home (Q19). $n = 103$, $M = 3.32$ people, $Mdn = 3$, $SD = 1.72$.

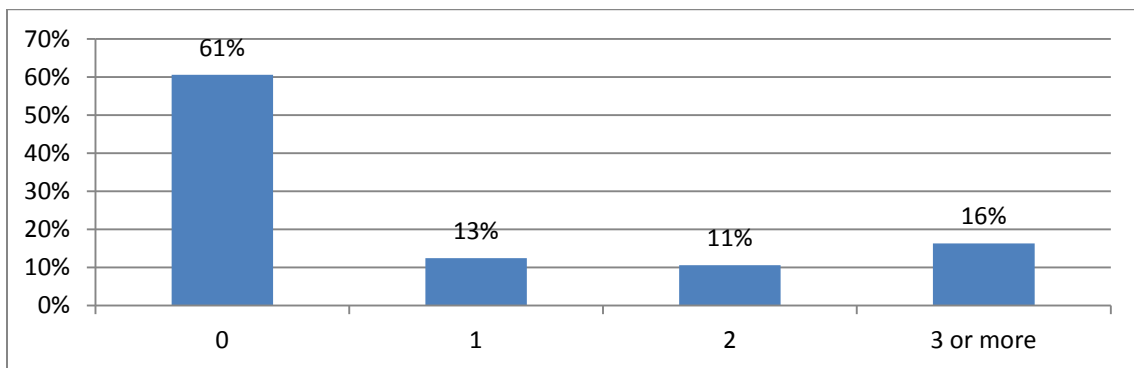


Figure 24. Children under 18 living at home (Q20). $n = 104$, $M = 1$, $Mdn = 0$, $SD = 1.55$.

more people at home (Figure 23). However, when looking at children's ages, well over half of respondents (61%) say they have zero children under age 18 living at home (Figure 24). Almost forty percent have at least one child under 18 at home, and 16% have three or more kids at home.

As for automobile trips, most of the respondents (94%) leave home by car no more than three times per day, and 37% say they only make one trip a day in a car (Figure 25). This is well below the thirteen trips per day per household reported by some New Urbanists (Duany et al., 2000).

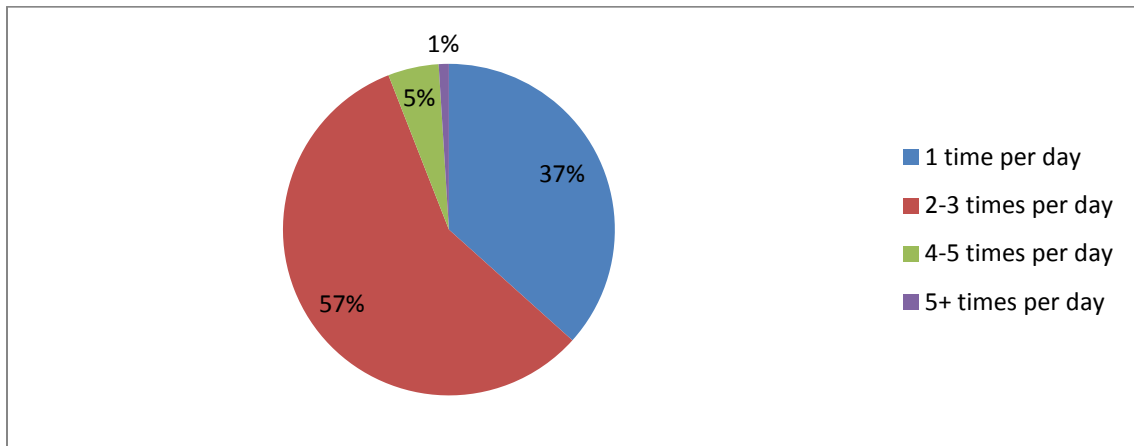


Figure 25. Average number of times respondent leaves home by car each day (Q26). $n = 103$, $M = 1.70$ units, $Mdn = 2$ units, $SD = .61$ units, where units are numbered categories, smallest to largest.

Although the quantity of miles would likely be greater for respondents of this sample pool, it would be interesting to compare numbers of trips and miles traveled to others in the valley who live on smaller, urban lots. One precautionary detail from these results is that respondents were only asked how many trips he/she personally made, while vehicular trips per household, including school buses or carpools, may have been more informative and more comparable to other results.

Question 16 was critical in discovering what physical elements were present on respondents' lot and how often these elements were used on large lots (Figure 26). All respondents had a home, and most had a landscaped yard (91%) and parking or driveways (88%). Seventy-nine percent had some type of additional building which they listed, including sheds, barns, extra garages, pool houses, greenhouses, chicken coops and shops. Seventy-nine percent had some type of vegetable garden, 58% had a place with an orchard or fruit trees, and 60% had a pasture. Livestock pens or corrals were present on 43% of lots, while only 22% of respondents grew agricultural field crops. Items listed in the "other" category (18%) included

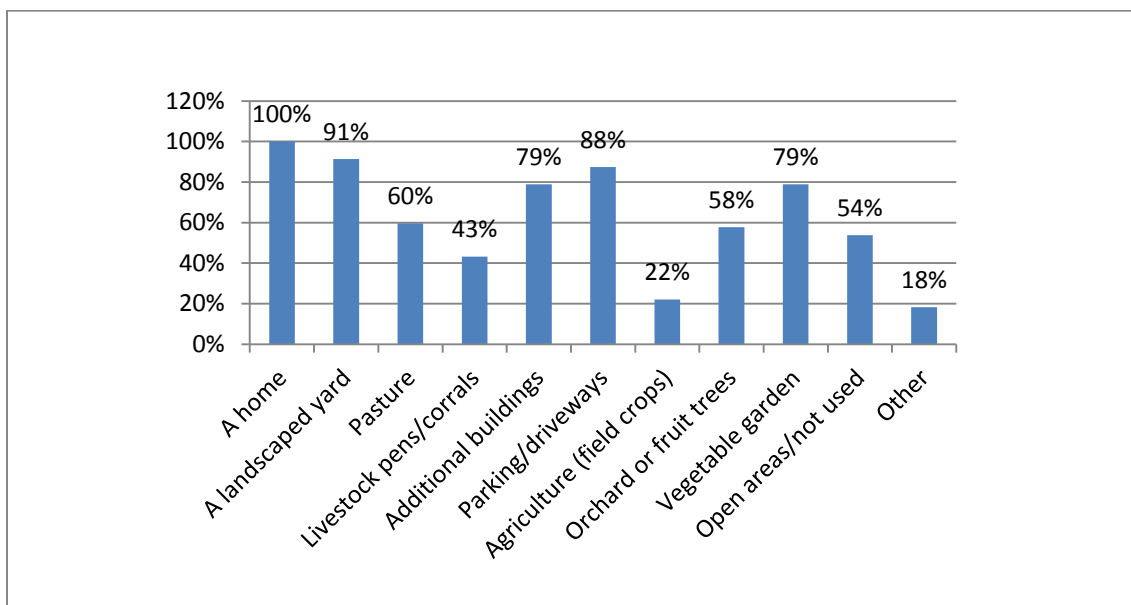


Figure 26. Percentage of respondents who possess specified elements on their land (Q16). $n = 104$, $p < .10$ and ps for all categories.

fire pits, wooded areas, flower gardens, ice skating rink, play area or swing set, beehives, pond, river and canals.

Judging from the high percentages in many of these categories, these results give strong support to show most of these people use their lots for agrarian purposes. However, one concerning result is the amount of respondents (54%) who have open areas that are not used. This question could have been worded differently to avoid varied interpretations of what constitutes “open areas.” Lawns, for example, which might be expected on large lots, could have been judged by some as unused open areas. While these open areas may have legitimate environmental value, from a land conservation standpoint, the lawns, too, might be considered wasteful in terms of water and land consumption.

But if open areas are sitting dormant and truly unused, this may be an indicator that the lot size is larger than is needed (or, rarely, that it is unsuitable for human use). More data on how much space these open areas actually consume, a refined definition of “open areas/not

used,” and whether or not these open areas have a purpose would be necessary to determine any amount of “waste” that could be pared out of future lot sizes.

How Respondents Use Their Land for Agrarian Purposes (Q14, Q16, Q22, Q23, Q24, Q27)

Results for this group of questions further validate the hypothesis that most people living on large lots in Cache Valley, Utah use their land for agrarian purposes, whether for raising animals or produce. Respondents were asked how many of each type of farm animal were kept on their property in the last year (Figure 27). Forty-four percent kept no farm animals on their property, but 56% raised some type of animal during the past year. Of respondents who did have animals in the last year, 71% (or 39.2% of all respondents) kept large animals such as horses or cows, 31% (17.4% of all respondents) kept smaller animals like sheep or goats, and 38% kept various species of fowl (Figure 28).

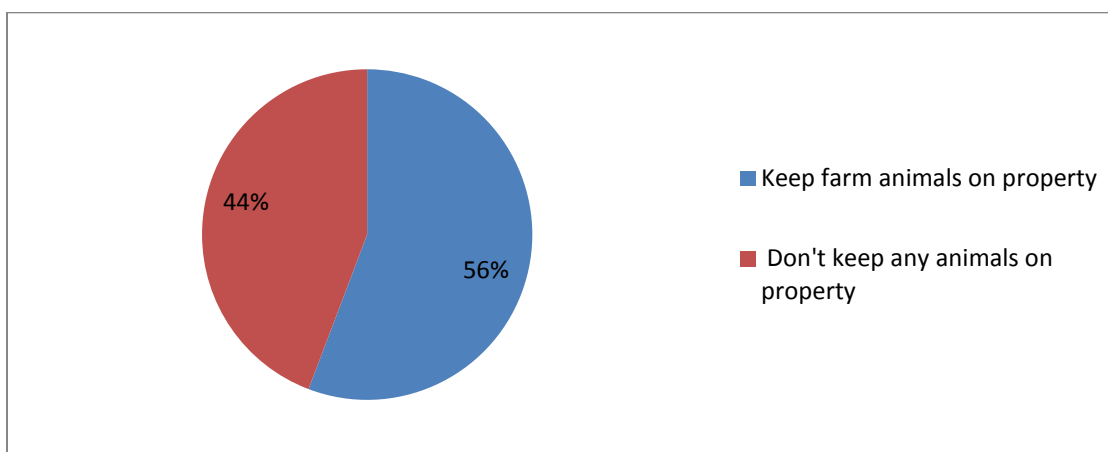


Figure 27. Presence or absence of farm animals on property (Q14). $n = 104$, $p < .10$, ps .

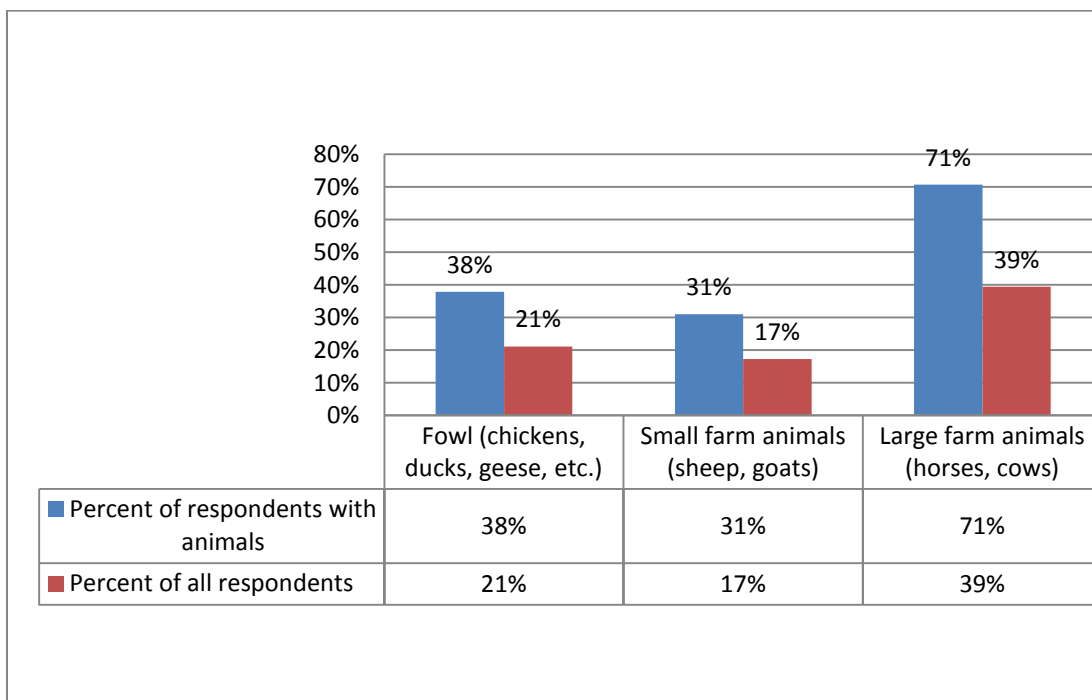


Figure 28. Types of animals kept on property in the last year (Q14). $n = 58$ of 104 total with animals.

As for vegetable gardens, an overwhelming majority of respondents (83%) have a garden plot set aside (Figure 29). Size of garden plots ranged from 6 square feet to half an acre or more (Figure 30), but the largest group of responses (35%) listed a garden plot between 100 and 500 square feet. Plots between 501 and 1000 square feet make up the next largest group (20%), which would be approximately 50 feet x 20 feet or the size of a small home. Fifteen percent of respondents have a garden larger than 3,500 square feet, which is notably half the size or more of a New Urban lot (Calthorpe, 1993).

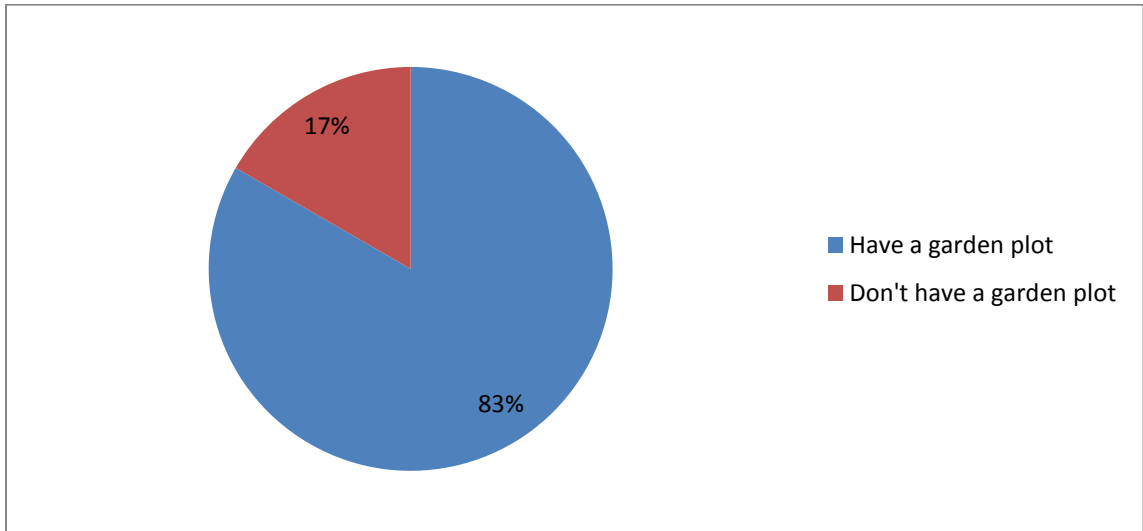


Figure 29. Percentage of respondents who have a garden plot (Q22). $\chi^2 (1, n = 103) = 3.78, p < .10, ps.$

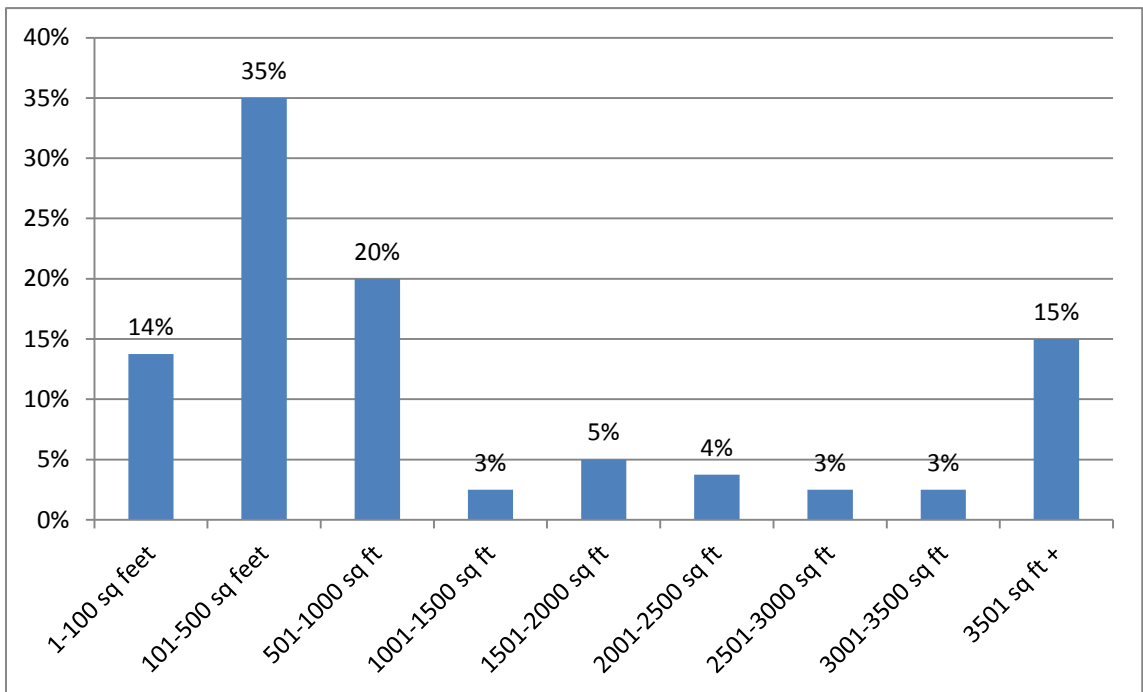


Figure 30. Sizes of vegetable garden plots (Q22b). $n = 87, M = 2979.41$ sq. ft., $Mdn = 600$ sq. ft., $SD = 4255.71.$

Fifty percent of respondents keep both animals and a vegetable garden on their property. To maintain their animals and gardens, most people (53%) in the sample pool use water from at least two sources, which could include culinary water, irrigation shares, a well, or an open ditch or canal (Figure 31). Twenty-one percent have access to three or more water sources.

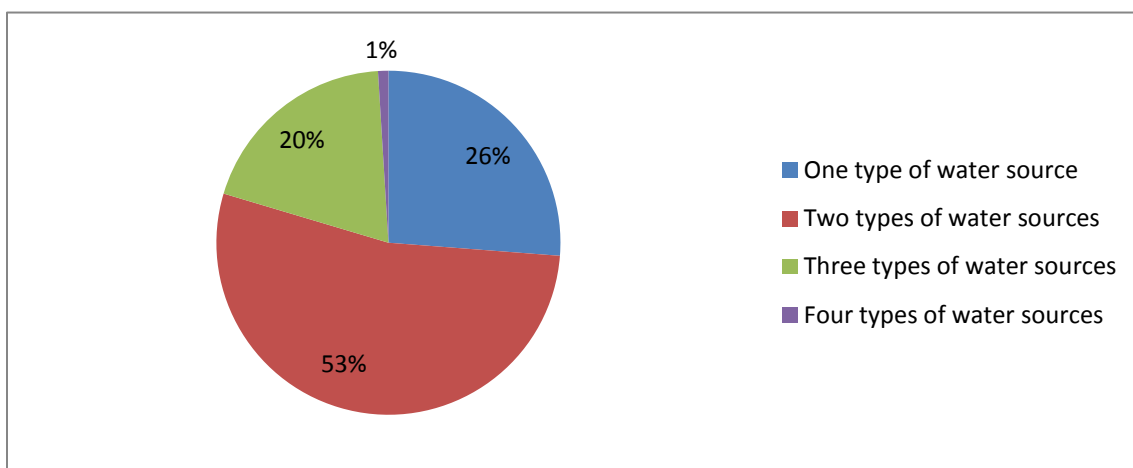


Figure 31. Types of water available on property: city/culinary, pressurized irrigation, open ditch, and/or private well (Q23). $n = 103$, $p < .10$, ps .

Another important factor to consider is how these people are using the agricultural products produced on their lots (Figure 32). Most people use it fresh (64%), preserve it (52%), or share it (57%). Seventeen percent of respondents sell their products, and 23% say they don't raise livestock or produce. If those who don't raise anything are factored out, that would mean that of those who raise agricultural products, 83% use it fresh, 68% preserve it, 74% share it, and 22% sell it.

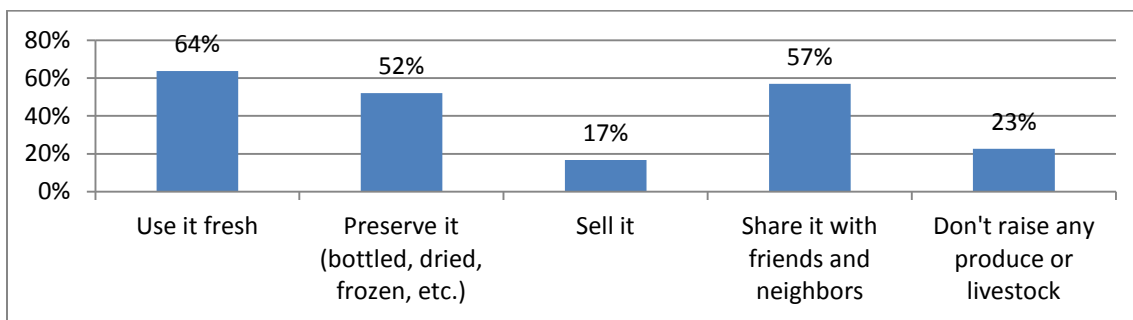


Figure 32. How respondents use products raised on their property (Q27). $n = 102$, $p < .10$, ps .

Most respondents (72%) did not sell their homegrown products, but a combined 11% of respondents sold \$1000 or more (Figure 33). By U.S. Census and USDA standards that qualifies as a farm regardless of acreage (Stanton, 1993). Some of the products and services respondents sold included: a variety of fruits and vegetables, alfalfa, eggs, honey, chickens, lease of pasture, horse breeding, milk, cattle, horses, and goats.

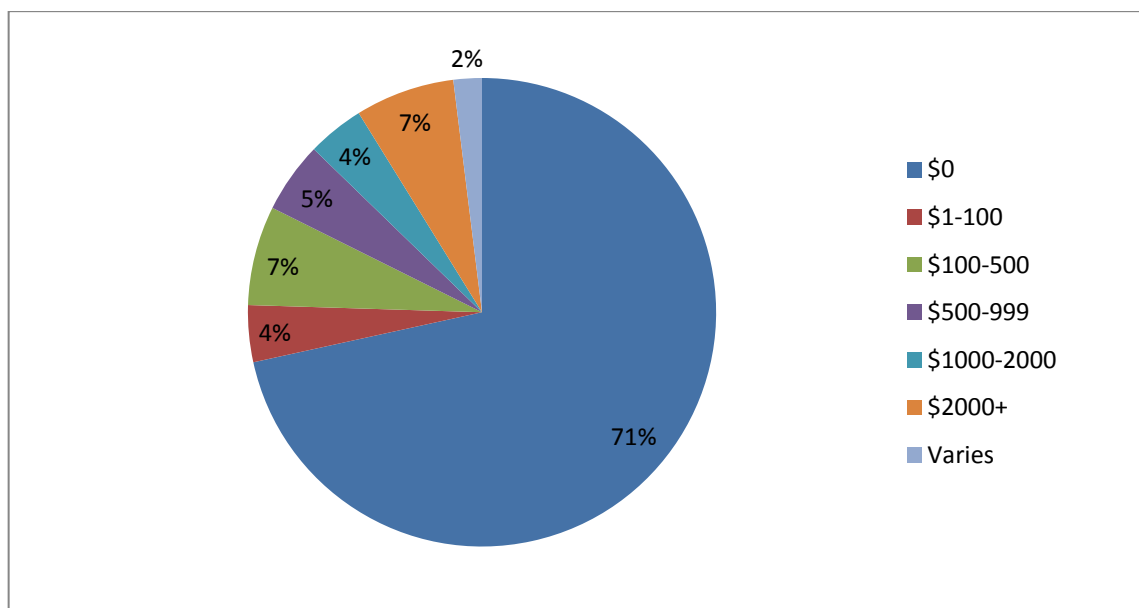


Figure 33. Gross annual income typically received from agricultural goods/services (Q24). $n = 102$, some cells < 5 , inconclusive significance.

A comparison between lot size and agricultural income showed that all sizes of lots in the study were able to produce income except those between 2.01 and 2.50 acres and those between 3.51 and 5.0 acres (Figure 34). Some of the smaller lots produced income in the largest category, while some of the larger lots produced none at all.

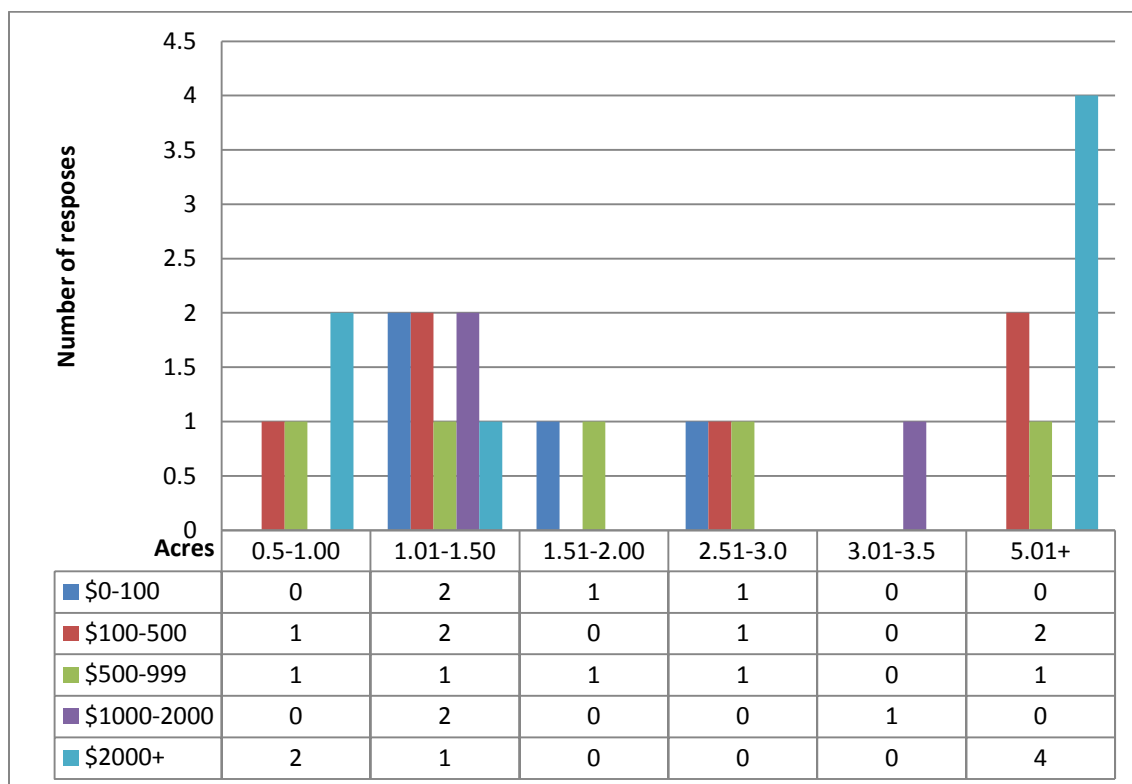


Figure 34. Annual agricultural income based on lot size (Q24 & Q6). $\chi^2 (70, n = 25) = 71.87, p > .10$, some cells < 5 , *pns*.

Questions remain about the intent of vegetable gardens and animals on respondents' property. Are these people involved in vegetable gardening out of necessity, or are these agricultural tendencies a result of tradition or entertainment? Answers would contribute to understanding the degree of their agricultural lifestyle and how it might be adapted to suit traditional use as well as conservation of land.

Summary

Most respondents were middle-aged, middle-income, Caucasian, Latter-day Saints. Just over half were male. Over half of respondents grew up in a rural area, nearly half on a farm or lot with animal rights. Most had spent at least half of their life in Cache Valley and over half of their life in Utah. A majority currently live on a small ranch or large residential lot with animal rights, rectilinear shape and approximately 1 to 1.5 acres in size. Some have young families, but most are empty-nesters or have grown children living at home. Most leave home no more than three times a day.

Most respondents have a garden, a pasture, fruit trees, various outbuildings and unused open space on their lots. More than half keep farm animals on their property, and most have large animals like horses or cows. A majority of respondents have vegetable gardens. Median size of their gardens is between 501 and 1000 square feet, and most people use their produce fresh, share it or preserve it. To care for agricultural products most people have two or more sources of water. Most respondents do not sell their products, but a little over one tenth sell enough to qualify as a farm to the U.S. government.

There is tremendous evidence in these numbers that an agrarian culture is present on large lots in Cache Valley, though economically non-productive. These people practice careers elsewhere but pursue an agricultural lifestyle at home for reasons beyond financial gain. Although not everyone in the valley carries these same values, it appears that a majority of people who live on large lots are indeed engaged in this agrarian lifestyle to some degree, whether for pleasure or for production.

CHAPTER V
ANALYSIS OF PREFERENCES QUESTIONS
AND CROSS TABULATION OF RESULTS

After exploring basic demographic data about respondents and their life backgrounds, the study examined how they felt about their neighborhoods, different aspects of conservation subdivisions and common open space.

**Respondents' Feelings about Their Neighborhoods
(Q1, Q2, Q3, Q4)**

On a scale of 1 to 7, with 1 as the most positive and 7 as the least positive, most respondents felt their neighborhoods were on the friendly, trusting, supportive, and safe end of the spectrum (Table 2). When asked why they lived there, 60% said it was because they like the people, 67% said they liked the neighborhood structure, and 61% said they liked the views (Figure 35), demonstrating they have a generally positive attitude about their neighborhoods.

Table 2
How Respondents Feel About Their Neighborhood (Q1)

Scale	Friendly	Trusting	Supportive	Safe
1 (most)	55%	47%	51%	53%
2	24%	31%	25%	33%
3	9%	8%	11%	7%
4	10%	11%	7%	2%
5	0%	1%	4%	3%
6	2%	1%	1%	2%
7 (least)	0%	0%	1%	0%
<i>M</i>	1.81	1.90	1.95	1.74
<i>Mdn</i>	1.00	2.00	1.00	1.00
<i>SD</i>	1.15	1.12	1.30	1.10

Note. Friendly ($n = 103$), Trusting ($n = 99$), Supportive ($n = 100$), and Safe ($n = 101$). Statistics are in terms of the question's scale units.

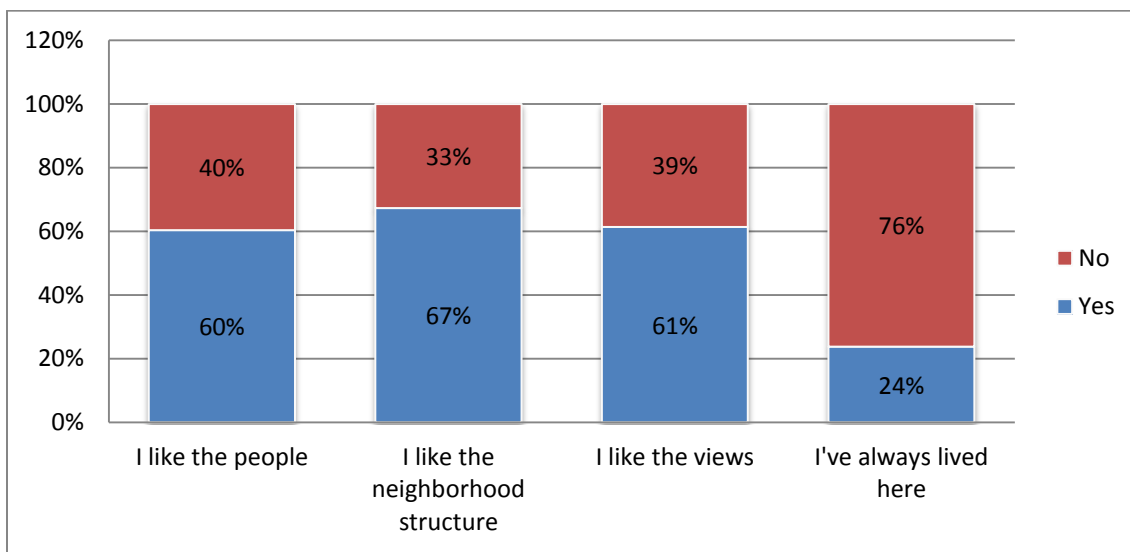


Figure 35. Reasons respondents live in their neighborhoods (Q2). $n = 101$, $p < .10$ for all response choices, ps .

Respondents were asked to estimate the space between houses in their neighborhood (Figure 36). Spacing in most respondents' neighborhoods (42%) was more than the width of two houses. They were then asked how they felt about the spacing (Figure 37), whether their homes were way too close, a little too close, just right, a little too far apart, or way too far apart.

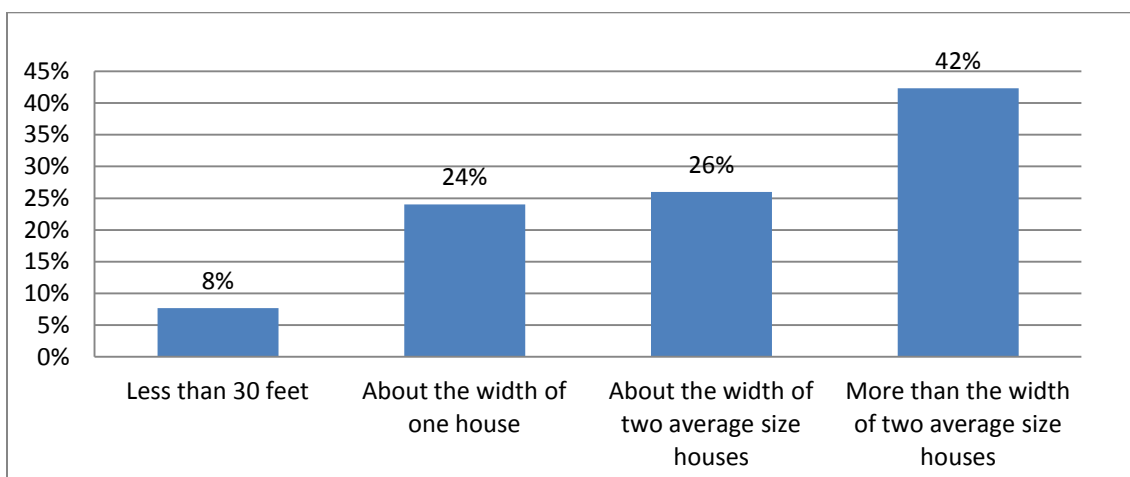


Figure 36. Spacing of houses in current neighborhood (Q3). $\chi^2 (3, n = 104) = 27.54$, $p < .10$, ps .

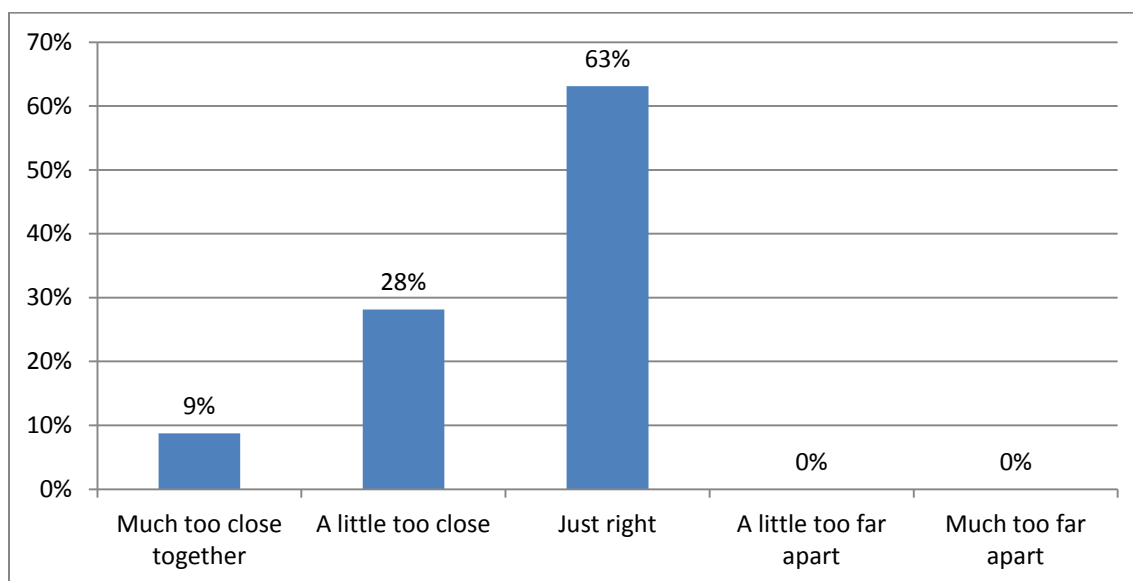


Figure 37. Respondents' feelings about distance between houses (Q4). $n = 103$, $M = 2.54$ units, $Mdn = 3$, $SD = .65$, where units are numbered categories, from "too close together" up to "much too far apart."

Notably, none of the respondents answered that the spacing of homes in their neighborhood was a little too far apart or way too far apart. Most (63%) felt that the homes were spaced just right, about a fourth (28%) said they were a little too close, and 9% said they were way too close.

These two questions (Q3 & Q4) were cross-tabulated to better describe exactly which spacing between houses these respondents feel is just right (Figure 38). The most dissatisfied group included those whose homes were less than 30 feet apart, of which 44% said they were too close. Those who were the most satisfied had homes 120 feet or more apart. Forty-nine percent of those people felt like the spacing between homes was just right.

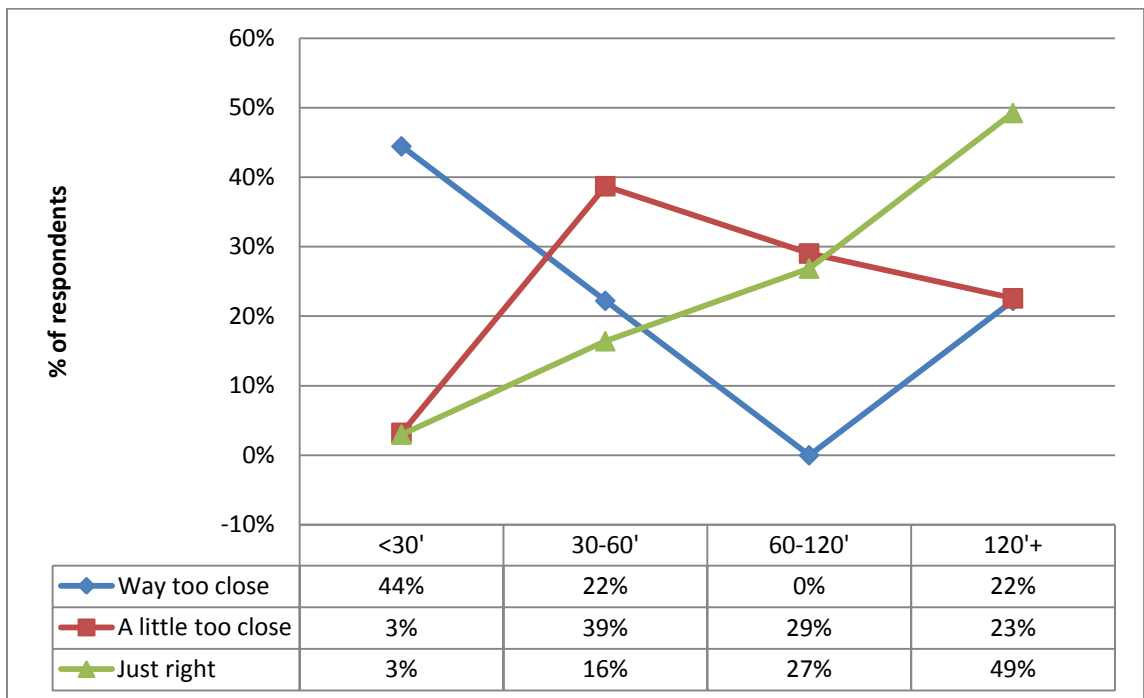


Figure 38. Respondents' satisfaction with spacing of their houses (Q3 & Q4). $\chi^2 (9, n =102) = 36.18, p <.10, ps.$

Respondents' Feelings about Shared Amenities, Common Open Space and Smaller Lots (Q9, Q10)

Since shared amenities are often part of conservation subdivisions, respondents were asked to rate how likely they would be willing to share certain amenities and their associated costs with neighbors (Figure 39). Results were not surprising in a society where self-reliance and independence are strong values. Guest houses, clubhouse, stable or barn, pasture, and community vegetable garden were the least popular amenities that people might share in a conservation subdivision. Each of these received less than 20% of respondents' favorable votes. The most preferred shared amenities were snow shoveling costs (43%), a grassy area for recreation (46%), and a trail system (44%). Items respondents listed in the "other" category included: irrigation water, a dog park, a wildlife reserve, and tennis courts.

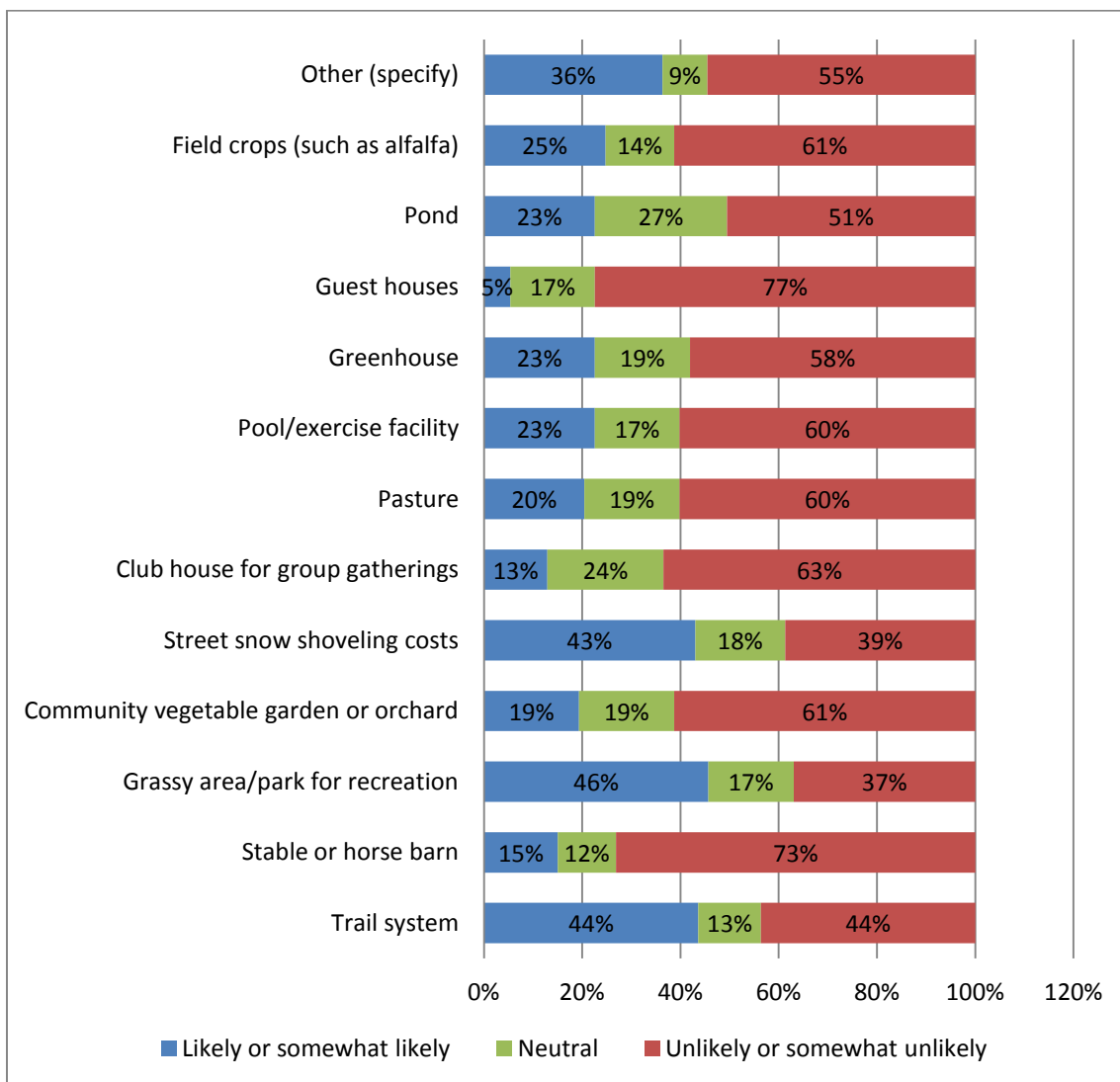


Figure 39. How likely respondents would want to share amenities and cost with neighbors (Q9). n = each amenity varies between 92 and 94, for "Other" n = 22; $p < .10$ for all categories, p s; however, some cells < 5 .

While there were strong feelings expressed against shared amenities, it should be noted that there was also a small percentage of respondents who said they would likely want to share many of these. This shows that there is demand for both independent and shared types of developments, even among people who now live on large lots. The demand is further supported by a follow-up question that asked if respondents had all desired amenities, how

likely would they be willing to live on a smaller lot (Figure 40). The majority (57%) of respondents said they would be very unlikely to live on a smaller lot, but 20% said they would be somewhat likely to choose that type of development.

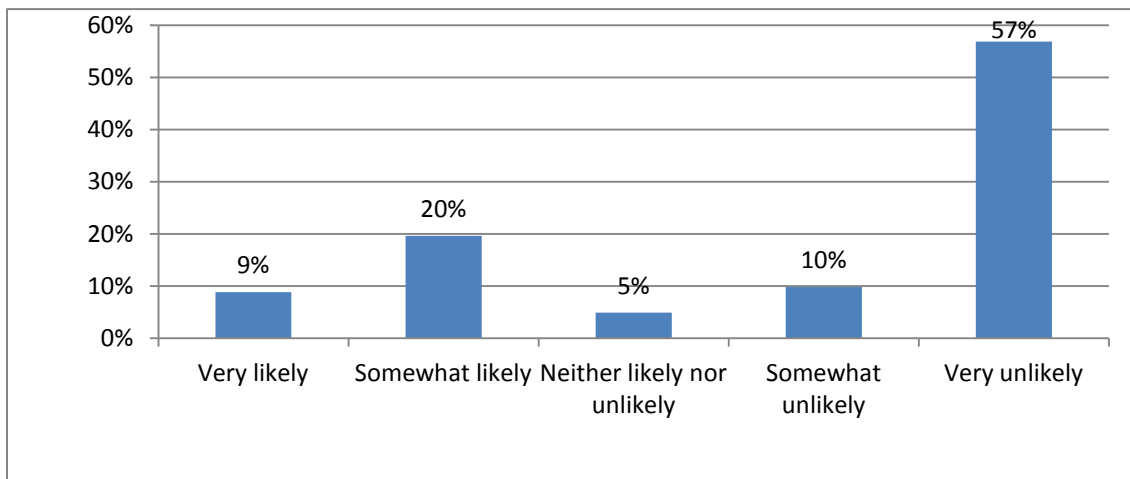


Figure 40. How likely respondents would live on a smaller lot with all desired amenities (Q10). $n = 102, p < .10, ps.$

Further investigation was done to better understand any factors that may contribute to respondents' strong feelings against living on small lots with shared amenities. Their feelings from Q10 were compared to gender (Q32), property where respondent grew up (Q30), place where respondent grew up (Q29), annual income (Q33), and age (Q31). Graphs showing the results can be found in Appendix C. To summarize those comparisons, it appears that of these factors gender has the least influence on preference to live in this type of development, while the type of property where respondent grew up has the most influence. There was little difference between male and female preferences for smaller lots with shared amenities, but people who grew up on a small farm or large lot with animal rights were almost twice as likely as any others to be opposed to them.

Written responses to Q10 indicated respondents have strong feelings about smaller lots and shared amenities. A complete list of responses can be found in Appendix D. A few of the responses seemed open to the idea: “Less to maintain” and “If I had access to pasture and garden I would need less space.” Some of the responses showed interest, but at a later time in life: “Not at this point in my life. Maybe at retirement age.” Most of the responses opposed the idea: “Enjoy managing & controlling our own property,” “I like my OWN space,” “I don't like California style living!!!” and “If I wanted an HOA I'd move to the city.”

Common open space in neighborhoods should be owned by the government according to 52% of respondents (Figure 41). Thirty-one percent said neighborhood associations should own it, and 17% said some other entity or a combination of the others would be best. Sixty-one percent of respondents said that private space is most important to them, while 37% said that private space and common space are equally important (Figure 42). Very few (3%) said common open space was most important.

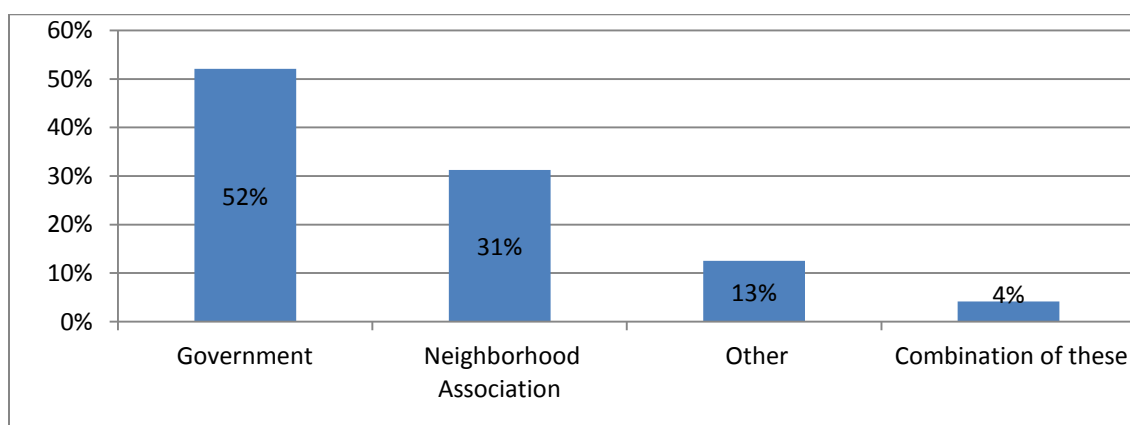


Figure 41. Respondents' feelings about who should own common open space (Q11). $\chi^2 (3, n = 96) = 24.80, p < .10, ps.$

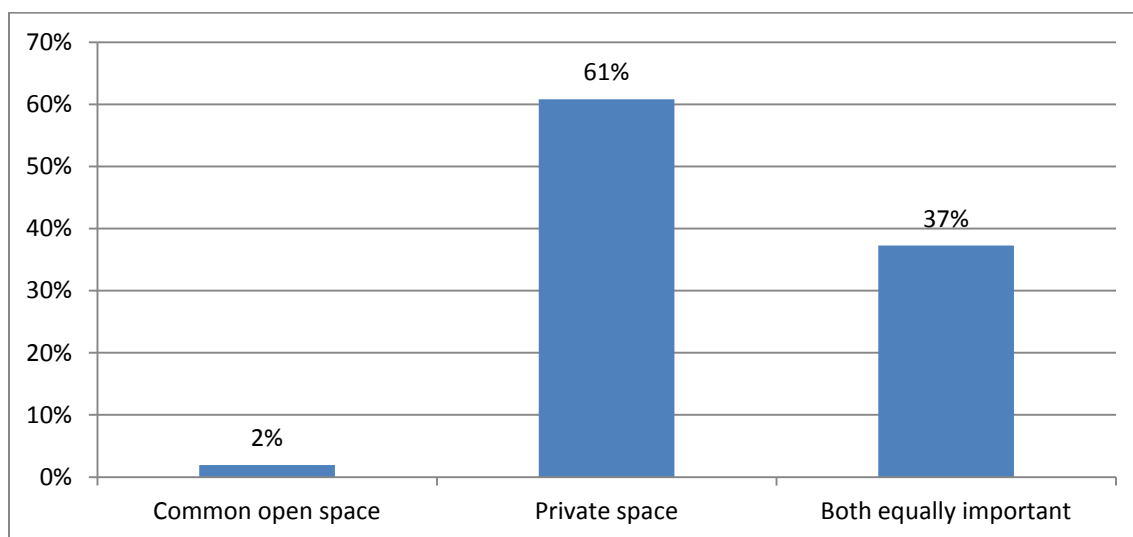


Figure 42. Type of space most important to respondents (Q12). $n = 102$, $p < .10$, ps .

Respondents' Feelings about Their Lots and Development Alternatives (Q11, Q12, Q15, Q17)

After inquiring about respondents' feelings about neighborhoods and common open space, the questionnaire sought insight about their feelings toward their lots (Figure 43).

Question 15 asked how important certain factors were in their choice to live on their current lot. Distance between houses was the most frequent likely factor with 94% of positive responses. Items that were very important to them, or receiving 75% or more positive responses included: the home itself, a rural lifestyle, space for additional outbuildings, place for an orchard/fruit trees, place for a vegetable garden, distance between houses, and a large lawn or play area. Items that were somewhat important (50-74% of positive responses) were land for self-sufficiency in hard times, the neighbors, the largest amount of land they could afford, and a place to raise farm animals. Mildly important factors for choosing their property, or <50% of

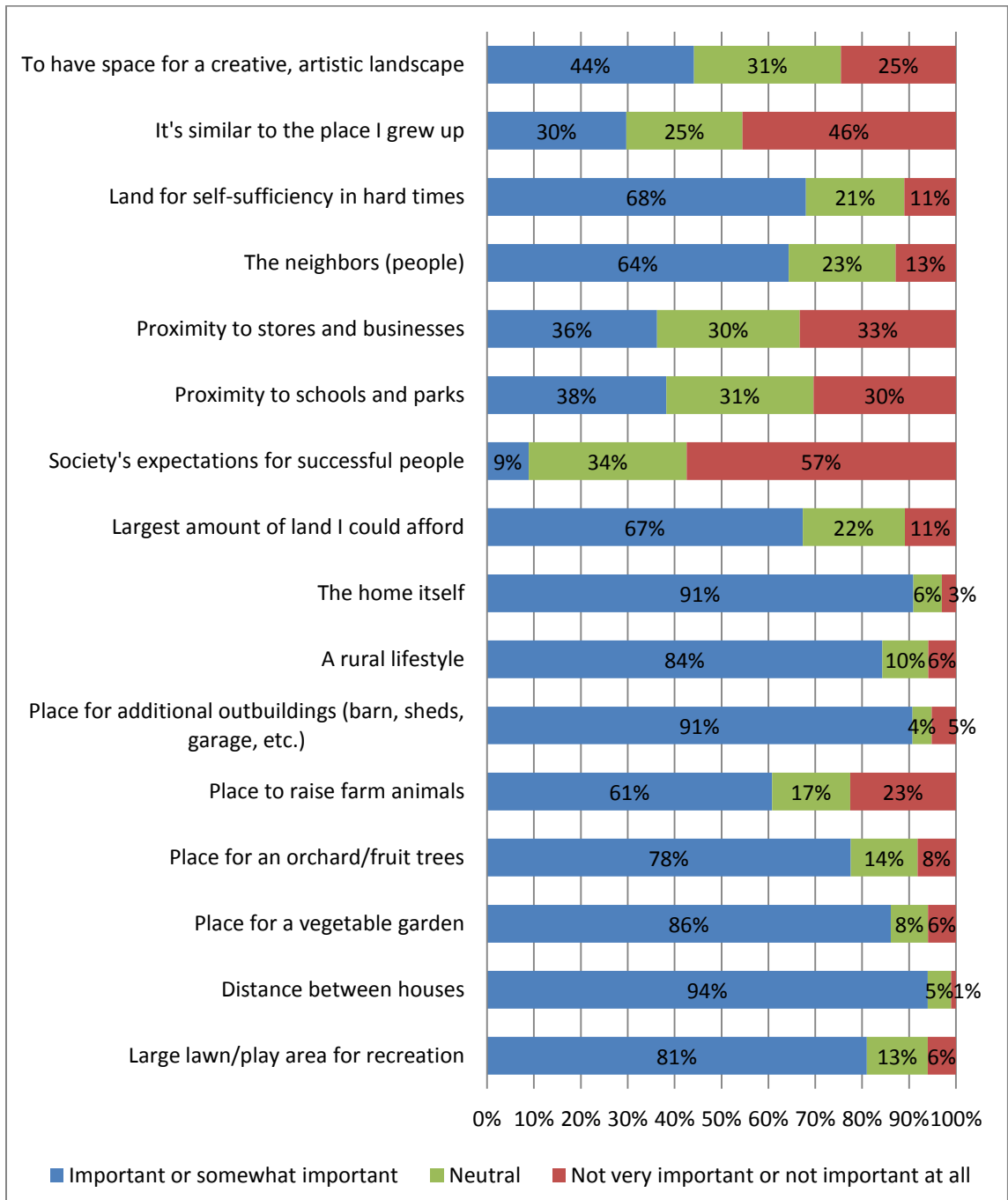


Figure 43. Importance of certain characteristics in choosing current property (Q15). n = varies between 97 and 102, $p < .10$ for all categories, p s; however, some cells < 5 .

respondents' positive vote, included proximity to schools, parks and business; society's expectations for successful people; and similarity to respondents' childhood homes.

Regarding the size of their lots, most felt their lot was just the right size (Figure 44). A combined 22% felt their lots were either somewhat small or way too small for their needs, while 29% admitted that their lots were somewhat large or way too large for their needs. A comparison to the actual size of lots was important in understanding exactly what respondents thought was just right.

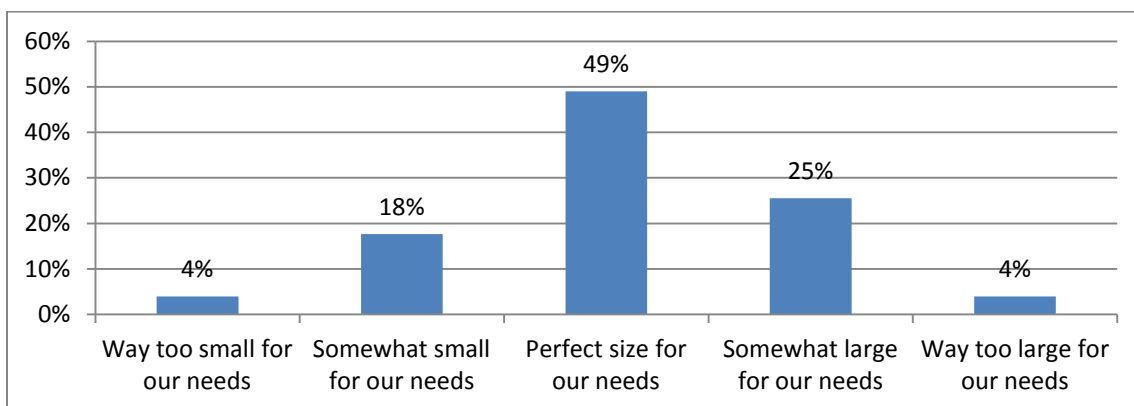


Figure 44. Respondents' feelings about the size of current lot (Q17). $n = 102$, $p < .10$, ps .

Results for Q17 were crossed with results for Q6 on lot size to better display these relationships (Figures 42 and 43). These results were configured two different ways to show both the quantity of responses and the percentage of the satisfaction category. The quantity graph (Figure 45) better displays the actual number of responses compared, where the percentage graph (Figure 46) shows the distribution of responses in each category. Since some of these categories had very few respondents, a caution should be issued in putting too much weight on these particular results. A larger sample pool would lend more accurate data.

Figure 45 shows that the highest quantity of responses was in the 1.01-1.50 acre category, which is the lot size where the most people in the sample pool live. The majority of respondents in that category said their lot was just the right size. However, with the exception of the 4.01 to 4.50 acre category, all other categories said their lots were also just the right size. In each category except the 1.50 to 2.00 acre category, “just right” received the highest quantity of votes. This shows that personal preference varies, and that lot size satisfaction depends more on how an individual is using the land than on how large it is.

One interesting point was that there were no respondents in the 0.5 to 1.0 acre category who said their lot was too small. In fact, one respondent even said his/hers was too large. On the other end of the lot size scale, in the 5.00+ acre category there were as many who said their lot was “a little too small” as there were who said it was “a little too large.” Again, this would likely be attributed to how the respondent is using or would like to use the lot. The percentage graph (Figure 46) better shows which respondents chose which category for their lot size. For example, of those who said their lot was way too large, 25% of them lived on 0.5 to 1.0 acres, 25% live on 1.0 to 1.5 acres, 25 % live on 1.51-2.00 acres, and 25% live on 4.01-4.50 acres. Once again, more respondents would lend better credibility to these results since a cross-reference to Figure 45 shows that there were only 4 total respondents in the “Way too large” category. The most varied satisfaction categories were “a little too large” and “just right” where 9 out of 10 acre categories were represented.

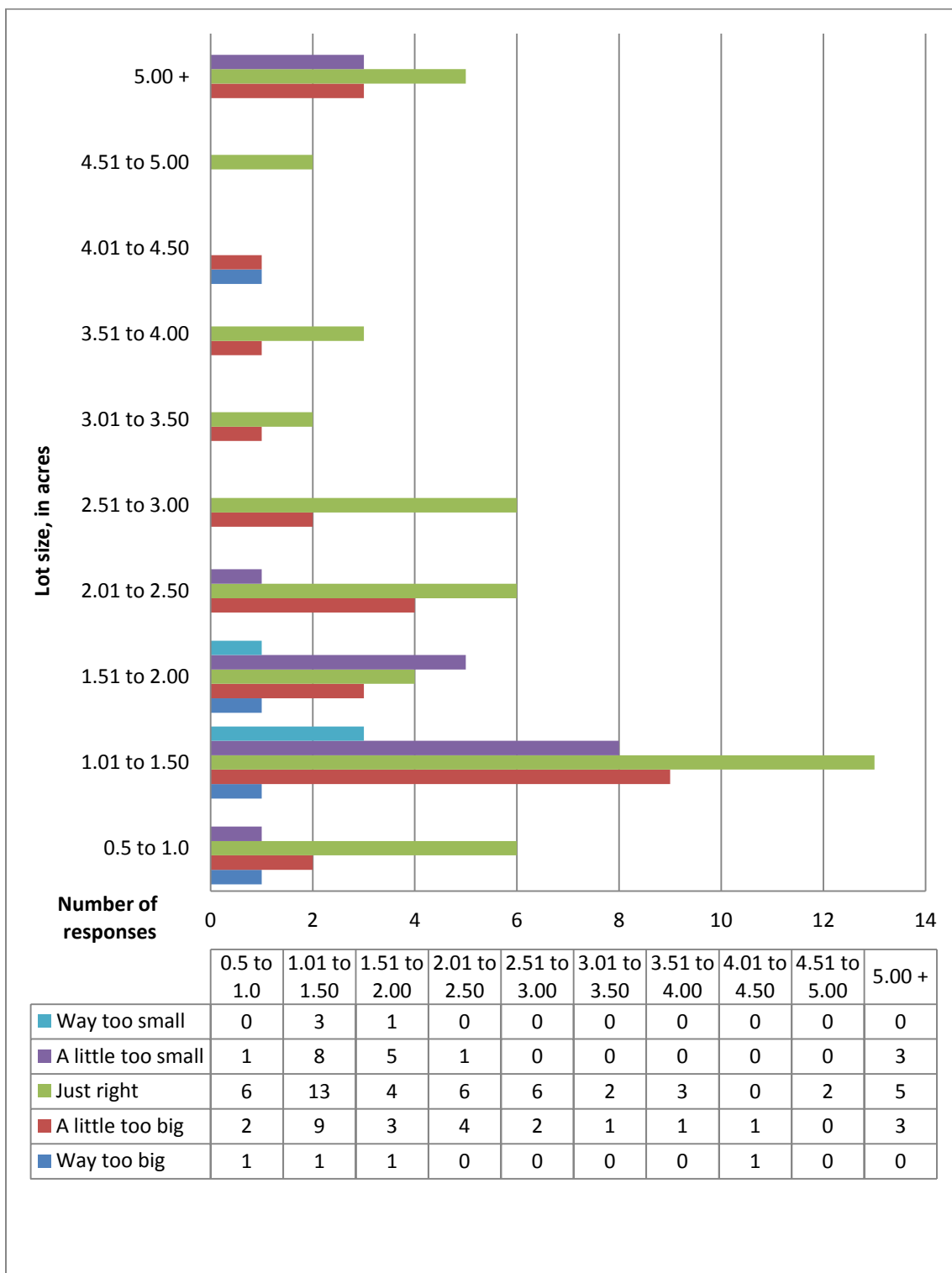


Figure 45. Respondents' satisfaction with their lot size, actual number of responses (Q17 & Q6). $\chi^2 (55, n = 100) = 41.65, p > .10, pns$; some cells < 5.

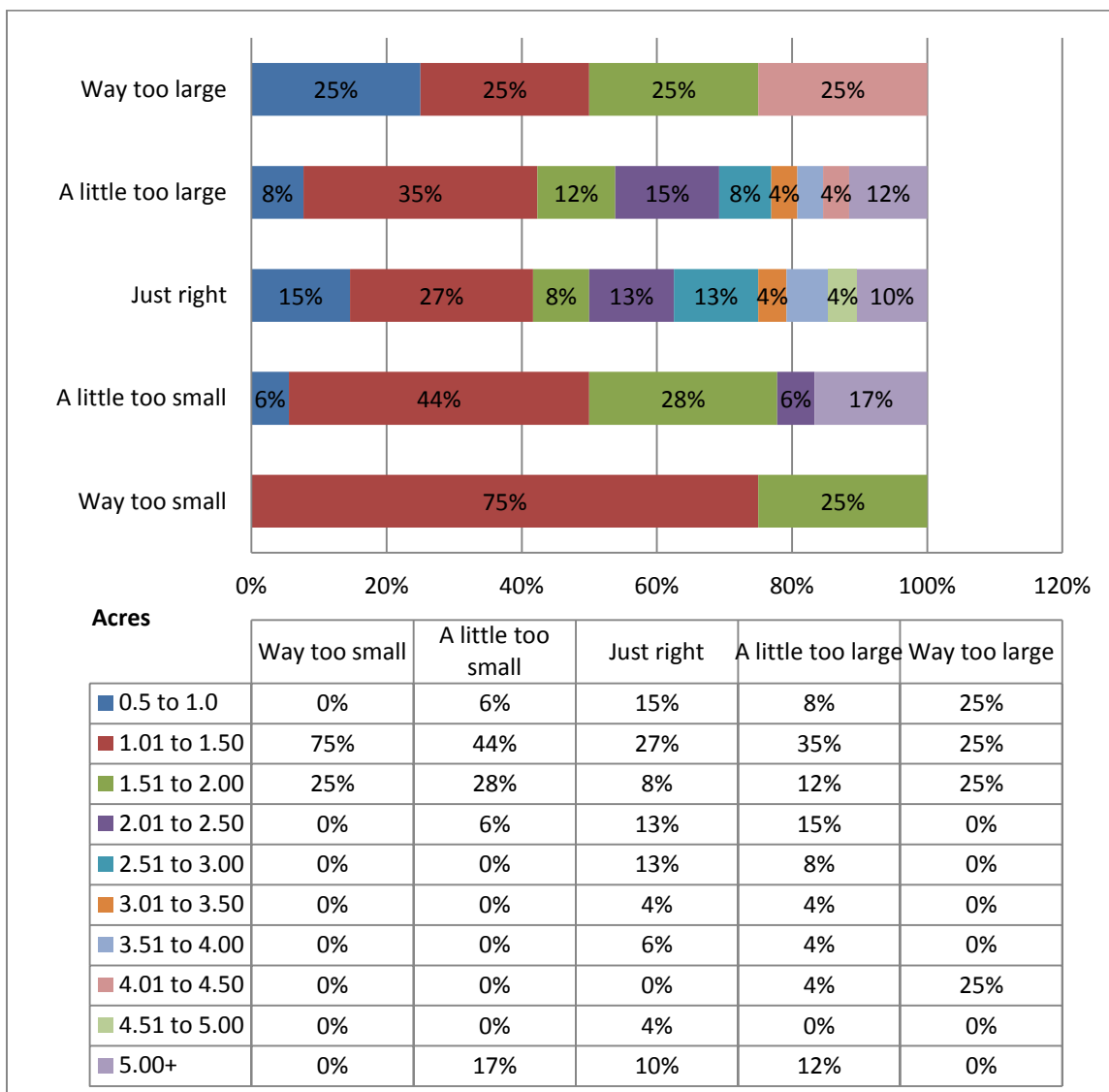


Figure 46. Respondents' satisfaction with lot size, percentage of satisfaction in each category (Q17 & Q6). $\chi^2 (55, n = 100 = 41.65, p > .10, pns; \text{some cells} < 5.$

Respondents' Preferences on Four Types of Developments (Q25a, Q25b, Q25c, Q25d)

Question 25 was designed to give respondents a basic visual description of four types of development that are typical in the Intermountain West. One detail that seemed to be a

distraction to respondents was the usage of the word “subdivision.” Several comments written in the white space of the page indicated that the respondent would never want to live in a “subdivision” at all. Planners use this term often as a neutral word to delineate a division of land into a new development, but this may be a cue that the term is not always received well by the general population. It would be interesting to see if results to the following questions changed if the wording was changed.

Respondents were asked to look at each of the four types of subdivisions and rate how likely they would choose to live there (Appendix A, Survey, Page 9). Rectangular lots were the most liked with 66% of respondents saying they would be somewhat likely or extremely like to choose living there (Figure 47). Forty-seven percent of respondents said the same of farmstead

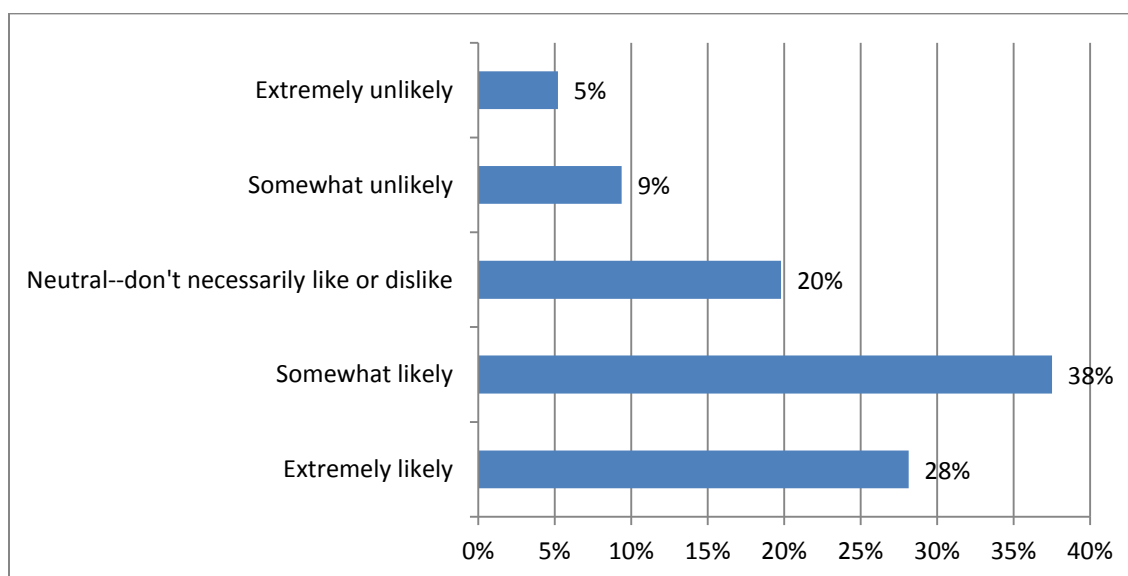


Figure 47. Likelihood of choosing rectangular lots (Q25b). $\chi^2 (4, n = 96) = 33.8, p < .10, ps.$

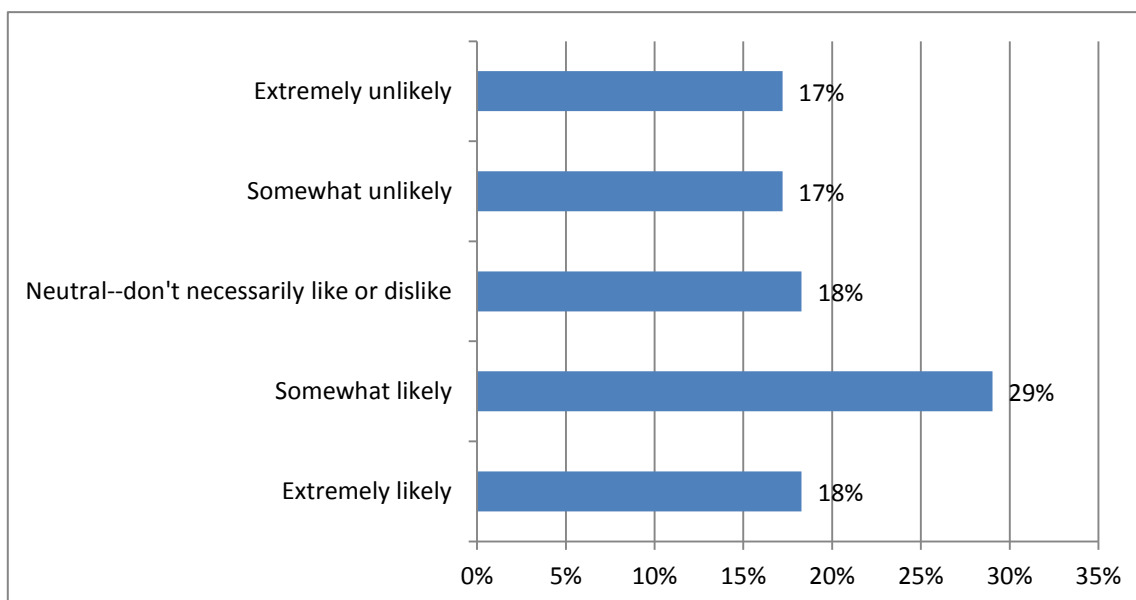


Figure 48. Likelihood of choosing a farmstead subdivision (Q25a). $\chi^2 (4, n = 93) = 4.80, p > .10, pns.$

subdivisions (Figure 48). The least liked choice was the cluster subdivision, for which 65% said they would be somewhat or extremely unlikely to live there (Figure 49). Block subdivisions followed close behind in the less likely category at 61% (Figure 50).

Each of the subdivision types had people who said they'd be extremely likely to choose living there and those who would not. Again, this demonstrates the need for different types of developments to suit the needs and preferences of many people. Also interesting to note, the rectangular lots are culturally most like the Mormon settlement pattern that dominates the region.

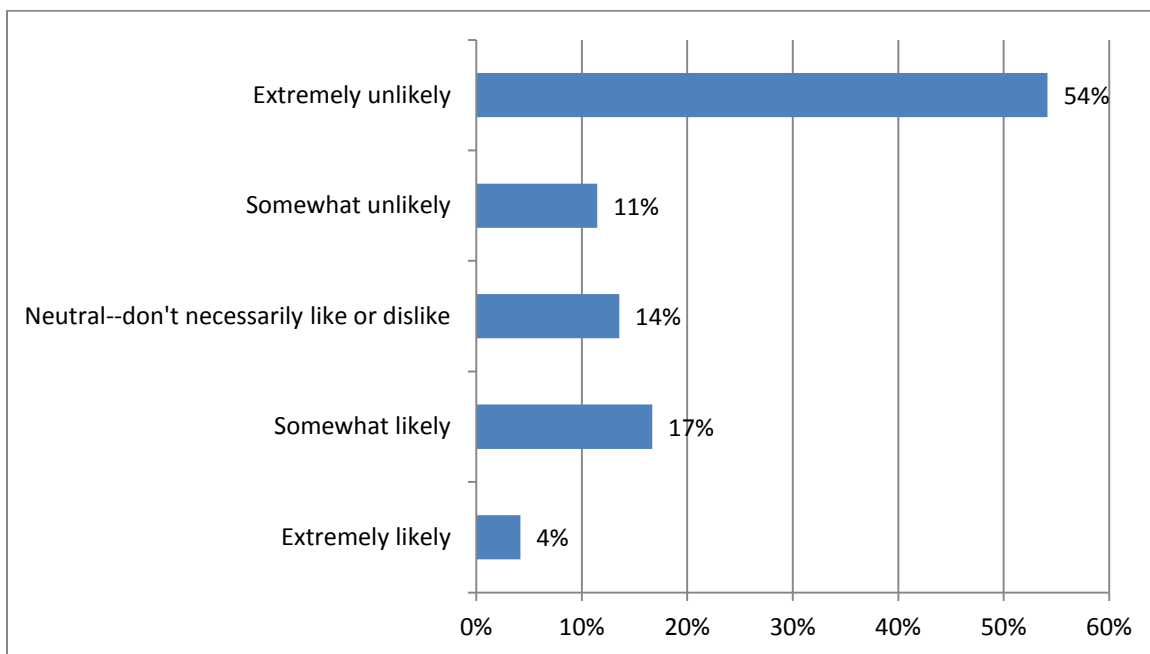


Figure 49. Likelihood of choosing a cluster subdivision (Q25d). $n = 96$, $p < .10$, ps .

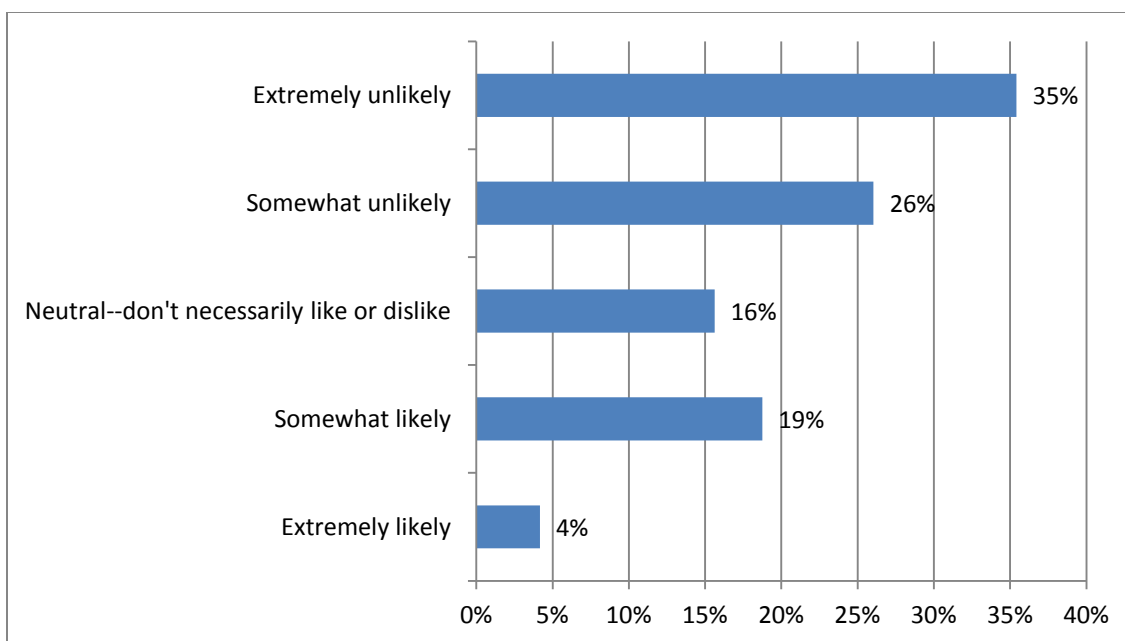


Figure 50. Likelihood of choosing a block subdivision (Q25c). $\chi^2 (4, n = 96) = 26.19$, $p < .10$, ps .

Respondents' Desired Characteristics in Their Ideal Neighborhoods (Q5)

Question 5 gave respondents an opportunity to think about characteristics that would be present in their ideal neighborhood (Figure 51). Responses showed extremely strong support (90% or more who were very likely or somewhat likely to include a characteristic) for a feeling of safety, a small population and houses spread apart. Very strong support (80-89% very likely or somewhat likely to include) was noted for undeveloped open space and close relationships with neighbors.

Agrarian activities such as farmsteads, farm animals, pastures, and farm buildings received moderately strong support (70-79% very likely or somewhat likely to include), as did a slow pace of life, large front yard setback, and a central business area. Wide streets, large fields of crops, and street/yard lights were also important to respondents (60-69% very likely or somewhat likely to include), while 50-59% of respondents favored large lots with large yards and sidewalks, curbs, and gutters.

Respondents' resistance to certain features of their ideal neighborhood was less marked than their preferences, but notable nonetheless. The strongest point of opposition came from the consideration of houses built close together. Eighty-eight percent of respondents were either somewhat unlikely or very unlikely to choose this characteristic in their ideal neighborhood. Nearly two thirds preferred not to have narrow streets (62% somewhat unlikely or very unlikely) or homes close to the road with a small front yard (64%). Over half did not want smaller homes with small yards (57%), and many would not prefer nearby highway access (43%), walking distance to businesses (46%), or stores in clusters (40%).

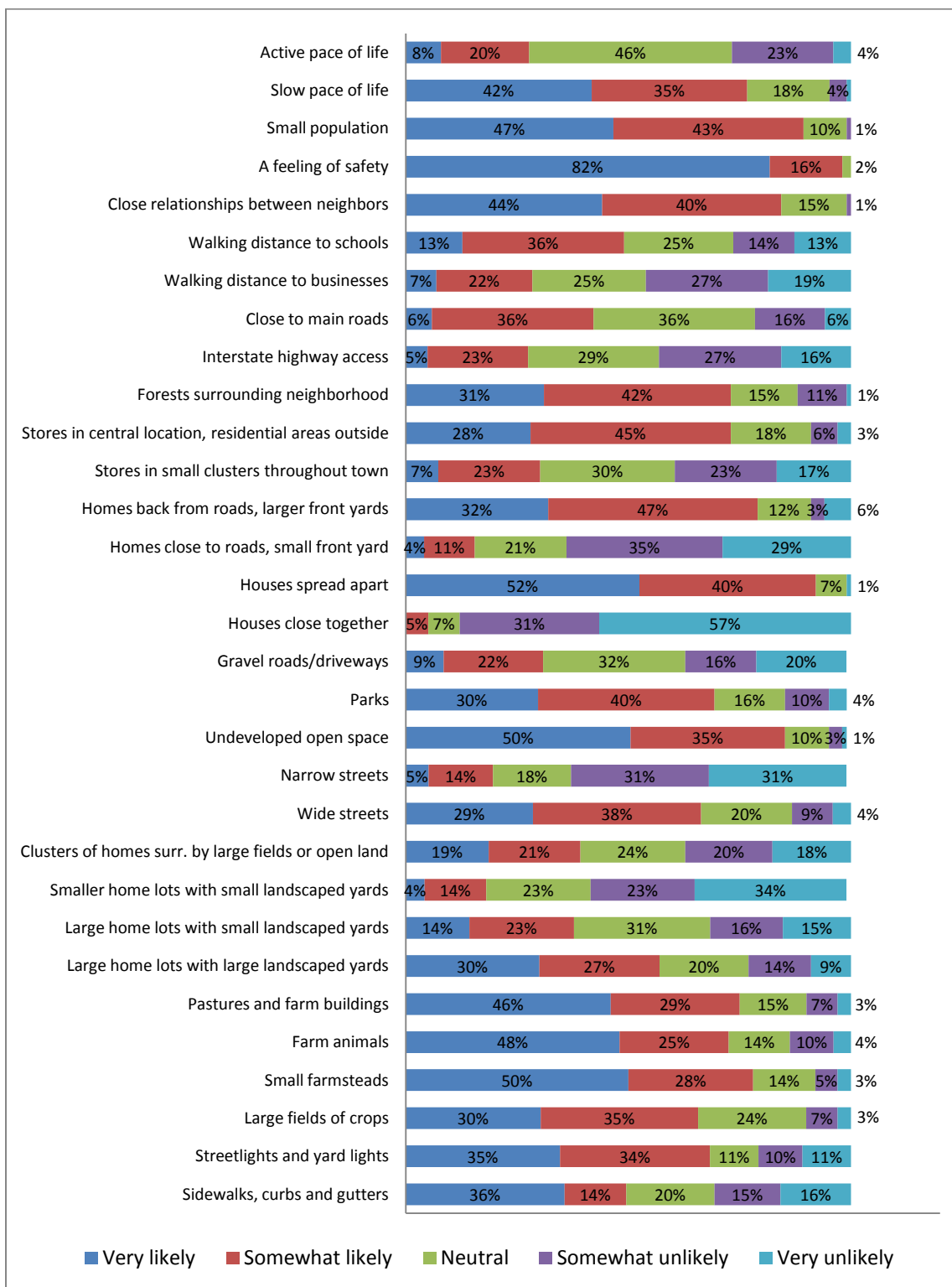


Figure 51. Likelihood of respondents including certain characteristics in their ideal neighborhood (Q5). n varies from 9 to 104, $p < .10$, ps for all categories except "Clusters of homes surrounded by large fields or open land." (For n values, see Appendix B, page 108-111.)

Characteristics that received a nearly balanced positive and negative response included an active pace of life (28% for, 27% against), gravel roads and/or driveways (31% for, 36% against), and clusters of homes surrounded by fields (40% for, 38% against).

An “other” category was available to respondents to include anything else they might consider to be a desirable characteristic of their ideal neighborhood. Of the nine who responded to this part of the question, five listed some type of trail system for bikes, horses or pedestrians. Others listed a river or canal, weed control and tennis courts as enviable neighborhood traits.

Summary

Respondents in this sample generally have positive feelings about their neighborhoods. They feel they are friendly, trusting, supportive, and safe. In their neighborhoods, they like the people, the views and the neighborhood structure. The houses in most neighborhoods are spaced more than the distance of two houses apart, and most felt that the distance between homes is just right. No respondents felt that homes were too far apart, which shows that they like space between neighbors.

Shared amenities were generally not favored among respondents. However, they were more favorable toward shared trail systems, snow shoveling and a grassy area for recreation. Strong opposition was shown toward shared guest houses, a clubhouse, a stable or barn, a pasture, and a community vegetable garden. Deeper investigation revealed a possible link between the type of property where a respondent grew up and opposition to smaller lots with shared amenities. The majority of respondents said private space is more important than

common open space, but that common open space in a neighborhood should be owned by the government. Most would not live on a smaller lot, even with all desired shared amenities.

In choosing their lots, the most important items were the home itself, a rural lifestyle, space for additional outbuildings, place for an orchard/fruit trees, place for a vegetable garden, distance between houses, and a large lawn or play area. Least important to them were society's expectations for successful people, proximity to public services and similarity to their childhood home.

Most respondents felt that their lot size was just right. When compared to their actual lot sizes, satisfaction appeared to vary without pattern. This indicates that satisfaction of property size is due to other factors besides the size of the lot itself, such as personal preference.

When asked if they liked each of four types of subdivision patterns, rectangular lots were favored most, with farmstead subdivisions the next well-liked. Block subdivisions were least preferred and cluster subdivisions were only slightly more liked than block subdivisions. The word "subdivision" appeared to have a negative connotation to some respondents, which may suggest that planners should choose a different word to describe residential developments.

CHAPTER VI

SUMMARY OF RESULTS AND RECOMMENDATIONS

Summary of Research

Through analysis of the results of a mailed survey in Cache Valley, Utah, this thesis has presented evidence that an agrarian lifestyle still exists in most of the people who live on large lots. A majority of them raise animals and have a vegetable garden, and over half of them do both. People on these large lots enjoy their space and prefer independence over shared spaces and amenities. The Intermountain West is full of communities similar to Cache Valley where additional research would likely find similar results.

Several indications in this study reinforced the views of Randall Arendt who stressed the need to develop the land in a variety of patterns and with a variety of lot sizes to suit the needs of many people (1994). Whether they lived on an acre or five acres, respondents were generally satisfied with their lot size. Their preferences varied, but they were satisfied nonetheless. Survey results indicated a strong opposition toward smaller lots, but a small percentage of respondents indicated that they would like living in a conservation subdivision with shared amenities. The variety of lots would fill both needs.

While every effort should be made to reduce waste in land use, there must be a place in development patterns for people like many of the respondents in this survey who want to utilize the land for agrarian purposes. They would simply not be able to do that on a small lot. Agrarians, like New Urbanists, value the conservation of land and its resources, but in the form of fields and pastures. These small farms are a positive late addition to the New Urbanist transect model (Duany et al., 2009). With a little adaptation and a broader acceptance of the

value of an agrarian lifestyle, local values of the Intermountain West could be integrated with New Urbanism ideas for a better region-specific planning method. Wes Jackson said, “If it has been fair for farmers to be expected to adopt the industrial mind, why is it not fair for urban and suburban folk to adopt an agrarian mind? We have gone one way, why not another” (2003, p. 141)? New Urbanists need to recognize “what they are asking people to surrender—indeed, *that* they are asking them to surrender something” (Northrup & Lipscomb, 2003, p. 209).

Arendt recognized the need for these “metro-farmers” back in the mid 1990s. He noted their contribution of fresh, local produce; “u-pick” orchards and berry farms; horse stables and nurseries. Although he did not expound upon many specific ideas for integrating them into planning designs for towns or cities, he did note their importance and added to the growing support of farms in or near cities.

It will also be necessary to nurture and encourage the emerging “adaptive metro-farmers,” for they have an important role to play in the supply of fresh produce and landscaping materials for the surrounding suburban and urban regions. The establishment of more farmers’ markets, and the encouragement of small industries utilizing locally produced crops, should become part of the economic development program offered by town and county governments in rural areas. (1994, p. 307)

Many of the towns in the Intermountain West are not large enough to be what some consider “metro” yet. Planning these agrarian developments into future growth is important for keeping cultural connections with the past and for providing local, fresh products in the future. Urban agriculture “must be viewed not as a problem but as one tool contributing to sustainable urban development” (Mougeot, 2006, p. 10).

Limitations of Research

As mentioned here and in Chapters IV and V, the survey used for this thesis has brought out a number of points that planners could use to develop suitable development patterns.

However, like any survey, there are limitations to the data and many new questions have come up as data was collected.

The biggest limitation of this study was sample size. Statistical significance was difficult to test on some of the data because there were so few responses to certain aspects of the question. For example, of the 200 people surveyed, there were relatively few people who had common open space in their neighborhoods. When those few people were asked about aspects of their common open space, their opinions split further and left too few responses to test significance. A larger sample pool of maybe 2000 would better describe the narrowed down questions.

Other limitations of this survey included unclear definitions of terms such as “garden,” “open space,” and “subdivision.” These appear to be much more subjective than before perceived. A vegetable garden could be part of decorative beds, or a flower garden might be defined by some as their “garden.” Similarly, “open space” could mean many things to different people. The term “subdivision” seemed to have a negative connotation to some people and may have skewed some answers as respondents reacted to the word before understanding the intent of the question.

As data was gathered, questions arose about how respondents use urban amenities, such as schools, hospitals, recreation facilities, infrastructure and so on. This would be an important part of the overall perspective when developing appropriate planning methods.

Possible Solutions

The objective of this thesis was not to generate a new model for development in the Intermountain West, but to gather preference details and evidence that urban agrarianism will

need to be part of any future model for effective planning in this region. The data explains characteristics of people who choose large lots in the region, how they use their land, and how they feel about some methods of conservation planning. Future planners can take from this survey as well as from other sources to generate new models. While those new models are left to future work, the following paragraphs contain a general discussion of ideas generated from survey results and from the research for this survey.

Planners must recognize that the New Urbanist model must be adapted for people with agrarian lifestyles if the ideals of New Urbanism are to be used for cities in the Intermountain West. Additionally, some types of conservation subdivisions will not work well with the physical environment in the West. But if the two models are creatively combined there may emerge an acceptable solution. It may even resemble the predominant Mormon settlement pattern that is an established part of the physical and social culture in the Intermountain West.

The sample group in this study preferred rectangular lots, distance between homes, private space and places to carry on agrarian activities. Rural town zoning laws could cater to this lifestyle in allowing larger lots in an “agrarian neighborhood,” where there would be right-to-farm laws in place to protect their responsible endeavors (Centner, 2004). The “agrarian neighborhood” would fit nicely into its surroundings, not in an exclusive area by itself. In other words, it would be part of the town, not apart from it.

Like the smart growth rural transect, these “agrarian neighborhoods” might be located near a green belt or in an available area inside the town. Lots would be no more than an acre or two, relatively rectangular, and rural-type streets will wind around to ensure best conservation of topography and other environmental factors.

While this would not be the only type of development, it would suit the needs of some of the population. Perhaps smaller lots would be available as well for those who enjoy the setting, but who cannot or do not farm. Large lots would be limited in number to prevent a sprawling development. The mixture of lot sizes would promote a mixture of residents to help the neighborhood flourish.

Residents of this “agrarian neighborhood” would be required by neighborhood codes to use a specified minimum portion of their large lot for agrarian activities, or lease it out to others who will use the land, perhaps punishable by a loss of an agricultural tax incentive for proper use. People who choose to live there would have similar agrarian values and would likely be more empathetic to farm sounds and occasional odors from their neighbors’ livestock.

Not unlike Arendt’s conservation subdivisions, these “agrarian neighborhoods” would be cognizant of the natural environment. They would connect people to the land visually because of the privately owned open pastures and bucolic farm atmosphere. They would also connect people to the land physically, socially, ethically and culturally as they till the soil, maintain their animals, interact with neighbors and produce food for their family and others, just as their predecessors did a half century and more ago.

Asian cities have a long tradition of urban agriculture and have policies in place to encourage food production in cities. In fact, Chinese cities purposely allow extra space in city growth to accommodate a city foodshed (Mougeot, 2006). In most parts of the U.S., zoning laws accommodate larger farms, but zoning in cities could be better at allowing or even encouraging urban agriculture, particularly the small farms on large lots.

Currently in Kauai, Hawaii a development project is attempting a newer trend of requiring farming in a large agricultural subdivision to prevent people from buying the land as an

estate (Maui, 2010). One problem they have faced is what defines agriculture. The development is not very far along yet, but this could be a source of reference in developing similar “agrarian neighborhoods” in the Intermountain West.

Conclusion

While the intent of thesis has not been to solve the problem of the disappearing small farms in the Intermountain West, the hope is that the ideas and survey results presented here bring awareness of a veritable population that is overlooked in generalized planning methods. Small family farms in urban areas are part of the cultural heritage of the region. They are part of a sustainable future, and they can be part of the movement for aesthetic and environmental conservation. Planners need to understand and value their contribution to the whole of society and include the small farms of the Intermountain West in planning designs, rather than eliminating potential small farms in the name of modern planning. The Intermountain West region is different, and planning should be different too.

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APPENDICES

Appendix A. Correspondence with Respondents and Recordkeeping

First Mailing: Advance Notice Letter

October 21, 2009

[NAME]
[ADDRESS]
[CITY, ST ZIP]

Dear [NAME],

Cache Valley is growing! Decisions about the way we use our land will affect our quality of life in the future of this beautiful valley.

You are among a unique population in Cache Valley who live on a home lot larger than an acre with animal rights. In fulfillment of requirements for a master's degree of landscape architecture, I am researching how people of this specific group use their land and how they feel about residential development patterns. Through a random selection process, you have been chosen to participate as part of a small sample of eligible residents.

Within the next week you will receive in the mail a brief questionnaire, as well as a stamped, return envelope for your convenience. You're invited to make it a priority to complete and return it. The questionnaire will take approximately fifteen minutes to complete. Your responses will be completely confidential and will be released only as group summaries in which no individual answers can be identified. Although you are free to decide whether to participate or not, I would greatly appreciate your taking the few minutes necessary to contribute your valuable opinions to this study.

The results of this study will give planning decision-makers important information about the preferences and needs of people like you. Conclusions will be published in a master's thesis and will be shown to planners of this area and other areas of the West. Your thoughts about your land and your neighborhood will be invaluable to their planning efforts and could affect decisions planners make in the future.

Please refer to the enclosed official "Letter of Information" from the Institutional Review Board at USU for more details. If there are questions or comments about the study or about the survey, please feel free to contact me by phone or email. Thank you in advance for your participation.

Sincerely,

Laurie B. Hurst
MASTER OF LANDSCAPE ARCHITECTURE CANDIDATE
Email: l.b.hurst@aggiemail.usu.edu
Phone: 435-512-1543

First Mailing: IRB Letter of Information

Utah State UNIVERSITY

Department of Landscape Architecture and Environmental Planning
4005 Old Main Hill
Logan UT 84322-4005
Telephone: (435) 797-0500

Page 1 of 1
Created : April 27, 2009

Utah State University IRB Approved 4/30/2009
Approval terminates: 4/29/2010
Protocol No: 2333
IRB Password Protected per IRB Specialist

Letter of Information

“Land use preferences of homeowners of large lots with animal rights”

Introduction/ Purpose Professor David Bell in the Department of Landscape Architecture and Environmental Planning at Utah State University is conducting a research study to understand development patterns and preferences of people who own lots larger than one acre with animal rights. You have been asked to take part because your household was randomly selected from a list of people in Cache Valley who live on lots larger than one acre in areas that are zoned for animal rights. There will be approximately 250 total participants invited to participate in this research.

Procedures If you agree to be in this study, please complete the enclosed questionnaire and return it in the self-addressed, stamped envelope. The questionnaire takes approximately fifteen minutes to complete.

Risks

Risks involved in the study will be no greater than those encountered in daily life or during performance of routine physical or psychological examinations or tests.

Benefits

There may or may not be any direct benefit to you from these procedures. The investigator, however, may learn more about how people like you view various development patterns and how these people actually use their land. This will help planners and developers make decisions about designing residential neighborhoods that are suitable for land owners from a variety of backgrounds, while assuming careful stewardship of the land.

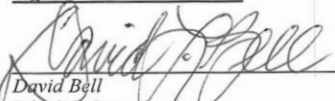
Explanation & offer to answer questions This letter and instructions on the survey have explained this research study to you. If you have other questions, concerns, complaints, or research-related problems, you may reach Professor David Bell at 797-0500 or david.bell@usu.edu.

Voluntary nature of participation and right to withdraw without consequence Participation in research is entirely voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits. You may be withdrawn from this study without your consent by the investigator if basic criteria for selection are errant (such as small minimum lot size or no animal rights).

Confidentiality Research records will be kept confidential, consistent with federal and state regulations. Only the investigator and one student researcher will have access to the data which will be kept in a locked file cabinet in a locked room. Personal, identifiable information will be kept only until the completed questionnaire is received, at which time all names and addresses will be destroyed.

IRB Approval Statement The Institutional Review Board (IRB) for the protection of human participants at USU has reviewed and approved this research study. If you have any pertinent questions or concerns about your rights or think the research may have harmed you, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu. If you have a concern or complaint about the research and you would like to contact someone other than the research team, you may contact the IRB Administrator to obtain information or to offer input.

Signature of PI & student

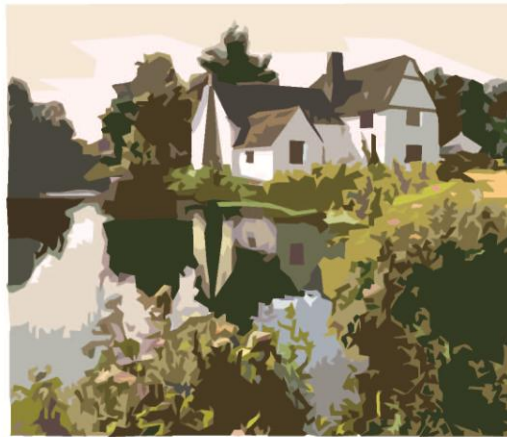

David Bell
Principle Investigator
435-797-0500


Laurie B. Hurst
Student Researcher
(435-753-3674)

Second Mailing: Survey, Page 1

Land use preferences of residents on small acreage farms or large lots with animal rights

*Survey of land use preferences in Cache Valley, Utah
Fall 2009*



Please return by **November 10, 2009** to:



Laurie B. Hurst, MLA Candidate
Department of Landscape Architecture and Environmental Planning
PO Box 212
Grantsville, UT 84321

Second Mailing: Survey, Page 2

Page | 2

Thank you for taking time to carefully answer each of the questions on this survey with a dark pen or pencil. Feel free to write additional comments on any white space. I would like to begin by asking you a few questions about your neighborhood and community.

Your Neighborhood

1. Listed below are several pairs of contrasting views regarding your neighborhood. For each pair please indicate which of the two views you most agree with—the one in the left-hand column or the one in the right-hand column, or somewhere in between—by filling in the appropriate numbered circle. My neighborhood is...

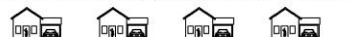
Friendly	① ... ② ... ③ ... ④ ... ⑤ ... ⑥ ... ⑦	Unfriendly
Trusting	① ... ② ... ③ ... ④ ... ⑤ ... ⑥ ... ⑦	Untrusting
Supportive	① ... ② ... ③ ... ④ ... ⑤ ... ⑥ ... ⑦	Unsupportive
Safe	① ... ② ... ③ ... ④ ... ⑤ ... ⑥ ... ⑦	Unsafe

2. When you think of your neighborhood, would you say that you live here because: (check all that apply)

- ① I like the people
- ② I like the neighborhood structure
- ③ I like the views
- ④ I've always lived here

3. On average, how far apart are the houses spaced in your neighborhood?

- ① Less than 30 feet (about half the width of a house)



- ② About the width of one house (30-60 feet)



- ③ About the width of two average size houses (60-120 feet)



- ④ More than the width of two average size houses (More than 120 feet)



4. When you think about the distance between houses in your neighborhood, would you say they are:

- ① Much too close together
- ② A little too close
- ③ Just right
- ④ A little too far apart
- ⑤ Much too far apart

Second Mailing: Survey, Page 3

5. If you were designing an ideal rural neighborhood where you would live, how likely would you include the following characteristics?

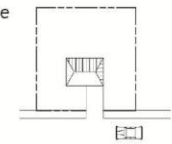
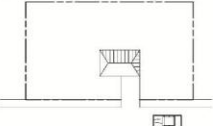
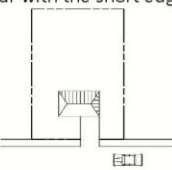
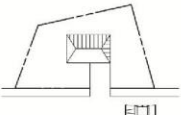
	VERY LIKELY	SOMEWHAT LIKELY	NEUTRAL	SOMEWHAT UNLIKELY	VERY UNLIKELY
<u>Infrastructure</u>					
Sidewalks, curbs and gutters.....①	②	③	④	⑤	
Streetlights and yard lights.....①	②	③	④	⑤	
Large fields of crops.....①	②	③	④	⑤	
Small farmsteads①	②	③	④	⑤	
Farm animals①	②	③	④	⑤	
Pastures and farm buildings.....①	②	③	④	⑤	
Large home lots with large landscaped yards.... ①	②	③	④	⑤	
Large home lots with small landscaped yards.... ①	②	③	④	⑤	
Smaller home lots with small landscaped yards.①	②	③	④	⑤	
Clusters of homes surrounded by					
large farm fields or open land..... ①	②	③	④	⑤	
Wide streets.....①	②	③	④	⑤	
Narrow streets①	②	③	④	⑤	
Undeveloped open space.....①	②	③	④	⑤	
Parks.....①	②	③	④	⑤	
Gravel roads/driveways.....①	②	③	④	⑤	
Other (please list)					
_____ ①	②	③	④	⑤	
_____ ①	②	③	④	⑤	
	VERY LIKELY	SOMEWHAT LIKELY	NEUTRAL	SOMEWHAT UNLIKELY	VERY UNLIKELY
<u>Location</u>					
Houses close together.....①	②	③	④	⑤	
Houses spread apart.....①	②	③	④	⑤	
Homes close to roads, small front yard.....①	②	③	④	⑤	
Homes back from roads, larger front yard.....①	②	③	④	⑤	
Stores in small clusters throughout town.....①	②	③	④	⑤	
Stores in a central location,					
residential areas outside..... ①	②	③	④	⑤	
Forests surrounding neighborhood.....①	②	③	④	⑤	
Interstate highway access.....①	②	③	④	⑤	
Close to main roads.....①	②	③	④	⑤	
Walking distance to businesses.....①	②	③	④	⑤	
Walking distance to schools.....①	②	③	④	⑤	
	VERY LIKELY	SOMEWHAT LIKELY	NEUTRAL	SOMEWHAT UNLIKELY	VERY UNLIKELY
<u>Social</u>					
Close relationships between neighbors.....①	②	③	④	⑤	
A feeling of safety.....①	②	③	④	⑤	
Small population.....①	②	③	④	⑤	
Slow pace of life.....①	②	③	④	⑤	
Active pace of life.....①	②	③	④	⑤	

Second Mailing: Survey, Page 4

6. How large is your current home lot?

- ① 0.5-1.0 acre
- ② 1.01 to 1.50 acres
- ③ 1.51-2.0 acres
- ④ 2.01-2.50 acres
- ⑤ 2.51-3.0 acres
- ⑥ 3.01-3.50 acres
- ⑦ 3.51-4.0 acres
- ⑧ 4.01-4.5 acres
- ⑨ 4.51-5.0 acres
- ⑩ 5.01 acres +

7. How would you best describe the shape of your lot?

- ① Square 
- ② Rectangular with the long edge along the street 
- ③ Rectangular with the short edge along the street 
- ④ Irregular (none of the others) 

Common Open Space

Some neighborhoods have common areas of land that are available for everyone's use, but are owned and maintained by either a homeowners' association (HOA) or by the city. In this survey, these areas are referred to as "common open space." Common open space can be parks, open fields, wooded areas, pastures or other similar areas that are shared by everyone in an area.

8. Does your current neighborhood have common open space?

- ① Yes, owned by the city
- ② Yes, owned by HOA
- ③ No
- ④ Don't know

6a. If yes, how do you feel this common open space is currently maintained and managed?
 ① Very well ② Fairly well ③ Not very well ④ Poorly

6b. How many times per month do you or someone in your immediate family use this common open space?
 ① 0-3 ② 3-5 ③ 5-10 ④ 10+ times

6c. Does this common open space contribute to the overall quality of life in your neighborhood?
 ① Definitely ② Somewhat ③ Very little ④ Not at all

Second Mailing: Survey, Page 5

9. Often home owners in a neighborhood pay an annual fee for upkeep of shared amenities. How likely would you want to share the following amenities, as well as the associated costs, with your neighbors? (Please check the box on the left if the amenity is currently shared in your neighborhood.)

CURRENTLY SHARED IN MY NEIGHBORHOOD	WILLINGNESS TO SHARE AMENITIES & COSTS				
	VERY LIKELY	SOMEWHAT LIKELY	NEUTRAL	SOMEWHAT UNLIKELY	VERY UNLIKELY
<input type="checkbox"/> Trail system.....	①	②	③	④	⑤
<input type="checkbox"/> Stable or horse barn.....	①	②	③	④	⑤
<input type="checkbox"/> Grassy area/park for recreation.....	①	②	③	④	⑤
<input type="checkbox"/> Community vegetable garden or orchard...	①	②	③	④	⑤
<input type="checkbox"/> Street snow shoveling costs.....	①	②	③	④	⑤
<input type="checkbox"/> Club house for group gatherings.....	①	②	③	④	⑤
<input type="checkbox"/> Pasture.....	①	②	③	④	⑤
<input type="checkbox"/> Pool/exercise facility.....	①	②	③	④	⑤
<input type="checkbox"/> Greenhouse.....	①	②	③	④	⑤
<input type="checkbox"/> Guest houses.....	①	②	③	④	⑤
<input type="checkbox"/> Pond.....	①	②	③	④	⑤
<input type="checkbox"/> Field crops (such as alfalfa).....	①	②	③	④	⑤
<input type="checkbox"/> Other (specify)_____	①	②	③	④	⑤

10. If you had access to all of the above amenities, how willing would you be to live on a smaller lot (between a quarter and third acre)?

- ① Very likely
- ② Somewhat likely
- ③ Neither likely nor unlikely
- ④ Somewhat unlikely
- ⑤ Very unlikely

Please explain your response:

11. In your opinion, who should own common open space?

- ① Government (city, county, state, federal)
- ② Neighborhood association
- ③ Other_____

12. When you think about common open space, which of the following statements best describes your views?

- ① Common open space is more important to me than private space
- ② Private space is more important to me than common open space
- ③ Common space and private space are equally important

Second Mailing: Survey, Page 6

Your Home Property

Now I would like to ask you some questions about the property where you live. In this section, your "home property" refers to the lot on which your home is built and any immediately adjacent property that you own and use.

13. Which best describes your current home property?
- ① Single family home in a residential neighborhood, no animal rights
 - ② Single family home in a residential neighborhood, with animal rights
 - ③ Single family home on a large farm or ranch
 - ④ Other (please specify) _____

14. During the last year, how many of each type of farm animal have you kept on your home property?

- Fowl (chickens, ducks, geese, turkeys, etc.) _____
- Small farm animals (sheep, goats, etc.) _____
- Large farm animals (horses, cows, etc.) _____

15. When you chose the property where you live, how important was each of the following in your decision:

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NEUTRAL	NOT VERY IMPORTANT	NOT AT ALL IMPORTANT
Large lawn/play area for recreation.....	①	②	③	④	⑤
Distance between houses.....	①	②	③	④	⑤
Place for a vegetable garden.....	①	②	③	④	⑤
Place for an orchard/fruit trees.....	①	②	③	④	⑤
Place to raise farm animals.....	①	②	③	④	⑤
Place for additional outbuildings (barn, sheds, garage, etc.).....	①	②	③	④	⑤
A rural lifestyle.....	①	②	③	④	⑤
The home itself.....	①	②	③	④	⑤
Largest amount of land I could afford.....	①	②	③	④	⑤
Society's expectations for successful people.....	①	②	③	④	⑤
Proximity to schools and parks.....	①	②	③	④	⑤
Proximity to stores and businesses.....	①	②	③	④	⑤
The neighbors (people).....	①	②	③	④	⑤
Land for self-sufficiency in hard times.....	①	②	③	④	⑤
It's similar to the place I grew up	①	②	③	④	⑤
To have space for a creative, artistic landscape...	①	②	③	④	⑤

Second Mailing: Survey, Page 7

Page | 7

16. **PART A.** When you think about how you are using your land, please check the box next to each of the following that is included on your land.

- | | |
|--|--|
| <input type="checkbox"/> A home | <input type="checkbox"/> Parking/driveways |
| <input type="checkbox"/> A landscaped yard | <input type="checkbox"/> Agriculture (field crops) |
| <input type="checkbox"/> Pasture | <input type="checkbox"/> Orchard or fruit trees |
| <input type="checkbox"/> Livestock pens/corrals. | <input type="checkbox"/> Vegetable garden |
| <input type="checkbox"/> Additional buildings (list) | <input type="checkbox"/> Open areas/not used |
| _____ | <input type="checkbox"/> Other (please list) |
| _____ | _____ |

15. **PART B.** Please take just a few minutes now and sketch the layout of your property, using the best relative proportions possible. Please label the locations of all of the above aspects of your lot and any important others that are not listed.

17. When thinking of the way you currently use your home property, how would you describe your feelings about the size of your lot?

- ① Way too small for our needs
- ② Somewhat small for our needs
- ③ Perfect size for our needs
- ④ Somewhat large for our needs
- ⑤ Way too large for our needs

Second Mailing: Survey, Page 8

18. Do you own or rent your property?

- ① Own
- ② Rent

19. How many people currently live in your household, including yourself? _____

20. How many children (under 18) do you have living at home? _____

21. How long has the development/neighborhood you live in been around? _____ years

22. Do you have a garden plot set aside to grow your own vegetables and herbs?

- ① No
- ② Yes → If yes, what is the approximate size of your vegetable garden plot?
_____ square feet

23. What sources of water are used on your property? (check all that apply for each use category)

	CITY CULINARY WATER	PRESSURIZED IRRIGATION	OPEN DITCH	PRIVATE WELL
① Home use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
② Landscaped yard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
③ Agricultural uses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
④ Livestock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. How much gross annual income (or equivalent trade value) do you typically receive from agricultural goods and services (i.e., crops, animal products, corn maze) produced on your land?

- ① \$0
- ② \$0-100
- ③ \$100-500
- ④ \$500-999
- ⑤ \$1000-2000
- ⑥ \$2000+

Please list agricultural goods and services that you sell:

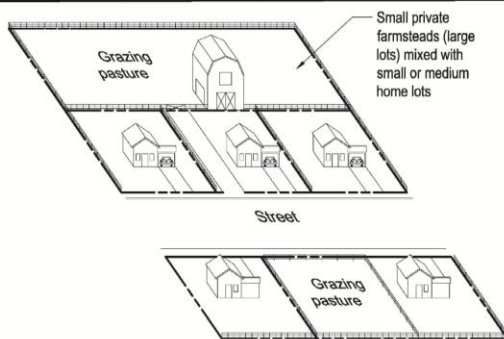
Second Mailing: Survey, Page 9

Visual Survey

Please take a moment to study each of the following sketches. Please make any comments on the lines provided.

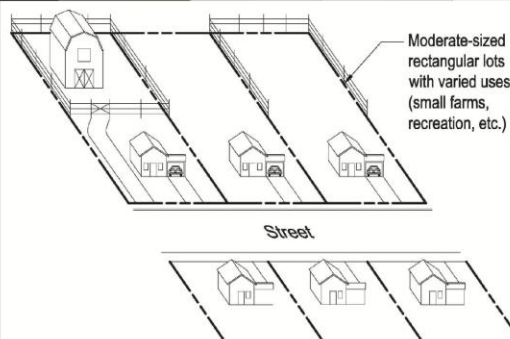
25. If you were looking for a new place to live, how likely would you choose each of the following? Please use the following scale to fill in the appropriate number below each sketch.

- | | | | | |
|------------------|-----------------|---|-------------------|--------------------|
| ① | ② | ③ | ④ | ⑤ |
| Extremely likely | Somewhat likely | Neutral—don't necessarily like or dislike | Somewhat unlikely | Extremely unlikely |



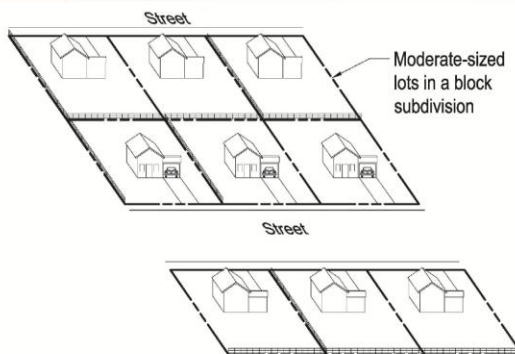
Farmstead Subdivision

How likely you'd choose this: ① ② ③ ④ ⑤
 Comments: _____



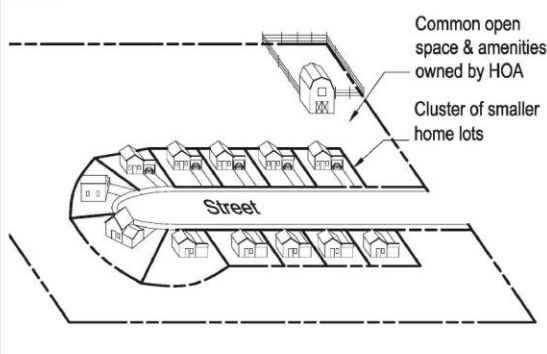
Rectangular Lots

How likely you'd choose this: ① ② ③ ④ ⑤
 Comments: _____



Block Subdivision

How likely you'd choose this: ① ② ③ ④ ⑤
 Comments: _____



Cluster Subdivision

How likely you'd choose this: ① ② ③ ④ ⑤
 Comments: _____

Second Mailing: Survey, Page 10

Page | 10

Your Lifestyle and Your Background*Finally, I'd like to understand a little bit about your lifestyle and your background for statistical purposes.*

26. On average, how many times per day do you leave your home by car to go somewhere?
- Ⓐ 1 time per day
 - Ⓑ 2-3 times per day
 - Ⓒ 4-5 times per day
 - Ⓓ 5+ times per day
27. How do you use produce/livestock/animal products that you raise on your home property?
(Check all that apply.)
- Ⓐ Use it fresh
 - Ⓑ Preserve it (bottled, dried, frozen, etc.)
 - Ⓒ Sell it
 - Ⓓ Share it with friends and neighbors
 - Ⓔ Don't raise any produce or livestock
28. How do you feel about development trends that create smaller individual home lots and larger areas of common open space with shared amenities? Please explain.
29. Which of the following best describes the place where you grew up?
- Ⓐ Open country
 - Ⓑ Rural community (up to 2,500 people)
 - Ⓒ Rural town (2,501-10,000 people)
 - Ⓓ Small city (10,001-50,000 people)
 - Ⓔ Urban (50,001+)
30. The property where you grew up would be best described as:
- Ⓐ Single family home in the middle of a large farm or ranch
 - Ⓑ Single family home on a small farmstead or large lot with animal rights
 - Ⓒ Single family home built along a main city street
 - Ⓓ Single family home in a residential subdivision, set off from a main city street
 - Ⓔ Apartment, duplex or condominium
 - Ⓕ Other (please specify) _____

Second Mailing: Survey, Page 11

Page | 11

31. What is your age?

- ① 18-25 years
- ② 26-35 years
- ③ 36-45 years
- ④ 46-55 years
- ⑤ 56-65 years
- ⑥ 66-75 years
- ⑦ 75 years +

32. What is your gender? M or F

33. What was your approximate household income from all sources, before income taxes, for 2008?

- ① Less than \$20,000
- ② \$20,000-\$40,000
- ③ \$40,001-\$60,000
- ④ \$60,001-\$80,000
- ⑤ \$80,001-\$100,000
- ⑥ \$100,001-150,000
- ⑦ \$150,001-\$200,000
- ⑧ \$200,001-\$250,000
- ⑨ \$250,000 or more

34. Please indicate the total number of years you have lived in:

Utah _____
Cache Valley _____

35. What is your racial or ethnic background?

- ① African American
- ② Caucasian
- ③ Asian
- ④ Pacific Islander
- ⑤ Latino/Hispanic
- ⑥ Native American
- ⑦ Other (please specify) _____

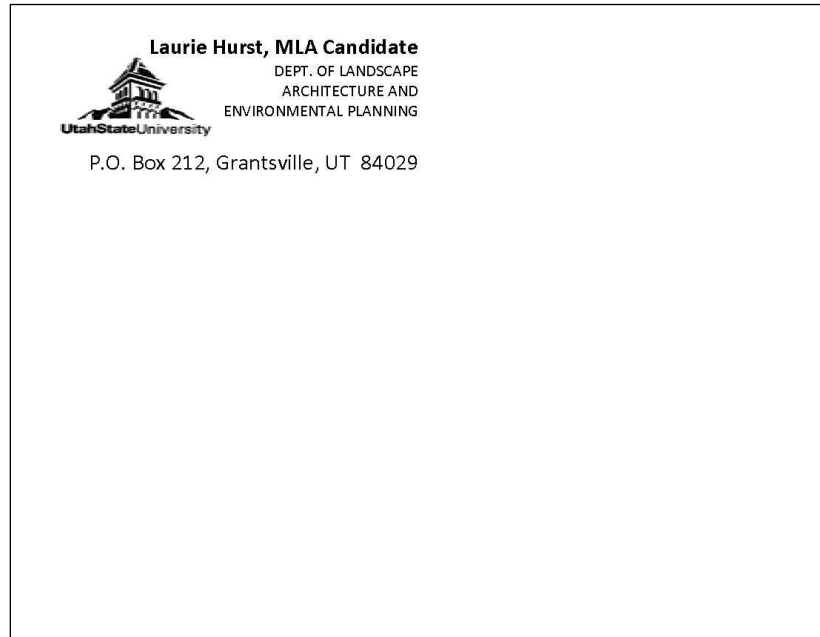
36. Which is the best description of your religious belief?

- ① Buddhist
- ② Catholic
- ③ Jewish
- ④ Latter-day Saint (LDS)
- ⑤ Muslim
- ⑥ Protestant
- ⑦ No religion
- ⑧ Other (please specify) _____

Second Mailing: Survey, Page 12

Thanks for completing this survey! If you have any additional comments you would like us to know about please write them on this page.

Thanks for your participation!

Third Mailing: Reminder Postcard

Last week a questionnaire was mailed to you seeking your opinions about residential land use. Hopefully you have already taken the time to complete and return it. Please accept our sincere thanks! If you have not completed the survey, please do so today. Your name was part of a select group drawn randomly from a list of eligible homeowners in Cache Valley and we look forward to your reply.

We are especially grateful for your participation because we believe that your response will be useful to planners and developers in making future development decisions.

If you did not receive a questionnaire or if it was misplaced, please call (435) 512-1543 or email l.b.hurst@aggiemail.usu.edu for a new copy.

Sincerely,

Laurie B. Hurst
Utah State University
Master of Landscape Architecture Candidate

Fourth Mailing: Follow-up Letter and Re-explanation



Department of Landscape Architecture and Environmental Planning
4005 Old Main Hill
Logan UT 84322-4005
Telephone: (435) 797-0500

Page 1 of 1

Created : April 27, 2009

Utah State University IRB Approved 4/30/2009
Approval terminates: 4/29/2010
Protocol No: 2333
IRB Password Protected per IRB Specialist

DATE

«AddressBlock»

«GreetingLine»

We are very excited about the response we are receiving back for this study! We're gathering important information about how homeowners like you are using your land and how you feel about issues such as common open space, shared amenities and development patterns. The study is being conducted so that citizens like you can affect residential land development policies and patterns. Judging from the feedback we've received, people in Cache Valley have some strong feelings about all sides of these topics and we look forward to sharing the results with those who make land development decisions.

We're writing to you this last time because, as of today, we have not received your completed questionnaire and we're anxious to hear what you have to say about these issues. We realize that you may not have had time to complete it yet. Because we understand how busy life can be, we are extending the collection period until November 25th. In the event that your questionnaire has been misplaced, a replacement is enclosed. Please take a few minutes to complete and mail it in the provided stamped envelope.

Your opinions and preferences are very important to this study. Each questionnaire we receive tells a unique story and bolsters the usefulness of the study when it is presented to those who make land development decisions. Your name was drawn through a scientific sampling process in which every homeowner in Cache Valley who lives on a home lot larger than an acre with animal rights had an equal chance of being selected.

Please be assured that your answers are completely confidential. When we receive your numbered survey and before your questionnaire is even opened, your name and address are deleted from our files so there is never any connection between you and your responses. Questionnaires are most useful when every question is carefully and thoughtfully answered, but you may write NR (no response) if you prefer not to answer a question.

We would be happy to answer any questions you have about the study. Please call me at (435) 512-1543 or email l.b.hurst@aggiemail.usu.edu. Please accept our sincere thanks for your participation and for the few minutes of your time to complete the questionnaire.

Sincerely,

Laurie B. Hurst
Utah State University
Masters of Landscape Architecture Candidate

Appendix B. Quantitative Results of Survey

Quantitative Results for Survey

1. Listed below are several pairs of contrasting views regarding your neighborhood. For each pair please indicate which of the two views you most agree with—the one in the left-hand column or the one in the right-hand column, or somewhere in between—by filling in the appropriate numbered circle. My neighborhood is...

Value	Friendly	%	Trusting	%	Supportive	%	Safe	%
① =	57	55%	47	47%	51	55%	54	53%
② =	25	24%	31	31%	25	24%	33	33%
③ =	9	9%	8	8%	11	9%	7	7%
④ =	10	10%	11	11%	7	10%	2	2%
⑤ =	0	0%	1	1%	4	0%	3	3%
⑥ =	2	2%	1	1%	1	2%	2	2%
⑦ =	0	0%	0	0%	1	0%	0	0%
NR =	1		5		4		3	
SUM	104	100%	104	100%	104	100%	104	100%
<i>n</i> =	103		99		100		101	

2. When you think of your neighborhood, would you say that you live here because: (check all that apply)

	1. I like the people.	%	2. I like the views.	%	3. I like the neighborhood structure.	%	4. I've always lived here.	%
Yes	61	60%	68	67%	62	61%	24	24%
No	40	40%	33	33%	39	39%	77	76%
NR =	3		3		3		3	
SU M	104	100%	104	100%	104	100%	104	100%
<i>n</i> =	101		101		101		101	

3. On average, how far apart are the houses spaced in your neighborhood?

RESPONSE	#	%
1. Less than 30 feet	8	8%
2. About the width of one house	25	24%
3. About the width of two average size houses	27	26%
4. More than the width of two average size houses	44	42%
Multiple responses	0	
NR =	0	
SUM	104	100%
<i>n</i> =	104	

4. When you think about the distance between houses in your neighborhood, would you say they are:

RESPONSE	#	%
1. Much too close together	9	9%
2. A little too close	29	28%
3. Just right	65	63%
4. A little too far apart	0	0%
5. Much too far apart	0	0%
NR=	1	
SUM	104	100%
<i>n</i> =	103	

5. If you were designing an ideal rural neighborhood where you would live, how likely would you include the following characteristics?

QUANTITIES	Sidewalks, curbs and gutters	Streetlights and yard lights	Large fields of crops	Small farmsteads	Farm animals	Pastures and farm buildings	Large home lots with large landscaped yards	Large home lots with small landscaped yards	Smaller home lots with small landscaped yards
1. Very likely	36	35	30	50	49	46	30	14	4
2. Somewhat likely	14	34	35	28	25	29	27	23	13
3. Neutral	20	11	24	14	14	15	20	30	22
4. Somewhat unlikely	15	10	7	5	10	7	14	16	22
5. Very unlikely	16	11	3	3	4	3	9	15	32
NR	3	3	5	4	2	4	4	6	10
Multiple responses	0	0	0	0	0	0	0	0	1
SUM	104	104	104	104	104	104	104	104	104
n=	101	101	99	100	102	100	100	98	94
PERCENTAGES									
1. Very likely	36%	35%	30%	50%	48%	46%	30%	14%	4%
2. Somewhat likely	14%	34%	35%	28%	25%	29%	27%	23%	14%
3. Neutral	20%	11%	24%	14%	14%	15%	20%	31%	23%
4. Somewhat unlikely	15%	10%	7%	5%	10%	7%	14%	16%	23%
5. Very unlikely	16%	11%	3%	3%	4%	3%	9%	15%	34%
SUM	100%	100%	100%	100%	100%	100%	100%	100%	99%
Sum of Likelies	50%	68%	66%	78%	73%	75%	57%	38%	18%
Sum of Unlikelies	31%	21%	10%	8%	14%	10%	23%	32%	57%

5. (CONTINUED)

QUANTITIES	Clusters of homes surrounded by large farm fields or open land	Wide streets	Narrow streets	Undeveloped open space	Parks	Gravel roads/driveways	Other (*See write-in responses below)	Houses close together	Houses spread apart
1. Very likely	19	28	5	51	30	8	7	0	53
2. Somewhat likely	21	37	14	35	40	21	1	5	40
3. Neutral	24	20	17	10	16	30	0	7	7
4. Somewhat unlikely	20	9	30	3	10	15	1	31	0
5. Very unlikely	18	4	30	1	4	19	0	56	1
NR	2	6	7	3	3	10	95	5	3
Multiple responses	0	0	1	1	1	1	0	0	0
SUM	104	104	104	104	104	104	104	104	104
n =	102	98	97	101	101	94	9	99	101
PERCENTAGES									
1. Very likely	19%	29%	5%	50%	30%	9%	78%	0%	52%
2. Somewhat likely	21%	38%	14%	35%	40%	22%	11%	5%	40%
3. Neutral	24%	20%	18%	10%	16%	32%	0%	7%	7%
4. Somewhat unlikely	20%	9%	31%	3%	10%	16%	11%	31%	0%
5. Very unlikely	18%	4%	31%	1%	4%	20%	0%	57%	1%
	100%	100%	99%	99%	99%	99%	100%	100%	100%
Sum of Likelies	39%	66%	20%	85%	69%	31%	89%	5%	92%
Sum of Unlikelies	37%	13%	62%	4%	14%	36%	11%	88%	1%

5. (CONTINUED)

QUANTITIES	Homes close to roads, small front yard	Homes back from roads, larger front yards	Stores in small clusters throughout town	Stores in central location, residential areas outside	Forests surrounding neighborhood	Interstate highway access	Close to main roads	Walking distance to businesses	Walking distance to schools
1. Very likely	4	32	7	28	31	5	6	7	13
2. Somewhat likely	11	47	22	45	42	23	37	22	37
3. Neutral	20	12	29	18	15	30	37	26	25
4. Somewhat unlikely	34	3	22	6	11	28	16	28	14
5. Very unlikely	28	6	16	3	1	16	6	19	13
NR	7	4	8	4	4	2	2	2	2
Multiple responses	0	0	0	0	0	0	0	0	0
SUM	104	104	104	104	104	104	104	104	104
n=	97	100	96	100	100	102	102	102	102
PERCENTAGES									
1. Very likely	4%	32%	7%	28%	31%	5%	6%	7%	13%
2. Somewhat likely	11%	47%	23%	45%	42%	23%	36%	22%	36%
3. Neutral	21%	12%	30%	18%	15%	29%	36%	25%	25%
4. Somewhat unlikely	35%	3%	23%	6%	11%	27%	16%	27%	14%
5. Very unlikely	29%	6%	17%	3%	1%	16%	6%	19%	13%
	100%	100%	100%	100%	100%	100%	100%	100%	100%
Sum of Likelies	15%	79%	30%	73%	73%	27%	42%	28%	49%
Sum of Unlikelies	64%	9%	40%	9%	12%	43%	22%	46%	26%

5. (CONTINUED)

QUANTITIES	Close relationships between neighbors	Small population	Slow pace of life	Active pace of life
1. Very likely	45	48	43	8
2. Somewhat likely	41	44	36	20
3. Neutral	15	10	19	46
4. Somewhat unlikely	1	1	4	23
5. Very unlikely	0	0	1	4
NR	2	1	1	3
Multiple responses	0	0	0	0
SUM	104	104	104	104
<i>n</i> =	102	103	103	101
PERCENTAGES				
1. Very likely	44%	47%	42%	8%
2. Somewhat likely	40%	43%	35%	20%
3. Neutral	15%	10%	18%	46%
4. Somewhat unlikely	1%	1%	4%	23%
5. Very unlikely	0%	0%	1%	4%
	100%	100%	100%	100%
Sum of Likelies	84%	89%	77%	28%
Sum of Unlikelies	1%	1%	5%	27%

*Write-in responses to “Other” category (*n* =9): horse trails, bike and walking trails; bridle path for horses; walking and bike paths; river or canal; trails; wide streets with bike or walking areas; weed control; tennis courts; (one respondent selected other but gave no written response)

6. How large is your current home lot?

RESPONSE	#	%
1. 0.5 -1 acre	11	11%
2. 1.01-1.50 acres	36	35%
3. 1.51-2.00 acres	14	14%
4. 2.01-2.50 acres	11	11%
5. 2.51-3.00 acres	8	8%
6. 3.01-3.50 acres	3	3%
7. 3.51-4.00 acres	4	4%
8. 4.01-4.50 acres	2	2%
9. 4.51-5.00 acres	2	2%
10. 5.01 acres +	11	11%
NR=	2	
SUM	104	100%
<i>n</i> =	102	

7. How would you best describe the shape of your lot?

RESPONSE	#	%
1. Square	9	9%
2. Rectangular with the short edge along the street	34	33%
3. Rectangular with the long edge along the street	16	16%
4. Irregular (none of the others)	43	42%
NR=	2	
SUM	104	100%
<i>n</i> =	102	

8. Does your current neighborhood have common open space?

RESPONSE	#	%
1. Yes, owned by city	35	35%
2. Yes, owned by HOA	3	3%
3. No	53	53%
4. Don't know	9	9%
NR	4	
Multiple responses	0	
SUM	104	100%
<i>n</i> =	100	

- 8a. If yes, how do you feel this common open space is currently maintained and managed?

RESPONSE	#	%
1. Very well	14	42%
2. Fairly well	10	30%
3. Not very well	2	6%
4. Poorly	7	21%
NR=	70	
Multiple responses	1	
SUM	104	
<i>n</i> =	33	100%

- 8b. How many times per month do you or someone in your immediate family use this common open space?

RESPONSE	#	%
0-3 times	27	84%
3-5 times	4	13%
5-10 times	0	0%
10+ times	1	3%
NR	72	
Multiple responses	0	
SUM	104	
<i>n</i> =	32	100%

- 8c. Does this common open space contribute to the overall quality of life in your neighborhood?

RESPONSE	#	%
Definitely	15	45%
Somewhat	9	27%
Very little	3	9%
Not at all	6	18%
NR	71	
Multiple responses	0	
SUM	104	
<i>n</i> =	33	100%

9. (CONTINUED)

	Guest houses	Pond	Field crops (such as alfalfa)	Other (specify)
1. Very likely	1	7	3	6
2. Somewhat likely	4	14	20	2
3. Neutral	16	25	13	2
4. Somewhat unlikely	16	10	19	3
5. Very unlikely	56	37	38	9
NR	11	11	11	80
SUM	104	104	104	102
<i>n</i> =	93	93	93	22
1. Very likely	1%	8%	3%	27%
2. Somewhat likely	4%	15%	22%	9%
3. Neutral	17%	27%	14%	9%
4. Somewhat unlikely	17%	11%	20%	14%
5. Very unlikely	60%	40%	41%	41%
SUM	100%	100%	100%	100%
Sum of likelies	5%	23%	25%	36%
Sum of unlikelies	77%	51%	61%	55%
Neutral	17%	27%	14%	9%
	100%	100%	100%	100%

10. If you had access to all of the above amenities, how willing would you be to live on a smaller lot (between a quarter and third acre)? *(Written responses in Appendix D.)*

RESPONSE	#	%
1. Very likely	9	9%
2. Somewhat likely	20	20%
3. Neutral	5	5%
4. Somewhat unlikely	10	10%
5. Very unlikely	58	57%
NR	2	
SUM	104	100%
<i>n</i> =	102	

11. In your opinion, who should own common open space?

RESPONSE	#	%
1. Government (city, county, state, federal)	50	52%
2. Neighborhood association	30	31%
3. Other	12	13%
NR	6	
Multiple responses	4	4%
SUM	102	100%
<i>n</i> =	96	

12. When you think about common open space, which of the following statements best describes your views?

RESPONSE	#	%
1. Common open space is more important to me than private space	2	2%
2. Private space is more important to me than common open space	62	61%
3. Common open space and private space are equally important	38	37%
NR	2	
SUM	104	100%
<i>n</i> =	102	

13. Which best describes your current home property?

RESPONSE	#	%
1. Single family home in a residential neighborhood, no animal rights	8	8%
2. Single family home in a residential neighborhood, with animal rights	81	79%
3. Single family home on a large farm or ranch	4	4%
4. Other _____	10	10%
NR	1	
Multiple responses	0	
SUM	104	100%
<i>n</i> =	103	

14. During the last year, how many of each type of farm animal have you kept on your home property?

RESPONDENT HAS SOME TYPE OF FARM ANIMAL ON HIS/HER PROPERTY			
RESPONSE	#		%
Yes	58		56%
No (or undetermined)	46		44%
SUM	104		100%

PRESENCE OF ANIMALS BY ANIMAL TYPE			
QUANTITY	Foul (chickens, ducks, geese, turkeys, etc.)	Small farm animals (sheep, goats, etc.)	Large farm animals (horses, cows, etc.)
Yes, respondent has these on his/her property	22	18	41
Multiple/word responses	6	2	5
NR	0	0	0
SUM	104	104	104
<i>n</i> =	98	102	99
Of those who had animals, the MINIMUM # they had was:	5	1	1
Of those who had animals, the MAXIMUM # they had was:	200	20	230
MEDIAN	19	3	4
AVERAGE	40.26	4.38	11.05
MODE	10	2	4
PERCENTAGE	%	%	%
Percent of <u>all</u> respondents who have this type of animal	22%	18%	41%
Percent of <u>only</u> respondents who <u>have</u> some type of animal	38%	31%	71%

16. When you think about how you are using your land, please check the box next to each of the following that is included on your land.

	A home	A landscaped yard	Pasture	Livestock pens/corrals	Additional buildings	Parking/driveways	Agriculture (field crops)	Orchard or fruit trees	Vegetable garden	Open areas/not used	Other
QUANTITIES											
No, don't have	0	9	42	59	22	13	81	44	22	48	85
Yes, have	104	95	62	45	82	91	23	60	82	56	19
SUM	104	104	104	104	104	104	104	104	104	104	104
<i>n</i> =	104	95	62	45	82	91	23	60	82	56	19
PERCENTAGES											
YES	100%	91%	60%	43%	79%	88%	22%	58%	79%	54%	18%

- 16b. (Sketches— found in Appendix D)

17. When thinking of the way you currently use your home property, how would you describe your feelings about the size of your lot?

RESPONSE	#	%
1. Way too small for our needs	4	4%
2. Somewhat small for our needs	18	18%
3. Perfect size for our needs	50	49%
4. Somewhat large for our needs	26	25%
5. Way too large for our needs	4	4%
NR	2	
Multiple responses	0	
SUM	104	100%
<i>n</i> =	102	

18. Do you own or rent your property?

RESPONSE	#	%
Yes, own	102	99%
No, rent	1	1%
NR	1	
SUM	104	100%
<i>n</i> =	103	

19. How many people currently live in your household, including yourself?

RESPONSE	#	%
One	5	5%
Two	41	40%
Three	19	18%
Four	13	13%
Five or more	25	24%
Multiple responses	1	
SUM	104	100%
<i>n</i> =	103	

20. How many children (under 18) do you have living at home?

RESPONSE	#	%
Zero	63	61%
One	13	13%
Two	11	11%
Three or more	17	16%
SUM	104	100%
<i>n</i> =	104	

21. How long has the development/neighborhood you live in been around?

RESPONSE	#	%
0-10 years	12	13%
11-20 years	25	27%
21-30 years	12	13%
31-40 years	14	15%
41-50 years	5	5%
51-60 years	4	4%
61-70 years	3	3%
71-90 years	5	5%
91-110 years	12	13%
110+ years	1	1%
NR	11	
SUM	104	100%
<i>n</i> =	93	

22. Do you have a garden plot set aside to grow your own vegetables and herbs?

RESPONSE	#	%		
Yes, have a garden	85	83%		
No, don't have	17	17%		
NR	2			
SUM	104	100%		
<i>n</i> =	102			
OF THOSE WHO HAD GARDENS:				
SIZE RANGES	#	%	SIZES OF GARDENS	sq. ft.
1-100 sq feet	11	14%	MINIMUM	6
101-500 sq feet	28	35%	MAXIMUM	21,780
501-1000 sq ft	16	20%	AVERAGE	2,179
1001-1500 sq ft	2	3%	MEDIAN	600
1501-2000 sq ft	4	5%	MODE	400
2001-2500 sq ft	3	4%		
2501-3000 sq ft	2	3%		
3001-3500 sq ft	2	3%		
3501 sq ft +	12	15%		
NR	5			
SUM	85	100%		

23. What sources of water are used on your property?

RESPONSE	#	%
One type of water source	27	26%
Two types of water sources	55	53%
Three types of water sources	20	19%
Four types of water sources	1	1%
NR	1	
SUM	104	100%
<i>n</i> =	103	
Some type of water source BESIDES culinary used for non- home uses	82	80%
Culinary water used for all sources	21	20%
SUM		100%

24. How much gross annual income (or equivalent trade value) do you typically receive from agricultural goods and services (i.e., crops, animal products, corn maze) produced on your land?

RESPONSE	#	%
1. \$0	73	71%
2. \$1-100	4	4%
3. \$100-500	7	7%
4. \$500-999	5	5%
5. \$1000-2000	4	4%
6. \$2000+	7	7%
7. Varies	2	2%
Multiple responses	1	1%
NR	2	
SUM	105	100%
<i>n</i> =	103	

25. If you were looking for a new place to live, how likely would you choose each of the following?

FARMSTEAD SUBDIVISION

RESPONSE	#	%
1. Extremely likely	17	18%
2. Somewhat likely	27	29%
3. Neutral--don't like or dislike	17	18%
4. Somewhat unlikely	16	17%
5. Extremely unlikely	16	17%
NR	11	
SUM	104	100%
<i>n</i> =	93	

RECTANGULAR LOTS

RESPONSE	#	%
1. Extremely likely	27	28%
2. Somewhat likely	36	38%
3. Neutral--don't like or dislike	19	20%
4. Somewhat unlikely	9	9%
5. Extremely unlikely	5	5%
NR	7	
SUM	103	100%
<i>n</i> =	96	

BLOCK SUBDIVISION

RESPONSE	#	%
1. Extremely likely	4	4%
2. Somewhat likely	18	19%
3. Neutral--don't like or dislike	15	16%
4. Somewhat unlikely	25	26%
5. Extremely unlikely	34	35%
NR	7	
SUM	103	100%
<i>n</i> =	96	

25. (CONTINUED)

CONSERVATION SUBDIVISION

RESPONSE	#	%
1. Extremely likely	4	4%
2. Somewhat likely	16	17%
3. Neutral--don't like or dislike	13	14%
4. Somewhat unlikely	11	11%
5. Extremely unlikely	52	54%
NR	7	
SUM	103	100%
<i>n</i> =	96	

26. On average, how many times per day do you leave your home by car to go somewhere?

RESPONSE	#	%
1. 1 time per day	37	37%
2. 2-3 times per day	58	57%
3. 4-5 times per day	5	5%
4. 5+ times per day	1	1%
NR	2	
SUM	103	100%
<i>n</i> =	101	

27. How do you use produce/livestock/animal products that you raise on your home property?
(Check all that apply.)

QUANTITIES	1. Use it fresh	2 Preserve it (bottled, dried, frozen, etc.)	3. Sell it	4. Share it with friends and neighbors	5. Don't raise any produce or livestock
Yes, I do this	65	53	17	58	23
NR	2	2	2	2	2
SUM	104	104	104	104	104
<i>n</i> =	102	102	102	102	102
PERCENTAGES	64%	52%	17%	57%	23%

28. How do you feel about development trends that create smaller individual home lots and larger areas of common open space with shared amenities? Please explain. (Appendix D.)

29. Which of the following best describes the place where you grew up?

RESPONSE	#	%
1. Open country	17	17%
2. Rural community (up to 2,500 people)	31	30%
3. Rural town (2,501-10,000 people)	11	11%
4. Small city (10,001-50,000 people)	20	19%
5. Urban (50,001+)	20	19%
6. More than one of these	4	4%
NR	1	
SUM	104	
<i>n</i> =	103	100%

30. The property where you grew up would be best described as:

RESPONSE	#	%
1. Single family home in the middle of a large farm or ranch	18	17%
2. Single family home on a small farmstead or large lot with animal rights	33	32%
3. Single family home built along a main city street	18	17%
4. Single family home in a residential subdivision, set off from a main city street	28	27%
5. Apartment, duplex or condominium	0	0%
6. Other	2	2%
7. More than one of these	4	4%
NR	1	
SUM	104	100%
<i>n</i> =	103	

31. What is your age?

RESPONSE	#	%
1. 18-25 years	0	0%
2. 26-35 years	5	5%
3. 36-45 years	15	14%
4. 46-55 years	27	26%
5. 56-65 years	30	29%
6. 66-75 years	21	20%
7. 75 years+	6	6%
NR	0	0%
SUM	104	100%
<i>n</i> =	104	
MEDIAN	56-65 years	

32. What is your gender?

RESPONSE	#	%
Female	40	41%
Male	58	59%
Multiple responses *	1	
NR	5	
SUM	104	
<i>n</i> =	98	100%

*This person answered some of his/her survey responses for both self and spouse, in differentiated columns. The survey was assessed as if only one person had responded but it was unclear whether it was the wife or husband who answered it.

33. What was your approximate household income from all sources, before income taxes, for 2008?

RESPONSE	#	%	RESPONSE
1. Less than \$20,000	4		4%
2. \$20,000-40,000	9		9%
3. \$40,001-60,000	24		24%
4. \$60,001-80,000	15		15%
5. \$80,001-100,000	16		16%
6. \$100,001-150,000	19		19%
7. \$150,001-200,000	0		0%
8. \$200,001-250,000	5		5%
9. \$250,00 or more	7		7%
Count NR	5		
SUM	104		100%
<i>n</i> =	99		

34. Please indicate the total number of years you have lived in :

	UTAH	CACHE VALLEY
Average # years	43.86	34.18
Median # years	43	33.5
Minimum # years	4	3
Maximum # years	88	80
NR	3	8
SUM	104	104
<i>n</i> =	101	96

35. What is your racial or ethnic background?

RESPONSE	#	%	RESPONSE
1. African American	1		1%
2. Caucasian	100		98%
3. Asian	0		0%
4. Pacific Islander	0		0%
5. Latino/Hispanic	0		0%
6. Native American	0		0%
7. Other (specify)	1		1%
NR	2		
SUM	104		
<i>n</i> =	102		100%

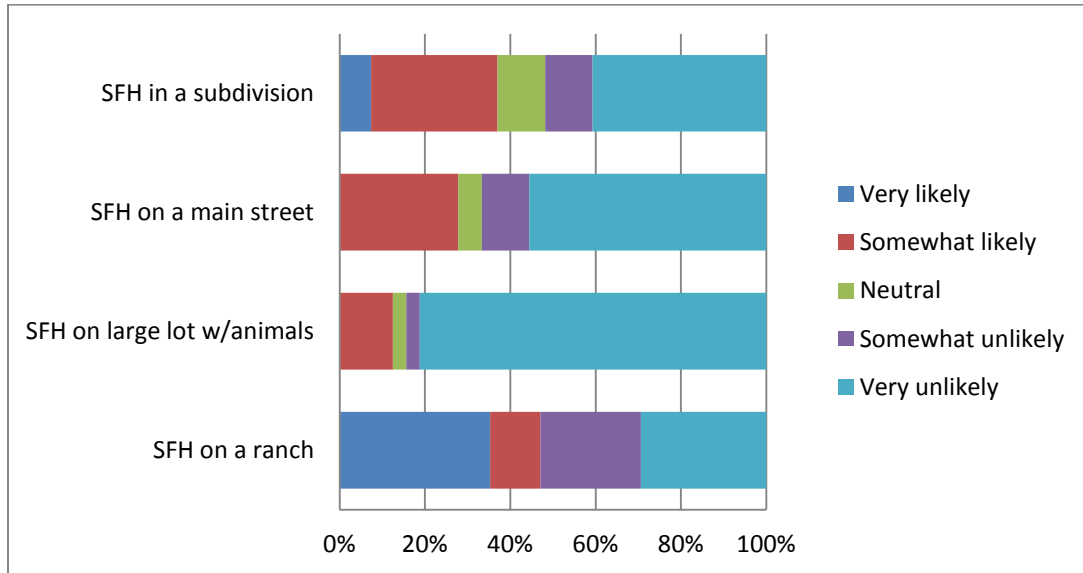
36. Which is the best description of your religious belief?

RESPONSE	#	%	
1. Buddhist	1		1%
2. Catholic	0		0%
3. Jewish	0		0%
4. Latter-day Saint (LDS)	80		79%
5. Muslim	0		0%
6. Protestant	4		4%
7. No religion	8		8%
8. Other (specify)	7		7%
NR	3		
Multiple responses	1		1%
SUM	104		
<i>n</i> =	101		100%

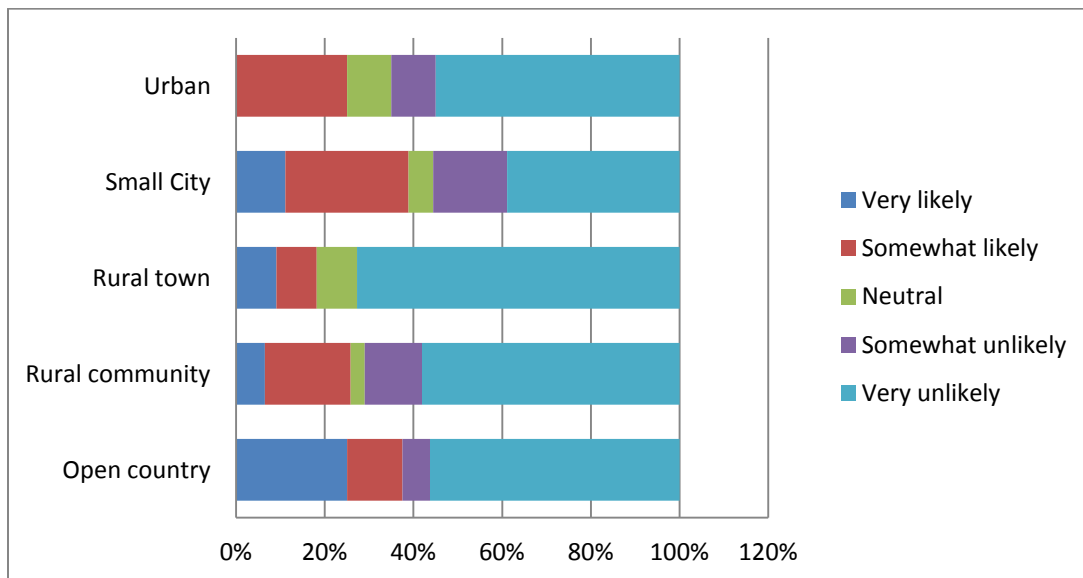
Appendix C. Investigation into Factors Influencing Respondents'
Likelihood to Live on a Smaller Lot with Shared Amenities

Likelihood of living on smaller lot w/shared amenities

- Based on property where respondent grew up, and
- Based on where respondent grew up



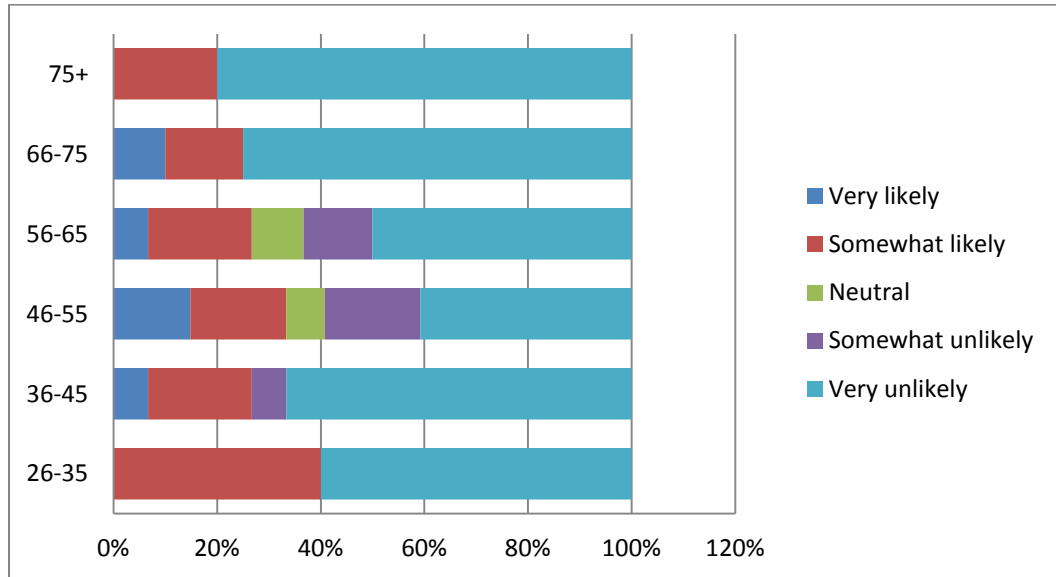
Likelihood of respondent living on a smaller lot with amenities, based on neighborhood where respondent grew up (Q30 & Q10). $\chi^2 (25, n = 99) = 42.21, p < .10, ps$; some cells < 5.



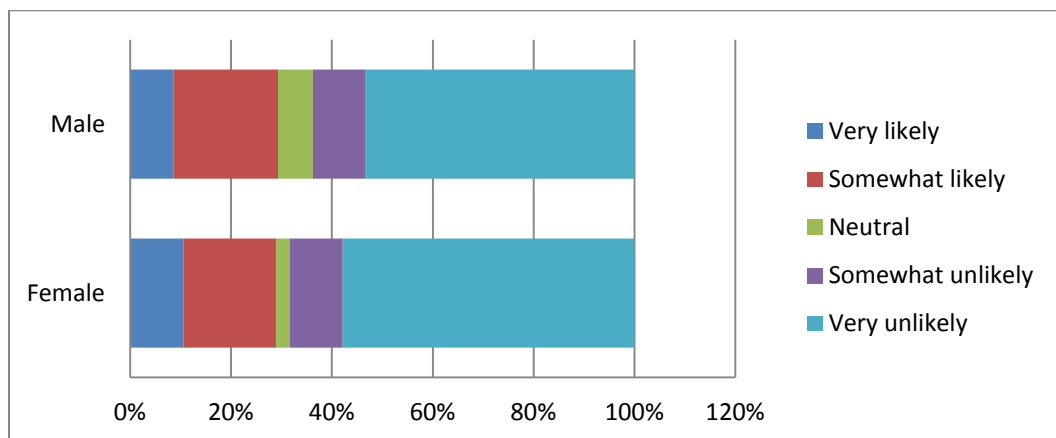
Likelihood of living on a smaller lot with amenities, based on respondents' hometown type (Q29 & Q10). $\chi^2 (25, n = 99) = 18.74, p > .10, pns$; some cells < 5.

Likelihood of living on a smaller lot

- Based on age, and
- Based on gender



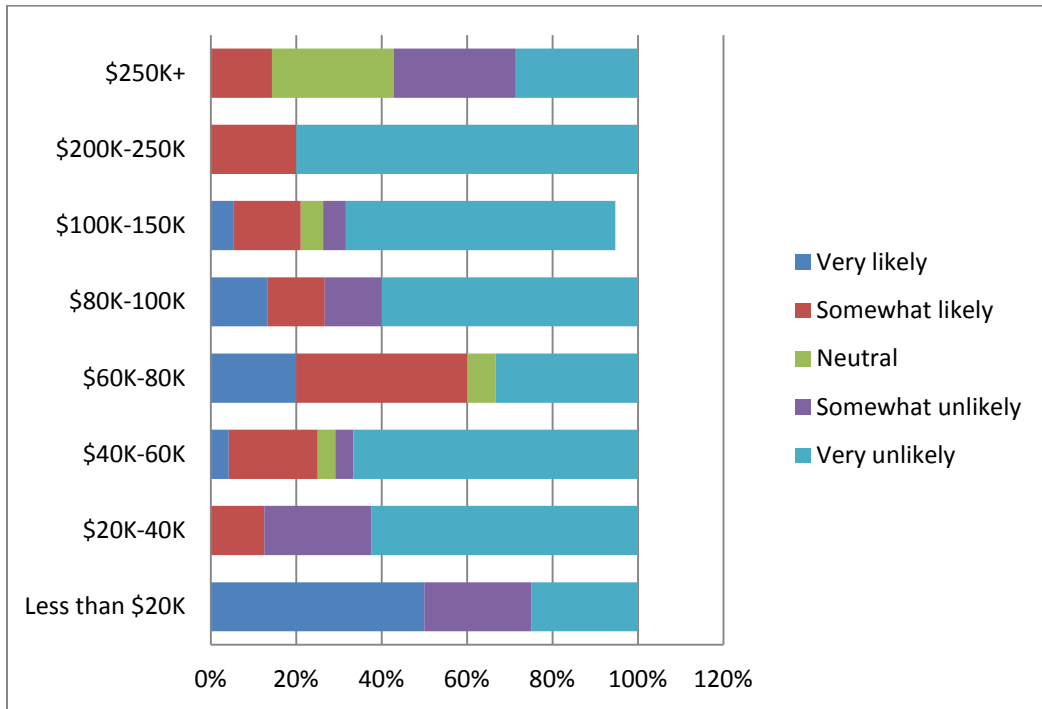
Likelihood of living on a smaller lot with amenities, based on age (Q31 & Q10). χ^2 (25, $n = 104$) = 25.78, $p > .10$, pns ; some cells < 5.



Likelihood of living on a smaller lot with amenities, based on gender (Q32 & Q10). χ^2 (15, $n = 104$) = 6.93, $p > .10$, pns ; some cells < 5.

Likelihood of living on a smaller lot w/amenities

- **Based on income**



Likelihood of living on a smaller lot with amenities, based on income (Q33 & Q10).
 $\chi^2 (35, n = 99) = 45.31, p > .10, pns$; some cells < 5.

Appendix D. Written Responses for Q10, Q28 and Back Cover

Written Responses for Q10

"If you had access to all of the above amenities, how willing would you be to live on a smaller lot?" (Original spelling and grammar preserved.)

I prefer to manage my own area. I don't want to rely on someone else. When I want something done I don't want to have to wait and have inconveniences.
If this was my living condition I would feel obligated to pay any share of enjoying these amenities.
I like having my own area for my kids to play in.
If community gardens are close--less than one mile away
I like the open space of my own property i.e., large garden, wood shop, machine sheds, etc.
Too small
If I had access to pasture and garden I would need less space
Less to maintain
We've lived on a quarter acre and it was o.k. A larger lot is more appealing.
Not at this point in my life. Maybe at retirement age.
We have and own our space
Space is important to me
I believe good fences make good neighbors.
I like space. I would like more land. Leave it wild to me. Neighbors can be a mile away. I would like that.
I like having property myself, for horses & my own space.
Would like space for myself
It would be o.k. to have a smaller lot
I would still prefer to have privately owned or leased land for most of the above, but if that was not available this would be great second best option.
Would you like everybody into your business--or a little privacy?
Half acre is about the right size
I like my SPACE
I like being on bigger propertys
As a child raising household I would say no, as a childless home I would like it.
This is a stupid question. The answer is as marked no explanation needed!
It would mean less upkeep but more expense.
A lot of the things listed above I have the ability for w/ my property
More likely in future as we get older & find it hard to keep up the large yard
I don't want common shared amenities & costs or the government required to provide such.
Do not want communal property
Do not like shared amenities [sic]
I like my OWN open space

Written Responses to Q10, Page 2

We enjoy having our land
If I wanted to live in a HOA I'd move to the city
With a larger lot, a lot of the above would be done on my own land
I've had bad relations with trespassers so I feel ambivalent about lot size--larger means a buffer but maybe it's more attractive to trespass that way.
A large lot was a priority for us. We needed space--avid gardener (perennials) I enjoy my neighbors, but we all enjoy our own space.
There is no level of service or amenities that would compensate for living on a smaller lot (at least at this point in my life).
We like our independence and our own space!
It is nice to have amenities you would not have to pay the full price to enjoy them.
Rural means larger open spaces to me.
I might like it when I am older, but now I would like to have space.
I want private space.
I like large lots for my grandkids plus neighborhood gatherings at friends houses plus a big vegetable garden
could be sued
I don't like California style living!!!
prefer not to live too close to others.
too small
We don't want to share
I like having my own property
I haven't even thought about this.
I don't like living close to neighbors.
I like what we have and probably wouldn't use items listed.
Enjoy managing & controlling our own property
I prefer to own property for my own personal use

Written Responses to Q28

“How do you feel about development trends that create smaller individual home lots and larger areas of common open space with shared amenities? Please explain.”

(Original spelling and grammar preserved.)

o.k.
It's a good and probably necessary approach, but I wouldn't like it for myself.
I prefer to have my own space.
I think it's a good idea. At least some shared open space is better than no open space.
I don't like it because I like my things well cared for and most people are slobs and are disrespectful. I also like my freedoms. Freedom to have what I want, freedom to do with my own things whatever I want. Also--I don't trust people to take care of my things.
At my stage in life this is more my preference, but it would not have been say 20 years ago.
I don't like how close the houses are together.
A good option with growing populations, limited space.
I don't like the thought of sharing common space. Usually a few people bear the responsibility.
I'm not certain. I'd have to give this some careful thought.
I don't like that type of development because it takes away from my independence and self-sufficiency and transfers it to government or other entities
YES
It's fine for inner city dwellers. For rural (which is disappearing rapidly and sadly will never be reversed) we need to protect and preserve the land
I love it as long as I feel like I could use the areas like I want. If I could not...Lame!
Do not like
Not too excited
If you enjoy living in that kind of neighborhood I think it could be a very positive experience. Lots of close neighbors looking out for each other and enjoying a shared open space.
I believe that this type of space would be appealing to many people. I am comfortable with my own space. I would probably have a hard time if a group of people were responsible for the care of a shared space. I am more peticular (sic) than others on upkeep.
Don't want to live near people in great concentrations--let New Yorkers have that life!
No opinion
Con
Would not like it
don't like
I like my room
Don't like them. Rural should stay rural. Few houses far apart. No growth.
For other, older people it's fine. Not for me.
This trend is better than developing everything, but I prefer having a larger lot.

Written Responses to Q28, Page 2

I do not like such a plan. We need to be independent.
I do not like these
I think that this is preferable to covering up all the land w/ dense subdivisions, but it is still not where I would want to live if I could afford to have larger privately owned lots.
Your (sic) creating the future slums
In theory I like it, but I don't like looking into my neighbors yards.
I have not experienced the lifestyle, but I think I like the concept
no opinion
Ok
I guess it's o.k. with the cost of land now but I prefer to have a larger property that I own with neighbors that also have large lots even if it means moving out farther for land that is less expensive per acre
I am against it where there is an established pattern. It is an added burden to homeowners who are busy and to cities with dwindling tax income. The privately owned land, in a friendly community, is often enjoyed by all.
Fine--if done logically. Establish community gardens that <i>stay</i> aren't moved as the space is needed.
Neutral, I don't prefer them b/c I like my animals to be close. We plan on building a new home on 20 acres w/in the next 3 years.
Things change and grow everywhere. I don't like the newer cramped developments
Probably wave of future, makes sense, good use of land
I don't like it at all. In theory I love the concept. In actuality we are not riteous (sic) enough to live such a lifestyle. Therefore trying to do so could only be achieved by hacking into rights of freedom.
I don't share well because most people won't do their part.
I would not like--usually only a few residents actually use the amenities.
Like this kind
I do not want to deal with other people
Dislike. Prefer private open space.
It's alright for older citizen or retirement communities
It's not for me, but offers another option for those not suited to care for all the land themselves.
This is a good plan and it sounds attractive until I think about trading our larger lot for it.
Everyone has their own idea of how to use "common" ground. I don't think groups work together well enough to share ground or amenities.
Generally support as new development. I realize I'm being selfish in preferring my 4 acres to that however.
Don't like it. I feel developers are trying to make more money by putting more houses on small lots. Causes too much congestion.

Written Responses to Q28, Page 3

I don't have anything against it, but I would prefer to own the land myself. It seems like it would be hard getting multiple owners to agree on land usage issues.
It depends on the amenities. If it were surrounded by woods, ponds, streams, etc. it would be o.k. My husband and I really prefer a large enough lot that even though we have neighbors close by (which we enjoy) we don't feel as if we're on top of each other. All of our neighbors feel the same way which is why we all get along.
I think it's a good plan. Too many people want large lots that just use up valuable land. Share common open spaces and leave more land for agriculture.
For me I am not attracted to that way of life. But I am not opposed some parts of the neighborhood or town to do that. But should not be mandatory or dictated by government.
Don't like to share. There is always someone who doesn't do their part which puts more on everyone else. Different values & expectations, etc.
We have some of these developments in our community (conservation subdivisions). They are great if they do not negatively effect [sic] property values to the properties adjacent to them.
I like privacy and large farm lots. I would rather not have tiny homes close together
New thought but likely a lot of virtues. Likely a lot of cost incentives making it possible for more to enjoy.
Not sure
I think it is a great idea! To own these amenities personally is very costly.
I would like larger lots & develop my yard for my own use
This is not a bad idea at all. I personally would rather have more land though.
This is a good concept that should be implemented to demonstrate workability and feasibility.
I DO NOT CARE FOR IT!
I don't like living too close to neighbors.
I like large lots and open ground
No thoughts
I don't
Open space with shared amenities
Needs to have standards
Don't care for it. Prefer to take care of my own.
It's okay for some. I like large open space with few neighbors.
Seems like the best plan for others
Homes are being built on too small lots. In our neighborhood the water table is very high. Wetlands are being sacrificed into small home lots where none should be built.
Don't like.
I like larger lots.
Nice to have a mix of densities in a city.

Written Responses to Q28, Page 4

I don't like. I have seen where this can cause problems--kids have no place they can call their own space other than inside their own home.
I think these are enjoyed by retired people or singles that don't want to care for a large lot by themselves. They fit the needs of some people.
not interested--take away from character of rural living. I like the idea of taking care of my own and the responsibilities that accompany it, as well as the benefits
I would like to see small farms and larger farms. I would like to have these open spaces.
Good way to preserve open, rural feeling
Do not like!
not good!
don't like it.

Written Responses from Back Cover

"Thanks for completing this survey! If you have any additional comments you would like us to know about please write them on this page."

<p>Our freedoms are already being ripped from our hands <u>every day</u>. I feel like "community life-style" where you have your tiny home on your tiny yard and then a bunch of shared pastures, gardens, etc. is just another step in the wrong direction. Soon, no one will own <u>anything</u> of their own and we'll be a communist (or at least socialist) country. Do <u>you</u> want to live in a world where you have no choice, nothing of your own? I sure don't . I want my own house, my own yard, my own barn and pasture. Some things, like a pool or a walking path aren't too bad to share, but for the most part, I want my own things and my own space. Thanks for asking. I hope I helped make an impact for our freedoms. You can too.</p>
<p>Seems like a well designed survey despite not knowing your specific goals. Reads well. Please share results with participants.</p>
<p>Thank you for including me. More land needs to be preserved and not just for parks. We need places to ride horses.</p>
<p>I have dreamed of living in a place like this: (SKETCH). Houses on the outside with a shared "community" farm in the middle. I like this type of idea, but the "rules" make all the difference.</p>
<p>It's getting crowded here. Moving to Idaho in a few years to get more elbow room!</p>
<p>Property taxes are excessive. Good luck with your studies!</p>
<p>We love our current house & location etc. but will have to move on or hire lawn mowing in future as we get older. It will become too big to care for.</p>
<p>I don't think it possible to pick the "perfect" neighborhood to suit everyone--cluster neighborhoods appeal to some, small evenly spaced lots appeal to others, and for others like my family, we prefer a little more space. We enjoy the feel of being in our own private space, and from our backyard seeing only trees and wildlife. On the other hand, a good friend of mine couldn't stand living here. "Too many snakes and too much wildlife." Thank heavens to each their own. Good luck on your project!</p>
<p>I don't mind some government control of how land & open space is used. But I do not like the trend that seems to be more & more prevalent among people (some people) that think they are smarter than everyone else and want to control people and over reach. For the most part I think land owners should be able to develop their land as they see fit within reason.</p>
<p>Prof. Bell & Laurie Hurst, Thank you for the opportunity to help with this research! This is important and will make a difference to the future of our communities. We appreciate all your work! Good luck to both of you with this project!</p>
<p>Your survey has sparked much interest. Should you publish results or if your thesis becomes available at the library, I would appreciate notification so I could study your findings. Best wishes in your research, very well presented. I also have great interest in landscape design. P.S. Just read your letter with greater attention. I'll contact you for info re: the study. Thank you.</p>
<p>We have a great situation with family close by. So we can assist each other.</p>

Written Responses from Back Cover, Page 2

Animal lots great when raising families. Smaller lot with one level home easier when older & hard to do stairs & keep up large lots.

Our home was built in 1982. We started out in a--or surrounded by--a hay field. We had a septic tank, well water and gravel driveways. Things have progressed we now have 5 other homes on the original 10 acres. We are good friends and mutually supporting. High density housing now has filled in our neighborhood south of 18th North. We are the (the six homes) are the stabilizing part of the area.

I felt your request to do this survey was curt and offensive. You are, after all, asking a favor. This is not something we want or need. I like to support students so completed the survey. My first response was to decline.