NEIGHBORHOOD ATTRIBUTES DESIRED BY DOYLESTOWN HOMEOWNERS

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(ABSTRACT)

Debate over land development continues to be an issue of dissension between developers and designer. Of particular contention is the issue of neighborhood design. A sector of the design profession has developed a paradigm primarily based on neighborhood design/development of the early twentieth century. This paradigm is known as New Urbanism. While some feel strongly that New Urbanism is the answer to questions related to neighborhood design, others feel that Conventional Suburban Development is what people want.

This study aims to determine what the consumer wants in suburban neighborhood design through the means of survey research. The survey employed was based on a previous study conducted by the Conservation Fund in conjunction with Robert Charles Lesser Company (RCLCO) of the Atlanta housing market. The survey asks respondents to choose between attributes associated with New Urban design and those associated with Conventional Suburban Development.

This study is focused on the Borough and Township of Doylestown, Pennsylvania. Neighborhoods from the Borough and Township were surveyed. The Borough neighborhood is a proxy for a New Urban neighborhood. The Township neighborhoods are Conventional Suburban Neighborhoods. The results between the two groups of respondents are compared to give further insight to consumers' preferences.

Results indicate that residents of neighborhoods with New Urban attributes prefer this neighborhood style to Conventional Suburban Development. Residents of Conventional Suburban Neighborhoods are divided on their preference for neighborhood design. The findings show that approximately 25% of the Doylestown housing market desires something other than the predominant Conventional Suburban Development style.

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INTRODUCTION

Problem Statement

There is much divisiveness about how to develop land. Land development has become a major feature in political debates (McClure-Bensinger, 1999 and Devlin, 2000, p. B6). Developers and designers are often at odds in opinions about the appropriateness of development (Heavens, 2000; Mastrull, 2000a; and New Urban News, 2000). Part of this debate is the issue of neighborhood design. Neighborhood design is considered by some to be the key to solving social, environmental, and even economic issues as evidenced by the many movements involving neighborhood design. Examples of movements include the Smart Growth movement, The Congress of New Urbanism, Federal programs such as, Hope VI, and neighborhood associations. As landscape architects become more involved in site design at the neighborhood level and in the planning profession, they must respond to the discord of opinion on the topic of neighborhood design.

As our nation's population has increased, and as our urban centers have experienced population out flow, the result has been an increase in land development in suburban areas. At one point in the nation's history, owning a single family on a private lot was the fulfillment of the 'American Dream'. The post World War II era was a time of housing shortages and low mortgage rates for newly returned Veterans (Nelessen, 1994, p.32). Single family home developments, such as Levittown, New York (see FIGURE 1), were built at a prolific rate, and helped satisfy housing needs. These developments were often laid out to get the maximum number of lots per acre, and with little or no regard for connections to the rest of the community. The automobile was now affordable to most people and combined with the new Federal Highway system, people were forced, if not content, to drive to most or all of their destinations (Hartshorn, 1992, p.157-199; Nelessen, 1994, p. 29).

Whether people wanted to walk or drive really wasn't the issue in most cases. With the

introduction of zoning, most commercial and definitely industrial uses had been separated from residential uses. In order for a homeowner to get to their job, a drive in the car was almost always necessary. This was also true for grocery shopping and for other activities like going to the movies or clothes shopping. In addition, children often had to take a bus to school due the distance between their homes and their educational facilities [†].

FIGURE 1. Levittown (Source U.S. News and World Report, 2003, p.21)

The result over time has been what is generally coined "suburban sprawl". Residential development of suburban sprawl is typically described as Conventional Suburban Development (CSD). The causes and effects of suburban sprawl are numerous, and it is not the intent of this paper to examine suburban sprawl in its entirety. While suburban sprawl and conventional suburban development are often referred to in a negative light, there are some who advocate that these are not a bad thing, but rather what consumers desire (Adler, J. et al., 1995; and New Urban News, 2000).

In response to suburban sprawl, designers began proposing a form of development based on pre-WWII standards. This form of development is now known as New Urbanism. As the New Urban movement has gained momentum a debate between Conventional Suburban design (characteristic of suburban sprawl) and New Urban design (NU) has arisen. Some believe that New Urbanism is an attempt to recreate Victorian Era villages and architecture, even in places where they did not previously exist. Others see it as an attempt to salvage what is positive from old neighborhoods and as a viable planning tool. Still others feel that conventional suburban development is what consumers

[1] See Hartshorn's chapter, "Transportation Processes", for a detailed discussion on the role of transportation on land development.

desire. Caught in the middle of this debate is the consumer. This begs the question, are homeowners buying into neighborhoods with attributes that they like or are they buying what the market is providing?

Need for Study

Respondents to a Pew Center for Civic Journalism poll of residents from Philadelphia's surrounding counties listed development as one of the biggest problems facing southeastern Pennsylvania (Poll, 2000). Previous studies have attempted to determine consumer preferences for neighborhood design. Replication of studies is necessary to increase the validity of their results.

Research Objectives

This study aims to give voice to the homeowners and homebuyers. It is not the role of designers to impose their will upon homeowners. Nor is it the role of developers to develop land without consideration for context and community needs. Designers and developers need to understand the preferences of homeowners to ensure that each fulfills its obligations to their clients. An ideal scenario is one where designers and developers work together to provide homeowners with preferred neighborhoods. This research is an attempt to examine homeowner preferences so that landscape architects involved in design and development of neighborhoods can use this information to create neighborhoods with attributes desired by homeowners.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The review of the literature shows that there is a divide between designers and developers regarding homeowner preference for neighborhood design. This divide does not stop at a difference between the two professions, but can also be seen within the respective disciplines. In recent years, certain designers have developed a paradigm, come to be known generally as New Urbanism. The design field is rather divided on this topic, with some designers pledging themselves to this paradigm, while other designers feel it is myopic. Developers are often depicted as only being concerned with profits, however there are some developers who wish to work with a site's natural resources and a community's context[†]. Developers do want their product to sell, therefore they conduct numerous market surveys to determine market preferences. However it can be argued that these surveys are designed to support existing methods of development rather than determine actual market preferences. Yet, even the most progressive developer is bound by land-use laws

Landscape architects are often posed with the task of site design, and therefore have great bearing on the form neighborhoods take. But there are two other parties that have a great deal to influence on the outcome of neighborhood forms. They are the developer and the municipal governing bodies. This literature review will examine the evolution of the neighborhood form and describe some of the main attributes of neighborhood design. It will then review the work that has been done by developers, and designers (municipal governing bodies will be considered part of the design field) to determine market preferences for neighborhood design. The fundamental goal of this work is to provide designers and developers with knowledge about their clientele that will lead to improved satisfaction among homebuyers.

What is a neighborhood?

The American Heritage College dictionary defines a neighborhood as "a district or an area with distinctive characteristics" (1993, p. 913). Many would consider this to be a vague definition. But

[†]See Chapter 1, "A New View of Real Estate" in Green Development (Rocky Mountain Institute, 1998) for examples of this.

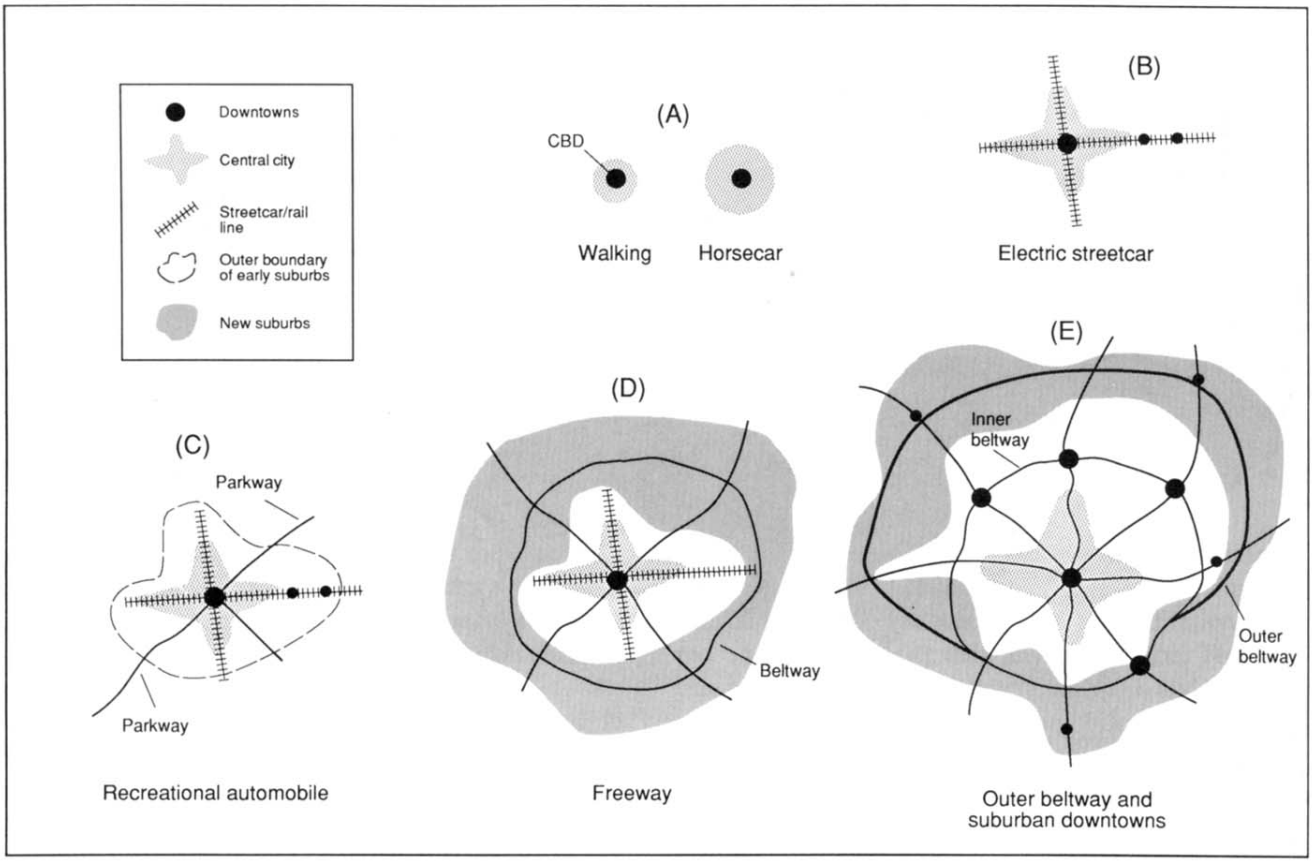
this is perhaps because as Garrett Eckbo describes in his book, *Urban Landscape Design*, "all landscapes are viewed and experienced through individual human eyes, carried on similar physical and psychological frameworks, moving about through space on feet or wheel" (Eckbo,1964, p. 117). Never the less, for the sake of research and this study, a more thorough description is required. For this study, a neighborhood will be defined as the following: A neighborhood is a subdivision with a distinct boundary, whether by arterial roads or landscape buffers, with similar street layout, architecture, and setbacks. When referring to neighborhoods, this study is only referring to neighborhoods in the United States.

Why study the neighborhood? The neighborhood unit has been a key issue in planning and design over the past century (Silver, 1985). "The heart of the New Urbanism is in the design of neighborhoods" (New Urban News, 2000, p. 9-3). It is the belief of this researcher that the neighborhood unit is the most significant form of development shaping our landscapes, whether they be New Urban in design or Conventional Suburban Design.

A Brief History of the American Neighborhood from the early 1900s to the Present

As was alluded to in the introduction, American neighborhoods have gone through a metamorphosis during the past eighty years. Primary reasons for this metamorphosis have been a societal shift to automobile dependence and land use laws that require separation of uses and impose inflexible spatial standards. The result is a shift from dense mixed use neighborhoods clustered around mass-transit nodes, to open sprawling form of development with no connective organization.

It was during the early part of the twentieth century that the nation saw an increase in automobile use that allowed the development of neighborhoods and towns that were independent of the streetcar infrastructure (see Figure 2). Until this point, development had to be within a reasonable distance of the streetcar because residents were dependent upon it as their primary means of transportation to major nodes of importance (the office, factory, stores, etc.) (Nelessen, 1994,



Transportation and Urban Form. Before the advent of mechanized transportation, the city exhibited a compact form (A). The streetcar technology of the late nineteenth century created a star-shaped form with development following route alignments (B). The automobile opened up interstitial areas between rail corridors for development in the 1920s and 1930s (C). Freeways and beltways in the post-World War II city led to new waves of development (D), which led to the development of suburban downtowns and outer beltways (E).

FIGURE 2. Transportation and Urban Form (Source: Hartshorn, 1992, p.160)

p. 27). When residential development was constricted to the radius of a the streetcar routes, so too were the services that residents required. General stores, schools, pubs, etc., were all within walking distance of the residences.

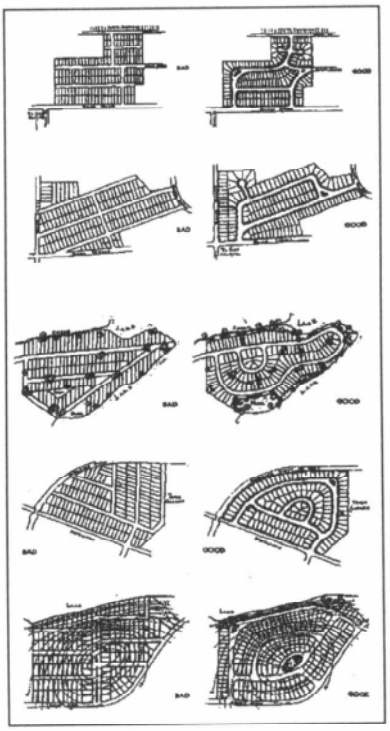
At this time, cities were highly industrial and therefore carried with them the ill effects of such activity, so people were attracted to the idea of "clean, country living" (Nelessen, 1994, p.27). This shift from urban to suburban settlement was supported by social workers, such as the settlement house workers, and by planners. "Historians have demonstrated convincingly that most Progressive Era reformers, including settlement workers, wanted foremost to transpose the small-town community life-style they had been reared in onto the urban landscape. To accomplish that, it was necessary to abandon the highly congested city centers and disperse working-class neighborhoods along the lines followed by the middle class. A strong antiurban sentiment pervaded the early neighborhood reform movement" (Silver, 1985, p.162).

After World War I, car ownership increased from 2 million to 10 million (Southworth and Ben-Joseph, 1997, p. 75). In 1921 the Federal Highway Act was passed to develop a national system of connected interstate highways (Southworth and Ben-Joseph, 1997, p. 75). This coincided with the creation of *Better Homes in America*, " a network of developers and interest groups. The movement encouraged home ownership and spread the knowledge of financing for home purchases and home improvements" (Southworth and Ben-Joseph, 1997, p. 59). With the encouragement of social workers and planners, developer know-how, and the flexibility the automobile offered, the suburbs began to grow at a significant rate.

The Federal-Aid Highway Act of 1956, also known as the National Interstate and Defense Highways Act of 1956, established an interstate highway system in the United States. "In the act, the interstate system was expanded to 41,000 miles, and to construct the network, $25 billion was authorized for fiscal years 1957 through 1969" (National Interstate Highway Defense Act - 1956, n.d.) The proposed freeways were to improve access to declining center cities and thus inject them with new life. What happened instead was a further drain from the cities, and an increase in development of suburban areas. "Eventually this process completely turned the metropolitan region inside out, refocusing the majority of the residential and employment activity in the suburbs. In its most elaborate manifestation to date, this transformation has generated suburban downtowns in our larger urban

regions that now serve as virtual coequals to the formerly dominant central business district" (Hartshorn, 1992, p. 170).

Zoning was also a product of the early part of the twentieth century. Because in most cases the conditions of industry intermingled with residential uses were noxious, a solution was needed. The solution devised was to separate industrial, commercial and residential uses, or to "single-use zone" them. Single Use Zoning became further defined by separating different types of housing from one another. As single-use zoning became the norm, it resulted in the dissolution of what had been the way of living in almost all urban parts of the world for at least the previous 500 years. Houses were no longer built within the framework of a village. Instead, houses were built in large, single-use pods. Residents could no longer walk to the general store, children could no long bike to school, and employees could no longer walk to the local streetcar or rail stop. Cars, and the roads that accompany them, were needed for almost everything (Nelessen, 1994).



FHA's recommended subdivision layouts and minimum standards set the groundwork for modern subdivision design. All of the "bad" examples are based on the gridiron, while the "good" examples are based on the loop and cul-de-sac system. *(Federal Housing Administration)*

Figure 3. FHA subdivsion recommendations (Source: Southworth and Ben-Joseph, 1997, p. 85).

Housing and development patterns have also been influenced by Federal government programs. To encourage economic development during the Depression, the government passed the National Housing Act in June of 1934. This enabled the Federal Housing Administration to provide long term insurance on mortgages and resulted in a six and a half fold increase in housing construction between 1933-1941 (Nelessen, 1994, p. 30). The policies of the FHA "tended to favor new construction, suburban development, rather than urban redevelopment" (Nelessen, 1994,p. 30). "Building standards suggested by the F.H.A. and Veterans Administration programs (see Figure 3) inadvertently dictated the physical structuring of new

neighborhoods. Subdividers and builders tended to adhere to recommendations regarding minimum lot size, setback, separation of houses, and character of yard. Spread-out places were the result ... 97 percent of all new single-family houses built between 1946 and 1975 were detached on open lots" (Conzen, 1994, p. 303). Federal subsidies of municipal sewer and water systems also contributed to suburban sprawl (Conzen, 1994, 304).

Another Federal program that influenced the neighborhood was the Federal 701 Comprehensive Planning Act. "This act subsidized the creation of comprehensive master plans during the 1960s and 1970s" (Nelessen, 1994, p. 33). "Where possible, in order to decrease taxes and to pay for infrastructure, municipalities encouraged large-lot zoning" (Nelessen, 1994, p. 33). Large-lot zoning, placing houses on parcels of land of a half- acre or more, was further movement away from the traditional village neighborhood, and increased dependence upon the automobile. Throughout this time, many center cities, Philadelphia most definitely, experienced an outflow of residences. The result has been urban decay and decreased quality of living in many urban areas, thus increasing the appeal of a "clean" and "safe" suburban life-style. The result of these Federal programs has been a massive shift in housing from rural and urban environments to suburban developments. "By 1970 almost 40 per cent of U.S. citizens lived in the suburbs, which became, ideologically at least, the dominant land form on the continent" (Wilson, 1992, p. 90).

During the 1960's citizen participation in neighborhood design begins to play a more significant role. "Beginning with the federal mandate in 1968 to involve public housing tenants in management affairs, and continuing with the strong citizen participation requirements written into the Community Development Block Grant Program in 1974, neighborhood interests strengthened their influence. Citizen participation also marked a transition in neighborhood planning to an emphasis on forming a picture of the constituency's preferences [on the physical and social performance of the environment] rather than on trying to meet standards specified by an expert" (Silver, 1985, p. 171).

What is Conventional Suburban Design?

Randall Arendt, a strong proponent for dense, clustered, site design, provides a good description of what is typically constructed by the building industry. "Conventionally designed subdivision" refers to residential developments where all the land is divided into houselots and streets, with the only open space typically being undevelopable wetlands, steep slopes, floodplains, and stormwater management areas" (Arendt, 1996, p. 6). "Although no one ever sets out consciously to create these deficiencies, they have come about because minimal thought has been given to the results produced by basic development design standards contained in local ordinances which ask little, if anything, with respect to conserving open space or providing neighborhood amenities" (Arendt, 1996, p. 7).

The following is a summation of a more detailed list of Conventional Suburban Design characteristics as described in New Urban News (2000, p. 9-4):

All uses are kept separate, including separation of different housing types;
The street pattern is dendritic, with cul-de-sacs being a common feature;
There is no distinct center;
It is less compact and has larger lots than historic neighborhoods;
Streets are designed on an automobile scale, with wide roads, large building setbacks, and garages, driveways and parking lots close to the street;
The low density and spread out nature of conventional suburbia discourages the use of public transit.

"Setback requirements and the need to accommodate automobiles have affected the architecture of single-family housing by thrusting the garage forward of the house proper and thus presenting the car accommodations in stronger light than the front door itself" (Hall and Porterfield, 2001, p. 130). Along with garage-oriented architecture, there is little variation between the architecture of each house in a development (See Figure 4). Additionally, there is usually the requirement of the car to drive to shopping and services rather than walking.

Criticisms of conventional suburban development have been written about by Tony Hiss, James Howard Kunstler, and Phillip Langdon. Loss of community or neighborhood feeling due to decreased

Figure 4. Conventional Suburban Development in Bucks County, Pennsylvania

neighbor propinquity (a result of large lot zoning and large sideyard and setback requirements) is one criticism frequently mentioned. Increased dependence upon the automobile is another common criticism. While many suggest mass transit as a solution to this it is doubtful that Americans will ever give up their cars in large numbers. And as John Jakle points out in his essay, *Landscapes redesigned for the automobile*, should mass-transportation regain popularity due to something like the 1970s oil crisis, "its effectiveness would be substantially hindered by today's excessive dispersal of activity" (Conzen, 1994, p. 304). However, this does not mean that there is not a desire among Americans for efficient, affordable, and dependable alternative modes of transportation.

One of the main reasons for the lack of variation between conventional suburban developments is the banking industry. Lenders are formulaic in their approval process (Rocky Mountain Institute, 1998, p. 235). This results in faster approvals for developments that lenders are familiar with and have proven track records. While this may be more efficient for the planners, developers and lenders, the result is often one of sameness. "Also, the trend towards "securitization" — i.e. packaging real estate so that it can be bought and sold on Wall Street — favors standardization of product" (New Urban News, 2000, p. 18-5).

What is New Urbanism?

New Urbanism is an urban design movement that has developed over the past twenty to thirty years. New Urbanism has been primarily developed architects and town planners. It is an attempt to address the critiques of what has become conventional suburban design. New Urbanism is in effect old urbanism, recreated rather than innovated.

The first new urbanist town was started in 1981 (Steuteville, 2000). This development was Seaside, Florida, designed by the architectural-urban design team of Andres Duany and Elizabeth Plater-Zyberk (Steuteville, 2000). "Since Seaside gained recognition, other neotraditional towns have been designed and substantially built — including Haile Village Center in Gainesville, Florida; Harbor Town in Memphis, Tennessee; Kentlands in Gaithersburg, Maryland; and Orenco Station in Hillsboro, Oregon" (Steuteville, 2000). In 2000, there were approximately 410,000 housing units (built or planned) in 380 New Urban (NU) developments in 38 states (Martin, 2001). "While these figures sound impressive, total new urban housing represents less than 3% of the 13.6 million housing units built in the US between 1990-2000" (Martin, 2001).

In 1993, some of the key designers promoting New Urbanism formed the Congress for New Urbanism (*About CNU*, n.d.). The Congress for New Urbanism is a non-profit organization which "advocates the restructuring of public policy and development practices to support the restoration of existing urban centers and towns within coherent metropolitan regions" and "the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy" (*About CNU*, n.d.). Currently, there are over 2000 members of the CNU, comprised of architects, politicians, planners, developers, and academics (*About CNU*, n.d.)

Previous urban design movements such as: Transit Oriented Development, Neo-Traditional Design, and Traditional Neighborhood Development all fall under the umbrella of New Urbanism. But all of

these pull from previous urban design movements from the 19th and 20th centuries. "From the City Beautiful movement the CNU adopts an emphasis on monuments, civic architecture, plazas, landscaped parks and public spaces, and the physical ordering of these elements through the use of axes, grids, and urban walls" (Martin, 2001). And from the Garden City movement (Howard, 1946), an emphasis on planned dense communities interrelated with a planned open space network are employed .

There are many positive aspects to towns and villages established in the latter half of the 19th century and those built prior to World War II. The variety of architecture, the scale of buildings and streets, the walkable networks are why many of these older communities are still thriving and wonderful places in which to live and work. To incorporate these elements is to incorporate what has been successful . To call it "new" urbanism is perhaps a misnomer, but it doesn't change the fact that New Urbanists are strong advocates for classic urban form.

However, when New Urbanists do get critiqued, it is often for their attempts at trying to fix social problems with architectural solutions[†]. New Urbanists have picked up on the ideology proposed by Mary Parker Follett in the early part of the twentieth century. "She stood apart from contemporary proponents of the neighborhood idea in suggesting that socially homogeneous neighborhoods "… are not so good for our purpose" but that "mixed neighborhoods" would encourage more responsible local politics" (Silver, 1985, p. 166). The New Urbanists also have pulled from Jane Jacobs (1961) who claimed that diverse and unplanned multi-use neighborhoods were what gave cities vitality (Silver, 1985, p 170). Jacobs did not prescribe planned diversity, where as New Urbanists do. New Urbanists claim that diversity in age, socio-economics, and race are keys to a successful neighborhood. "There is little evidence thus far that these [new urban developments] have fulfilled the movement's promise of social performance. Studies to date on the social aspects of New Urbanism have not used adequate controls (e.g. a similarly placed non-new urban community for comparative analysis) or factored in the bias and/or the racial, social and economic homogeneity of its resident population" (Martin, 2001). "Very few, if any, developments have attained their expected levels of income mixing, housing affordability, and retail viability" (Martin, 2001).

[†]This paper is not going to examine the physical aspects of neighborhood design as a solution for social problems.

[††]For further discussion of new urbanism as a solution to social problems see The Charter for New Urbanism, and Martin, 2001.

Some feel that homeowners are not interested in diversity and social interaction in their neighborhoods. Oscar Newman has stated, "American families typically live in a neighborhood for three to five years, forming communities based not on common birthplace but on interest: young singles, families with children, "active adults." Who among us, Newman asks, really wants to re-create the social ambiance of an 18th-century village? He thinks the suburbs need more exclusivity, gates and barriers where none exist already, recognizing that most of us are going to live among strangers for most of our lives" (Adler et al., 1995).

Other critics of New Urbanism claim that there is no market for transit oriented development or higher density development, and that the result of New Urbanism is actually a decrease in affordable housing (Gordon and Richardson, 2000, and New Urban News, 2000, p. 22-3). Chief among the critics are Peter Gordon and Harry W. Richardson, professors in the Department of Economics and the School of Policy, Planning, and Development at the University of Southern California. Gordon and Richardson have written numerous articles claiming that "developers, reacting to the marketplace, and not to rigid and politicized rules, conceive the best plans for the community" (Gordon and Keston, 2000).

Gordon and Richardson make blanket statements and don't account for varying market preferences. This is true for their critique of the Transit Oriented Development. They claim that no-one wants to use mass transit and the cost of installing the mass transit systems far outweighs the expenses of road installation and upkeep. Again, many surveys may show that if given a choice between mass transit and auto use, that the auto use prevails. However, this doesn't take into account mass transit being used by other community residents, such as children who are not able to drive, single-car family members, and the disabled. By exclusively focusing on the mass transit aspect of new urbanism, its critics overlook the other forms of transportation (walking, biking, shuttle bus) that new urban design encourages through its networks of alleys, sidewalks, and parks, and inclusion of mass transit.

But what are the key physical factors that make up a new urbanist neighborhood? Density is a key factor to new urbanist neighborhoods. Compared to a conventional suburban development with a density of one to two houses per acre, a new urban development attempts to reach a density of five

to six units per acre (Adler, et al.. 1995). The following is a list that NU designers say are principles of "an ideal neighborhood design" (Katz, 1994, p. xvii):

> The neighborhood has a center and an edge;
> The optimal size of a neighborhood is a quarter mile from center to edge;
> The neighborhood has a balanced mix of activities-dwelling, shopping, working, schooling, worshipping and recreating;
> The neighborhood structures building sites and traffic on a fine network of interconnecting streets;
> The neighborhood gives priority to public space and to the appropriate location of civic buildings.

Surveys of Homeowner Preferences

Due to the size of the United States, a nationwide survey on homeowner preferences for neighborhood design would be an extremely expensive and daunting task. However, there are a few surveys that have been done at the local level in different parts of the nation. Emil E. Malizia and Susan Exline of the Center for Urban and Regional Studies at The University of North Carolina at Chapel Hill have provided an excellent summary document of surveys and research conducted up to February 2000 in their working paper, "Consumer Preferences for Residential Development Alternatives" (2001) . Some of the most significant surveys are those done by the National Association of Home Builders (NAHB), American Lives, Inc., and Anton Nelessen. This paper will pull heavily from the Malizia-Exline paper when referring to the results of much of the previous research.

At the forefront of visual surveys would have to be Anton Nelessen. Nelessen has been conducting VISUAL PREFERENCE SURVEYS™ as part of public meetings over the past thirty years. At these meetings Nelessen shows attendees a slide show where he contrasts images of traditional styles to more contemporary styles. He also uses wooden blocks to model neighborhood layouts. The results of his meetings are almost always that attendees prefer the traditional images and neighborhood layouts to Conventional Subdivisions Design (Nelessen, 1994, p. 88). As Malizia

and Exline point out, one of the strengths of the visual survey is that is allows respondent to judge one attribute in combination with another. For example, "residents favor higher density when coupled with good architecture and landscape design" (Malizia and Exline, 2000, p. 8). Nelessen feels that another failing of statistical surveys is that they "under represent people without children who are under 30 and over 55 years of age, many of whom do not want to live in single-family homes" (Malizia and Exline, 2000, p. 8).

The National Association of Homebuilders (NAHB) does frequent market surveys. Its work is significant because it is the primary lobby for developers. However, many of these surveys focus on individual house or lot size attributes as opposed to neighborhood attributes. Malizia and Exline point out that NAHB research samples are not weighted accurately to reflect the population of the United States. They over-sample single family homeowners, and the questions are biased and need more background information (Malizia and Exline, B-18, B-20).

A consistent approach running through many previous surveys, especially those done by NAHB, is to phrase questions in such a way as to be exclusionary. For example, a conclusion often drawn from these surveys and frequently cited is that homeowners want single family homes on private lots. When reviewing the survey questions though, the choices are limited to single-family homes versus all other forms of housing. The surveys usually do not provide the option for single-family houses on smaller lots, or single-family attached homes, such as duplexes, on private lots. When given the choice between a single family house on a private lot versus a townhouse or apartment with minimal if any private property, it is not surprising that most survey respondents (who are often recent homebuyers) select the single-family house option.

Another way these surveys contribute to distorted conclusions is by asking questions such as, "how do you feel about building single-family homes at a higher density in your neighborhood?" (Ahluwalia, 1999, p.11). The responses to questions like this are almost always that majority of respondents would oppose the new buildings. This question is loaded in three ways; 1) most people dislike change, and their first reaction to changing the fabric of their neighborhood will almost always be negative (except for extreme cases such a severely dilapidated neighborhoods- not where these surveys are typically conducted); 2) infill does not always have to be at higher densities

than already exists; and 3) most people have negative connotations of density. As mentioned previously, the visual surveys done to date almost always find positive reactions to higher density images, as opposed to statistical survey results.

In addition, when asking what type of house respondents preferred, townhouses were grouped with single-family attached houses. Duplexes (single-family attached houses) are a key form of building type in traditional neighborhoods, and the researcher suspects this form of housing is much more desirable to homeowner, especially first time homeowners, than townhouse developments as they have been conventionally been developed.

One of the key factors to come out of the Malizia and Exline study is that while a majority of the statistical survey respondents may prefer conventional suburban design, a fairly substantial portion of respondents (approximately 25 percent) are interested in something other than a large detached lot with a single family house. This is explored further by Dowell Myers and Elizabeth Gearin who claim that as the baby boom generation ages and becomes the most significant portion of the housing market in the next two decades, there will be an increased demand for new urban neighborhoods (Myers and Gearin, 2001).

More recently, the Conservation Fund with Robert Charles Lesser & Co. (RCLCO) conducted a survey of homeowners in the Atlanta Metropolitan Region (New Urban News, 2001). The primary focus of the survey was to determine if there is a market for New Urban style neighborhoods. The survey used a series of trade off questions that contrasted elements of New Urbanism with conventional suburban development. "In the survey conducted for the Conservation Fund in Atlanta, respondents picked the new urbanist options by large margins, ranging from 71 to 78 percent" (New Urban News, 2001).

This thesis is essentially a replication of the Conservation Fund-RCLCO study. A survey was constructed based on the questions used by CF-RCLCO. The survey was distributed to two hundred homeowners in Doylestown Borough and Township. One hundred homeowners in the Borough were surveyed, and one hundred homeowners in two subdivisions built in the past ten years within Doylestown Township were surveyed.

Research Objectives

Designers and developers need to understand the preferences of homeowners to ensure they fulfill their obligations to clients. To do this the following questions must be asked: In which neighborhood attributes are homeowners most interested? Is there a difference in preferences between the homeowners in Conventional Suburban Design neighborhoods versus Traditional Design neighborhood homeowners? Do homeowners prefer one type of neighborhood over the other?

Study Limitations

This study is restricted to homeowners in the Borough and Township of Doylestown, Pennsylvania. This study will provide descriptive information about the study sample's preferences for neighborhood design. The sample is limited to current homeowners of single family attached and detached residences. The study will show which of the neighborhood attributes listed in the survey are most important to current homeowners. Due to monetary limitations, the study sample was limited to 3 percent of the study population (owner occupied housing units). The results of the study will be most reflective of the Doylestown, Pennsylvania homeowner preferences, but may have some significance to similar population areas. Unlike the RCLCO study, this study does not examine willingness of consumers to buy into certain neighborhood types.

CHAPTER III

METHODOLOGY

General Approach

This study is a partial replication of a study done by Robert Charles Lesser & Co. (RCLCO) for the Conservation Fund (New Urban News, 2001). RCLCO has surveyed homeowners in at least seven different markets across the United States in an attempt to determine if there is a significant market for New Urban style development. Research for the Conservation Fund concentrated on the Atlanta, Georgia housing market. "The surveys by RCLCO deliberately targeted people with the means and opportunity to purchase a new home. The randomly selected sample groups typically numbered about 500 people who earned above $30,000 or $50,000 (depending on the market) and contemplated moving within the next 18 to 24 months" (New Urban News, 2001).

This study used the same trade-off questions used as the RCLCO study, but homeowners were sampled based on the type of neighborhood in which they currently live. One hundred single-family homeowners in a traditional neighborhood were surveyed. Another one hundred single-family homeowners in two respective conventional suburban neighborhoods were surveyed. One of the reasons for sampling residents of a traditional neighborhood and those of the conventional suburban neighborhood was to address one of the obstacles that RCLCO felt was inherent in its survey design. The obstacle being that "the majority of Americans don't have a proper frame of reference to what a genuine traditional neighborhood would be like" (New Urban News, 2001). By surveying residents who already live in a traditional neighborhood, they will be familiar with the attributes described in the survey. Additionally, residents in the standard subdivision are in close enough proximity to the traditional neighborhood that there is a high likelihood that they too will be familiar with traditional neighborhood attributes.

The sampled neighborhoods were selected based on the researcher's familiarity with the physical form of the neighborhood, and the researcher's personal desire to determine market preference for the Bucks County, Pennsylvania, region.

Place Selection

Bucks County, Pennsylvania

Bucks County is due north of Philadelphia, Pennsylvania. While Philadelphia has seen dramatic population loss over the past half century, the suburban regions of south-eastern Pennsylvania have experienced tremendous growth. "The flight of population and businesses from the city of Philadelphia and other older communities has coincided with the dispersion of residents and businesses throughout the suburbs. Over the past thirty years, there has been minimal overall population growth in the region and relatively small job growth. In other words, the only thing that's growing in Metropolitan Philadelphia is sprawl, a result that is hurting urban residents left behind in deteriorating neighborhoods, frustrating suburbanites facing increasing development and congestion, destroying valuable farmland, and costing everyone in the form of higher taxes" (Flight or Fight, 2001). Conventional suburban development is evident and prolific in Bucks County, Pennsylvania. County planners are constantly having to suggest a cluster development approach to developers, and are willing and anxious to be offered a mixed-use/neotraditional type of development (Fabry, 1999).

Doylestown (Borough and Township), Pennsylvania

Doylestown, Pennsylvania is the County seat of Bucks County. According to the 2000 United States Census, the Borough and Township has a combined population of 25,846. Of the roughly 11,000 households, approximately 6,100 of them are owner occupied. The population is 95% white. The Borough's median household income is approximately $46,000. In contrast the Township's median household income is about $81,000. Of the 6,200 housing units in the Township the majority housing type (65%) is a single family detached home. Single family attached homes are the second most common (17%). In the Borough, there are 4,028 housing units, 38% of them are single family detached units, with apartments of 20 or more units being the second most common type (20%). Single family attached units are the third most common (14%) type of housing in the borough. The median value of owner occupied units in the Township is $253, 200. In the Borough, the median value of owner occupied units is 180,800. In the Township, almost 85% of the working population commutes to work by auto (non-carpool) with mean travel time of about 30 minutes. Virtually every household has a car (95%), with 51% of households having at least 2 cars (U.S. Census Bureau, 2000).

Figure 5: Borough of Doylestown Map, 1876. (source, DBPC, 1969, p. 13).

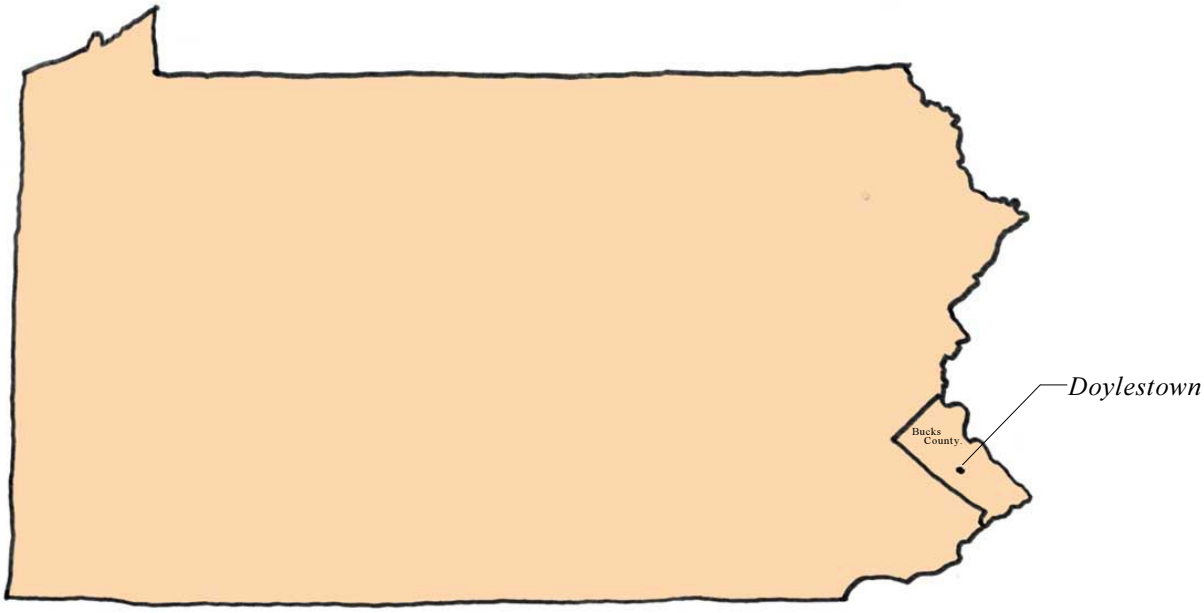
In the Borough, about 80% of the working population commutes to work by auto (non-carpool). A significantly larger percentage (6%) of Borough residents commute by walking as compared to Township residents (1%). SEPTA (South Eastern Pennsylvania Transportation Authority) runs a regional rail service between Philadelphia and downtown Doylestown (the average time to Center City Philadelphia being one hour and ten minutes and the average one way fare during peak hours is $4.25). SEPTA also provides bus service between Philadelphia, and Doylestown. In 2001, a local transportation shuttle, Doylestown Dart, was introduced. The Dart provides transportation around key nodes within the Township at the cost of $1.00 per ride.

Doylestown developed because of its location at a major crossroads (based on Indian routes) established in the early 1700's (Main Street (Route 611)– North-South route to Philadelphia, and State Street (Route 202) East-West route to the Delaware River. A tavern at the crossroads, named for its owner, Doyle, eventually led to name of Doylestown (DBPC, 1969). The town name appeared on a British Map of 1777 (DBPC, 1969). As time passed, Doylestown was eventually designated the County seat, and a courthouse was erected in 1813. The official establishment of the Township occurred in 1819 (BCPC, 31). The village center, what is now Doylestown Borough, detached from the Township in 1838 (Development Solutions, 2003). In 1856, stagecoaches were replaced with the railroad (BCPC, 1969, p. 9). And from 1890 to 1931 trolley cars connected Doylestown to other major centers (DBPC, 1969).

The physical layout of the town did not include a central green or grand avenue. However, the Courthouse was built on the highest piece of ground and is visible from a great distance, and today Henry Mercer Museum properties serve as large areas of public open space. The cobble stone square in front of the Fountain House[†] (intersection of State and Main), and the courtyard in front of the Courthouse also serve as public

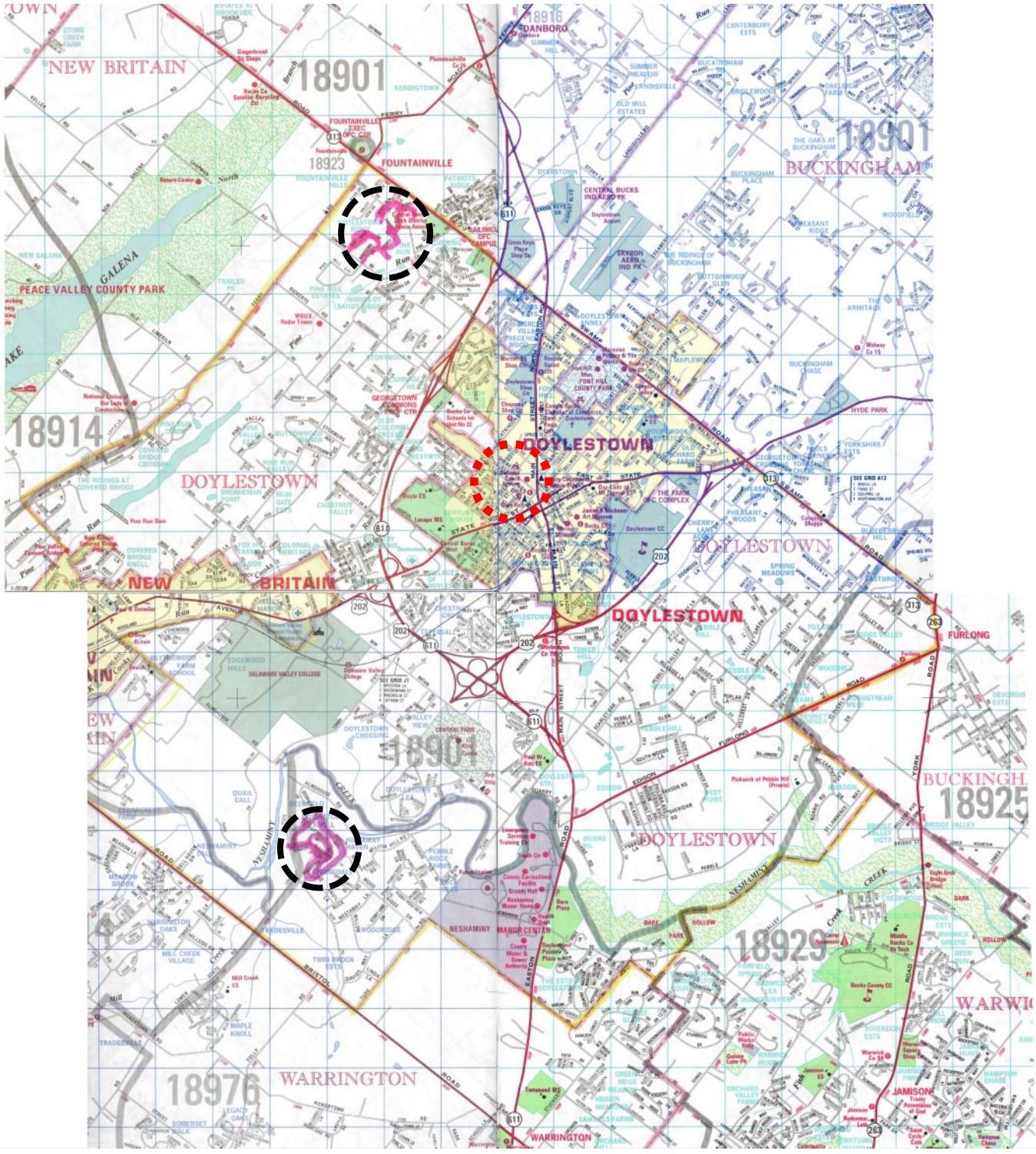
Figure 6: The Fountain House

[†] The Fountain House is now occupied by Starbucks Coffee with a resultant increase in activity and street life.



Pennsylvania

Figure 7.



Map source: ADC Street Map Book, 2001.

Doylestown Borough and Township

Figure 8.

gathering areas. The pattern of development is a modified grid (see Figure 11). In response to the doubling of population between 1870 to 1910, streets were opened and subdivisions were created. "The first planned subdivision was laid out by T.O. Atkinson in 1886, in the northwestern part of the Borough, in the vicinity of Union Street. One hundred and forty-two lots were offered for public sale" (DBPC, 1969, p. 11).

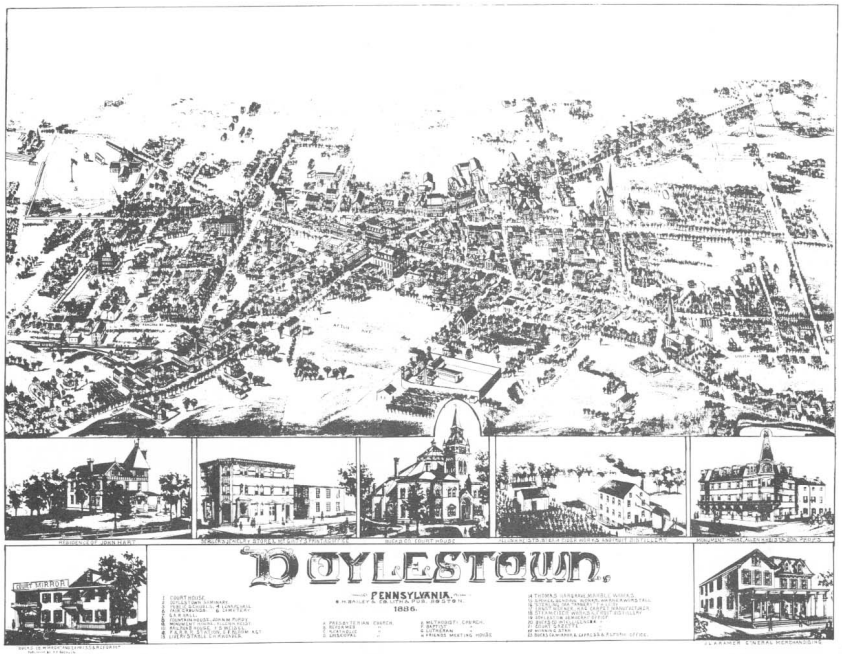


Figure 9: Bird's Eye View of Doylestown - 1886 (Source: DBPC, 1969,

"From the turn of the century on, Doylestown grew apace with the rest of Bucks County - and was notably popular and prosperous as the seat of county government. It became a professionals' town, with law and medicine among its top trades. Doylestown flourished as a region where art, architecture and good dining were revered, along with farming history, and other venerable trades, crafts and traits

Figure 10: Doylestown, 2000 (Photo: Fabry).

which had contributed to its particular indigenous identity" (Development Solutions, 2001). In the 1960's a shopping center and parking garage were built to accommodate an increase in population and automobile use (DBPC, 1969, p. 15).

The National Trust for Historic Preservation provides a good description of what Doylestown Township and Borough are like today. "Downtown Doylestown invites walking, with sidewalks lined with brick pavers and reproduction Victorian street lamps. Unique specialty shops offer antiques, crafts, and jewelry, alongside cafes, restaurants, and national retailers offering the latest clothing and furniture styles. Its cultural facilities include a newly renovated art deco theater, a Community Conservatory of Music, and cozy clubs for comedy, music, and theater performances. The town's seven municipal parks cover 80 acres and include fishing ponds, fitness courses, and nature trails through a natural forest. Doylestown's annual Oktoberfest is the town's largest organized event, with all proceeds dedicated to ongoing improvements and development of the park system (National Trust for Historic Places, 2001).

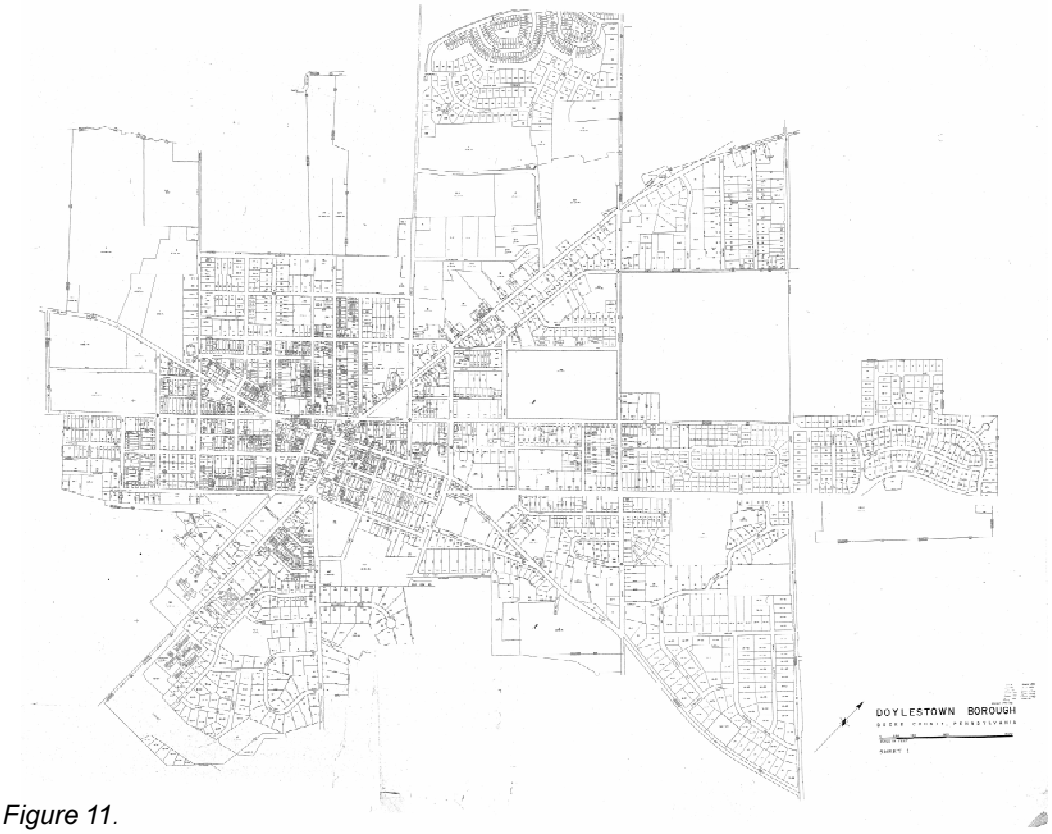
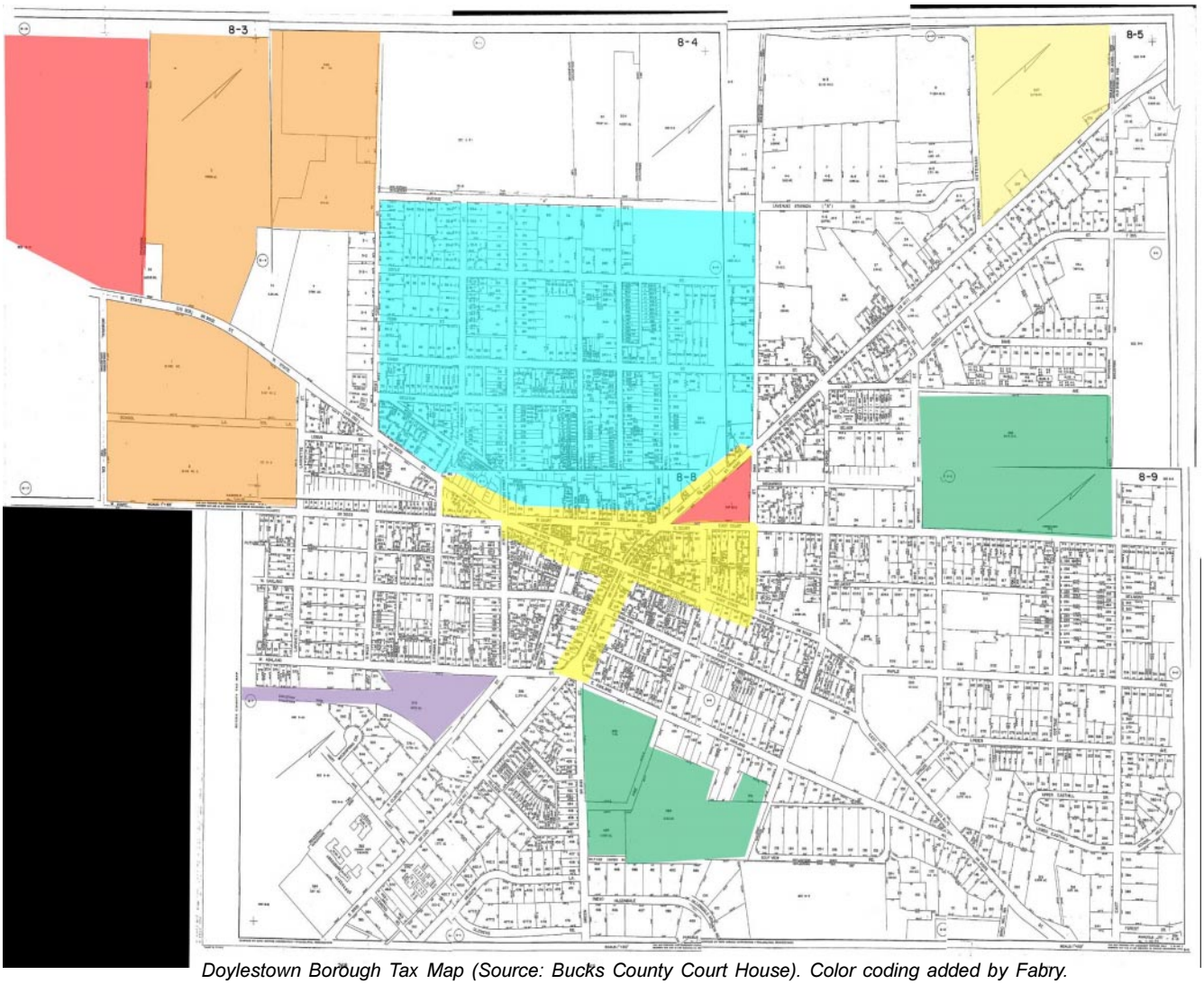


Figure 11.

Description of Neighborhoods Surveyed

The Doylestown Borough neighborhood surveyed comprises the first subdivision as laid out by T.O. Atkinson. It sits in the northwest portion of the Borough, and is bound by State Street, West Street, Broad Street, and Main Street. An elementary school, junior-high school, and a senior-high school are within walking distance (roughly a half of a mile from the furthest reaches) of the neighborhood. The railroad is at most three-quarters of a mile from the furthest reaches of the neighborhood. The center of the Borough with boutique shopping, the courthouse, restaurants and entertainment, is about a half of a mile form the furthest reach of the neighborhood. The Doylestown Shopping Center is within walking distance for the edge of then neighborhood closest to it, but is about a mile for those at the furthest edge from the shopping center. However, there is a small grocery store located at Franklin and State Streets. There is a variety of lot sizes, ranging from 5,000 sq ft (.10 acre) to , 16,000 sq ft (37 acre), and there is a mix of single family detached homes, single family attached, and granny flat apartments. Doctors' offices, pubs, and dancing schools are some of the non-residential uses in this mixed use neighborhood. Streets are roughly 30' from curb to curb, with on-street parking, with street trees and sidewalks. Alleys further dissect the neighborhood. The Township neighborhoods are located at the Township edge. The first neighborhood, Doylestown

Figure 12: Tax Parcel Map of Doylestown Borough Survey Neighborhood (Source: Bucks County Courthouse).



Doylestown Borough Tax Map (Source: Bucks County Court House). Color coding added by Fabry.

Borough Neighborhood Surveyed

Mixed Use Downtown Core

Courthouse

High School, Middle School, and Elementary School

Park/Museum/Open Space

1960's Shopping Center

Railroad

Figure 13.

Ridge, is bound by Chapman Road, Ferry Road, Swamp Road, and Pine Run Road. It is about a mile and a half from the neighborhood entrance to the Doylestown Shopping Center and it is about two and a quarter miles to Borough Center. Primary access to these nodes would be by car as there are no established pedestrian routes with sidewalks providing connection. The high school, junior high school, and elementary school are about two and three-quarter miles from the neighborhood. Peace Valley Park, the area's reservoir and a major recreation center, is within a mile of the neighborhood. Average lot size is 30,000 sf (.68 acre). Set backs are 50 feet. Roads are 50 feet from curb to curb, and there are no sidewalks. All homes are single family detached. This neighborhood has about 200 feet in elevation change and some of the properties command quite a view.

The second Township neighborhood surveyed, Doylestown Knoll, is bound by Lower State Road, and then by vegetation buffers between other development. Its road system connects to previous subdivisions but it is essentially its own entity. It is roughly two miles from the Borough, shopping, and schools. Lot sizes range from 15,000 sq. ft. (.34 acre) to 30,000 sq. ft (.68 acre) , and the road is 30 feet from curb to curb, with intermittent sidewalks. All homes are single family detached. The neighborhood incorporates the old farmhouse that once was in ownership of the entire property.

Bucks County, Pennsylvania, and more specifically Doylestown, Pennsylvania, was chosen as the study area because of the researcher's sincere interest in the region's development patterns and style. The researcher became a resident of the area in 1980 and lived there until 1991. Thereafter, the researcher repeatedly returned the area for varying lengths of time, and observed significant increases in land development during each visit.

Because Doylestown Borough is a traditional town like those on which the New Urbanists base many of their design guidelines, the researcher is using it as a proxy for a New Urban development. Development in Doylestown Township is more consistent with Conventional Suburban Development. Homeowners living in the traditional neighborhood and homeowners living in the conventional neighborhood are surveyed to determine if there is validity to the claim that homeowners are buying homes in Conventional Suburban Developments because that is all that the market provides.

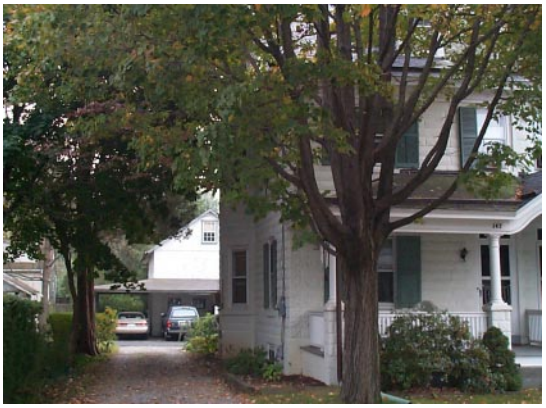
Single Family Detached Home

Single Family Attached Homes

Mixed-uses, set back, sidewalk, trees and on street parking

Density of Housing

Alleys



Parking in Rear, Granny flat

Figure 14: Photos of Doylestown Borough Traditional Survey Neighborhood

All Photos: S. Fabry

Sample Selection

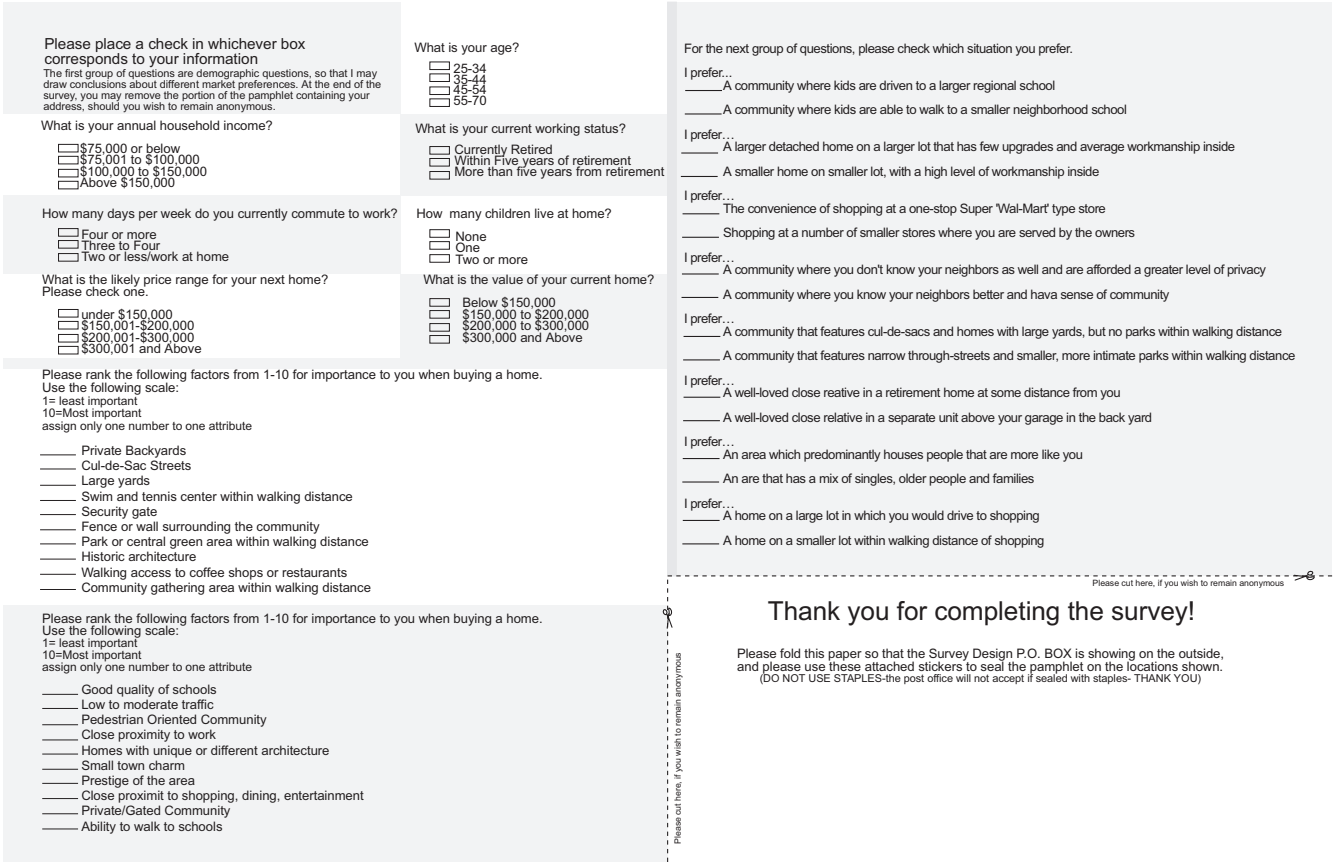
As stated previously, one hundred homeowners in a Traditional Neighborhood within the Borough were surveyed. And a total of one hundred homeowners from two Conventional Suburban Developments in the Township were surveyed. The neighborhoods were selected based upon the researcher's knowledge of the neighborhoods' physical form, and geographic placement within the township. The sample was derived by using a direct-mail service. A centrally located household address within the study neighborhoods was entered into the direct-mail database. All homeowners within a .3 mile radius from this address (contained in the direct-mail database) were returned. Only addresses that were listed as having a 'residence type' as 'House' and 'Location type' as 'Single family house' were selected.

In each case, more addresses than were to be sampled were returned. At this point, the researcher used an online random number selector (Urbaniak and Plous, 2003). Using the list provided by the random number selector, the researcher selected homeowners from the lists with the matching number.

The Survey

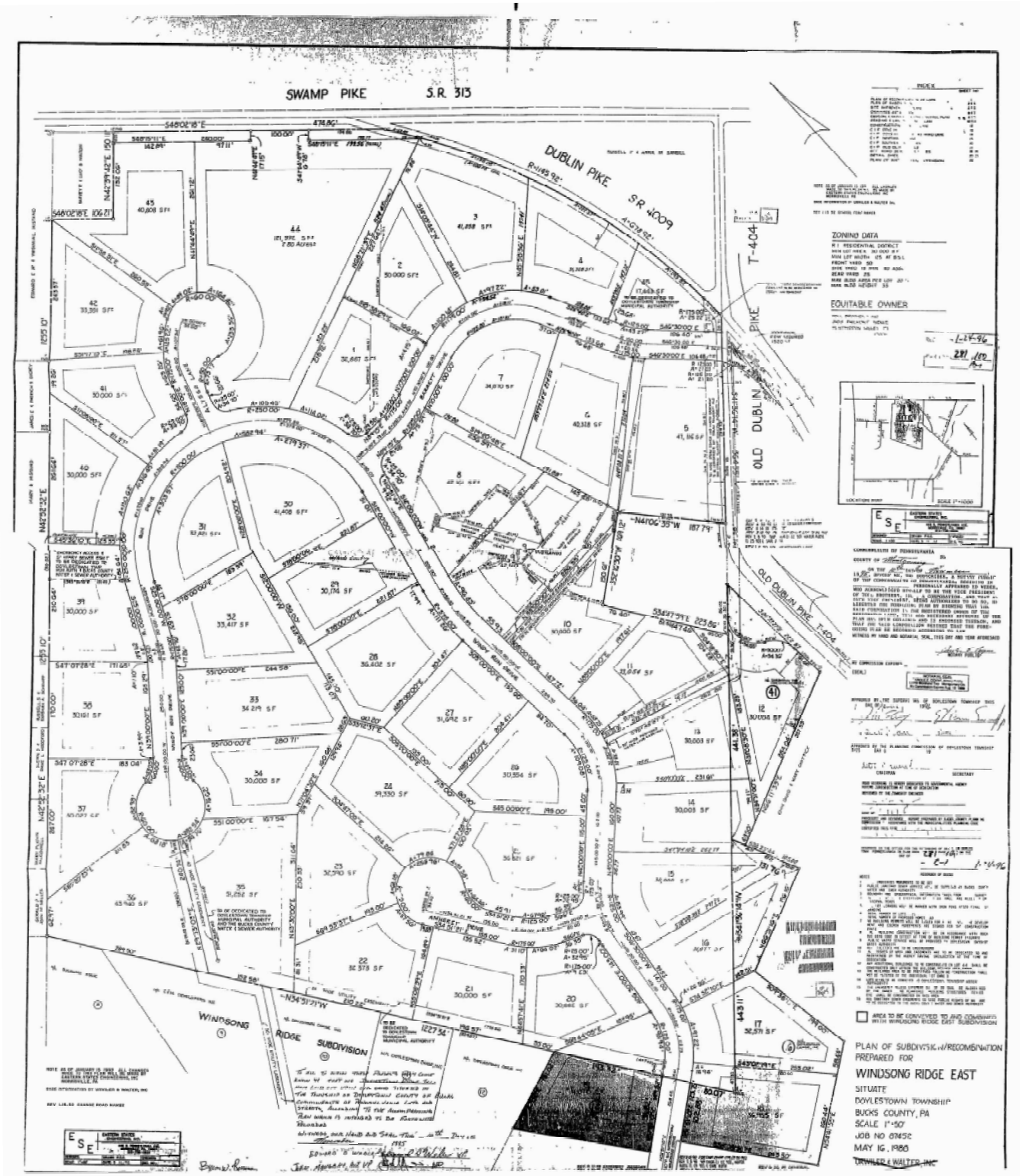
The researcher contacted RCLCO to obtain the results of the Atlanta region survey. Upon receiving the results, the researcher prepared a survey, which attempts to emulate the format in which RCLCO presented its questions. The questions were listed on one side of an 11"x17" sheet of paper and the addresses and introductions were on the other side of the sheet (See Figure 15). The sheet was formatted so that envelopes were not necessary. The 11"x17" sheet was folded in half and then tri-folded. When the recipient was finished with the survey, they were given written and diagrammatic instructions to fold the sheet so that the Survey P.O. box was displaying. The surveys were affixed with the necessary return postage, to encourage recipients to return the survey. The portion of the survey with the recipient's address was removable in the event that the recipient wanted to ensure anonymity. The survey was designed in this format for simplicity and to improve response rates.

The first section of the survey was a series of seven demographic questions. These questions were proceeded by a paragraph explaining their purpose and instructing the recipients that these questions



Actual size 11x17

Figure 15: Survey Questionaire



Source: Bucks County Courthouse

Figure 16: Doylestown Ridge Subdivision Plan

Single Family Detached Home with 3 Car Garage

Single Family Detached Home

Cul-de-Sac

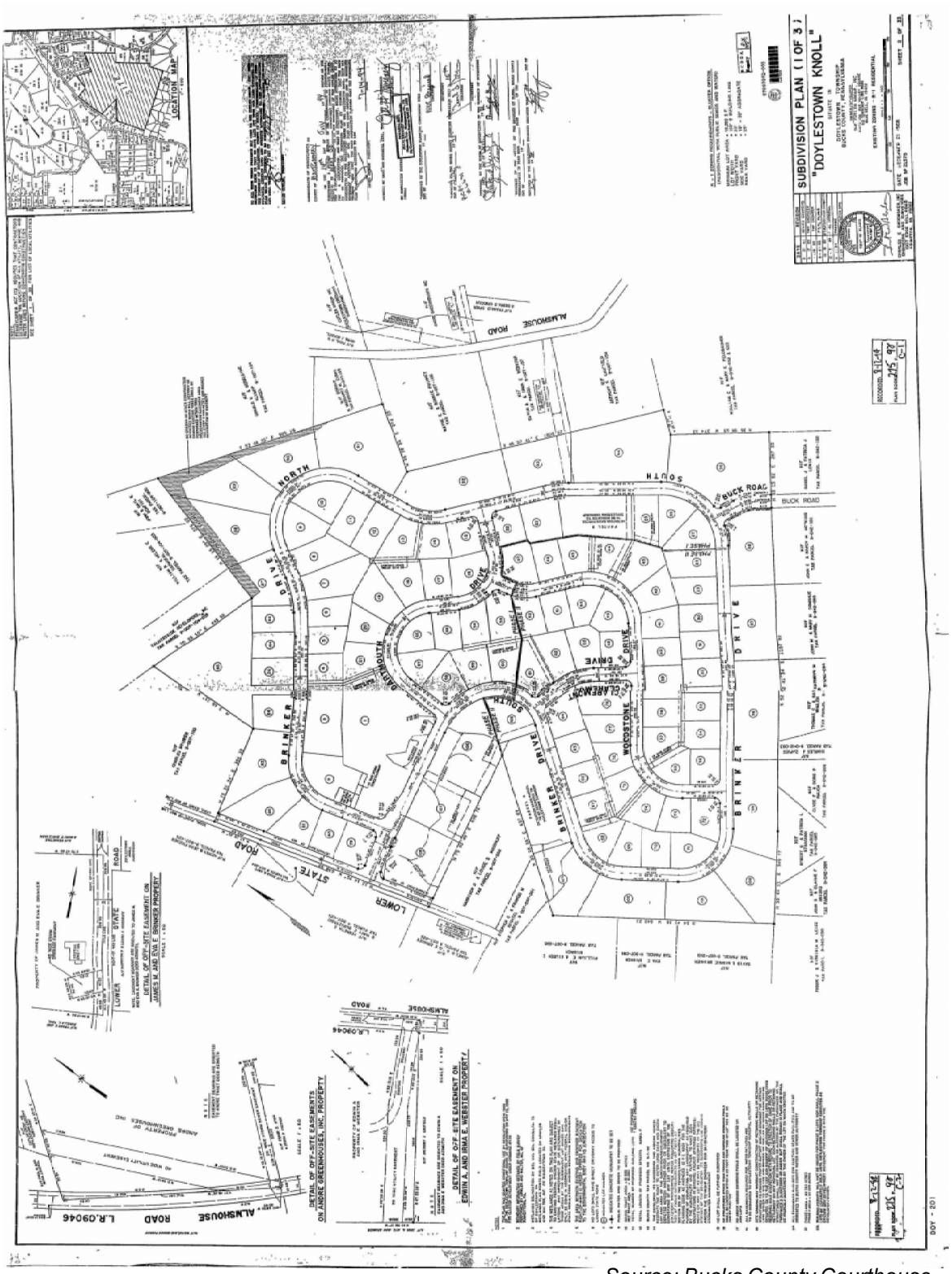
Street, no sidewalk, no on-street parking

Large lot, large sideyard, setback

Views

Figure 17: Photos of Doylestown Ridge
Conventional Suburban Survey Neighborhood (1)

All Photos: S. Fabry



Source: Bucks County Courthouse

Figure 18: Doylestown Knoll Subdivision Plan

Single Family Detached Home

Single Family Detached Homes with Garages at Front of House

Setback

Street, sidewalk, setback

Street

Street

Figure 19: Photos of Doylestown Knoll
Conventional Suburban Survey Neighborhood (2)

All Photos: S. Fabry

were optional. Making these questions optional was done to encourage recipients to complete the rest of the survey, in the event that they were not comfortable disclosing information such as income level, etc. The second section of the survey was comprised of two series of ranking questions. These questions were to determine which neighborhood attributes are most important to homebuyers. The third section of the survey was a series of eight trade-off questions asking the recipient to chose between two neighborhood attributes.

Validity and Reliability

This study is valid because the measurement technique meets the research objectives of determining homeowner preferences for neighborhood design as defined in this study. This is a case study which used a quota sample, therefore results are only valid for the neighborhoods surveyed. However, the researcher feels that the results could be extrapolated to similar markets in Bucks County and the United States. Additionally, when the results of this study are combined with the results of RCLCO's other research, a clearer picture of the market preferences becomes apparent. This study is reliable because the likelihood that this study procedure will yield the same description of results if repeated is high.

CHAPTER IV

RESULTS

About the respondents

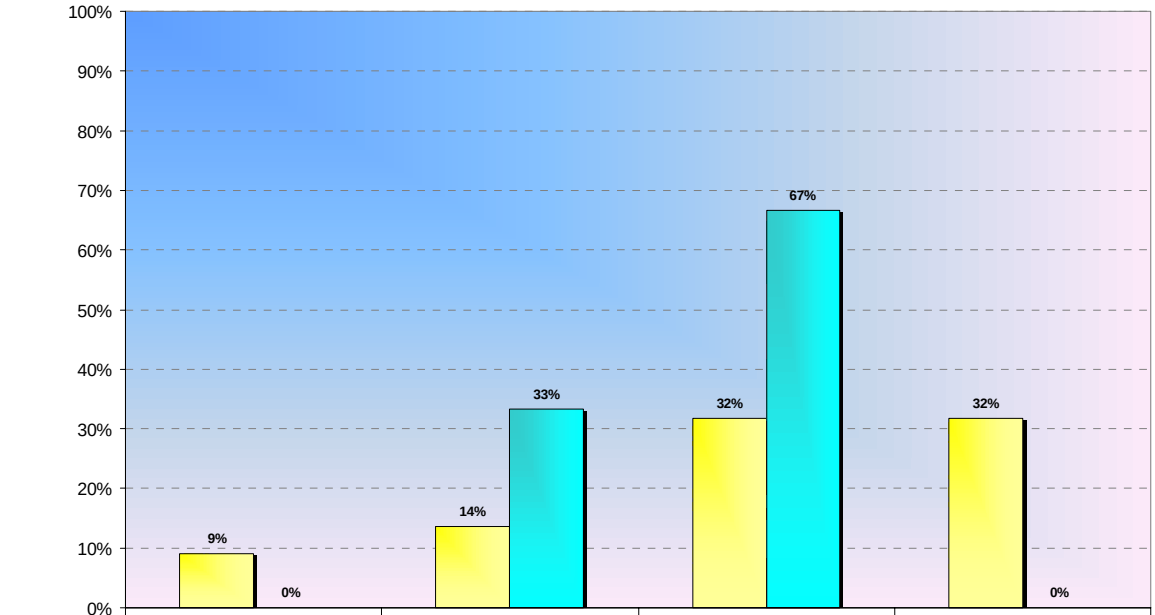
As stated in the methodology, the respondents of this survey were homeowners in Doylestown Borough, Pennsylvania and Doylestown Township, Pennsylvania. The researcher chose Doylestown because of her local knowledge of the area, and to serve as a an example of similar populations in the rest of the county. Residents of the Borough were sampled because the Borough has many of the attributes that New Urbanists incorporate into their designs. It serves as a proxy for a New Urban neighborhood.

The advantage that the Borough has over a true New Urban neighborhood/development is that is has an intact residential base, and existing commercial, mixed-use, institutional, and transportation systems. Many New Urban designs are developed in phases, and therefore can be lacking a major component of their ideal development. In this case, the Borough has all of the elements of a New Urban neighborhood, and the residential base that is familiar with all the neighborhood attributes. Residents of the Township were surveyed because the style of development in which they live is a standard subdivision and because of their proximity to the Borough, it is likely that they too will be familiar with traditional neighborhood attributes.

AGE

The majority of respondents in both the Borough and Township are between 45 and 54 years of age. This age group makes up a significant percentage of the Township residents (67%), with the remaining respondents being between 35 – 44 years of age. The Borough respondents were more stratified with 9% being between ages 25 - 43; 14% between 35 – 44, the remainder split evenly between the 45 - 54 and 55 – 70 age groups. These statistics coincide with Census age data (see figures 20, 21, and 22).

AGE OF RESPONDENTS



	25-34	35-44	45-54	55-70
BOROUGH	9%	14%	32%	32%
TOWNSHIP	0%	33%	67%	0%

Figure 20.

Geographic area: Doylestown borough, Pennsylvania

Subject	Number	Percent
Total population	**8,227**	**100.0**
SEX AND AGE		
Male	3,639	44.2
Female	4,588	55.8
Under 5 years	377	4.6
5 to 9 years	381	4.6
10 to 14 years	358	4.4
15 to 19 years	359	4.4
20 to 24 years	356	4.3
25 to 34 years	1,185	14.4
35 to 44 years	1,182	14.4
45 to 54 years	1,192	14.5
55 to 59 years	426	5.2
60 to 64 years	318	3.9
65 to 74 years	740	9.0
75 to 84 years	822	10.0
85 years and over	531	6.5
Median age (years)	44.2	(X)

Source: U.S. Census Bureau, Census 2000.

Figure 21.

Geographic area: Doylestown township, Bucks County, Pennsylvania

Subject	Number	Percent
Total population	**17,619**	**100.0**
SEX AND AGE		
Male	8,661	49.2
Female	8,958	50.8
Under 5 years	989	5.6
5 to 9 years	1,183	6.7
10 to 14 years	1,289	7.3
15 to 19 years	1,025	5.8
20 to 24 years	628	3.6
25 to 34 years	1,689	9.6
35 to 44 years	3,111	17.7
45 to 54 years	2,676	15.2
55 to 59 years	1,039	5.9
60 to 64 years	817	4.6
65 to 74 years	1,354	7.7
75 to 84 years	1,133	6.4
85 years and over	686	3.9
Median age (years)	41.5	(X)

Source: U.S. Census Bureau, Census 2000.

Figure 22.

INCOME

Of the Borough respondents, 68% earn less than $75,000, 23% earn between $75,000 and $100,000, and 9% earn between $100,000 and $150,000. No Borough respondents earn more than $150,000. The majority of Township respondents (40%) earn above $150,000. 33% earn between $100,000 and $150,000, 20% earn between $75,000 and $100,000, and no respondents earn less than $75,000. These results are fairly consistent with U.S. Census data (see figures 23, 24 and 25). When the respondents' results for the Township and Borough are combined, the statistics more closely reflect the Borough respondents (41% earn under $75,000; 22% earn between $75,000 and $100,000; 19% earn between $100,000 and $150,000; and 16% earn above $150,000.

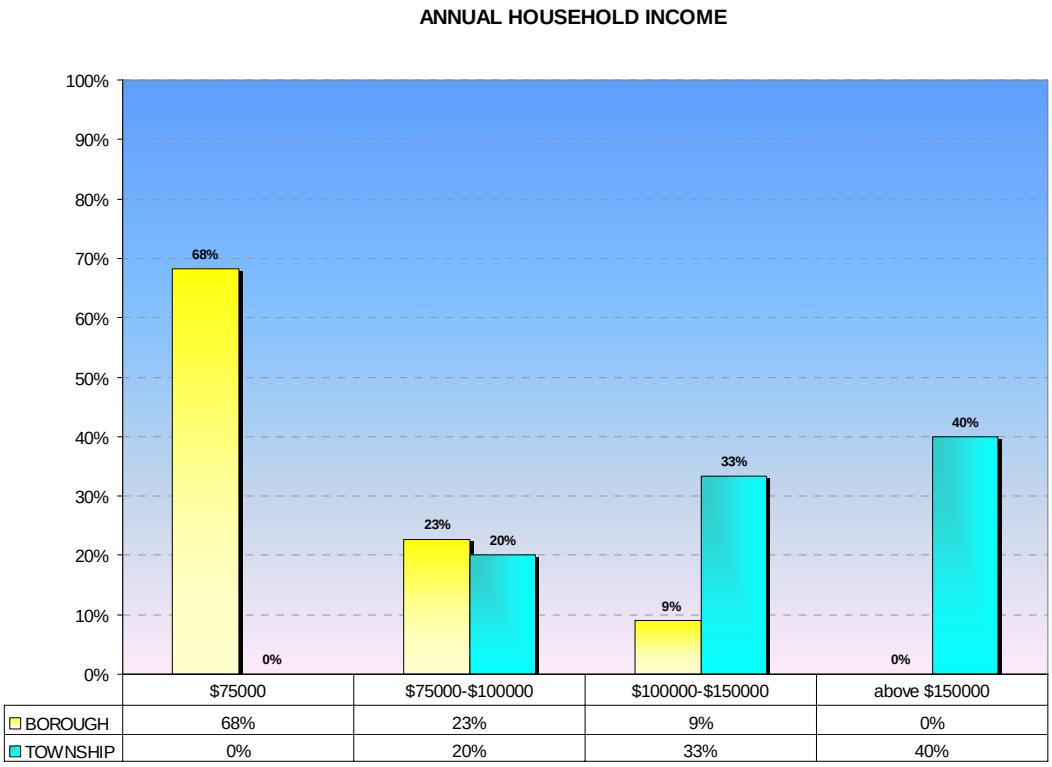


Figure 23.

Geographic area: Doylestown borough, Pennsylvania

Subject	Number	Percent
INCOME IN 1999		
Households	**3,979**	**100.0**
Less than $10,000	284	7.1
$10,000 to $14,999	269	6.8
$15,000 to $24,999	489	12.3
$25,000 to $34,999	480	12.1
$35,000 to $49,999	592	14.9
$50,000 to $74,999	693	17.4
$75,000 to $99,999	480	12.1
$100,000 to $149,999	398	10.0
$150,000 to $199,999	115	2.9
$200,000 or more	179	4.5
Median household income (dollars)	46,148	(X)

Source: U.S. Bureau of the Census, Census 2000.

Figure 24.

Geographic area: Doylestown township, Bucks County, Pennsylvania

Subject	Number	Percent
INCOME IN 1999		
Households	**5,983**	**100.0**
Less than $10,000	217	3.6
$10,000 to $14,999	179	3.0
$15,000 to $24,999	329	5.5
$25,000 to $34,999	347	5.8
$35,000 to $49,999	539	9.0
$50,000 to $74,999	1,070	17.9
$75,000 to $99,999	976	16.3
$100,000 to $149,999	1,135	19.0
$150,000 to $199,999	609	10.2
$200,000 or more	582	9.7
Median household income (dollars)	81,226	(X)

Source: U.S. Bureau of the Census, Census 2000.

Figure 25.

VALUE OF CURRENT HOME

Here again, we see a marked difference between the Borough and the Township. All of the Township respondents who answered this question chose $300,000 or above for the value of their current home. On the other hand, no respondents from the Borough selected the $300,000 or above category. Forty-one percent chose the $200,000 - $300,000 category, and 18% selected below $150,000. Again, these statistics reflect the existing situation as derived by the U.S. Census Bureau (See figures 26, 27, and 28).

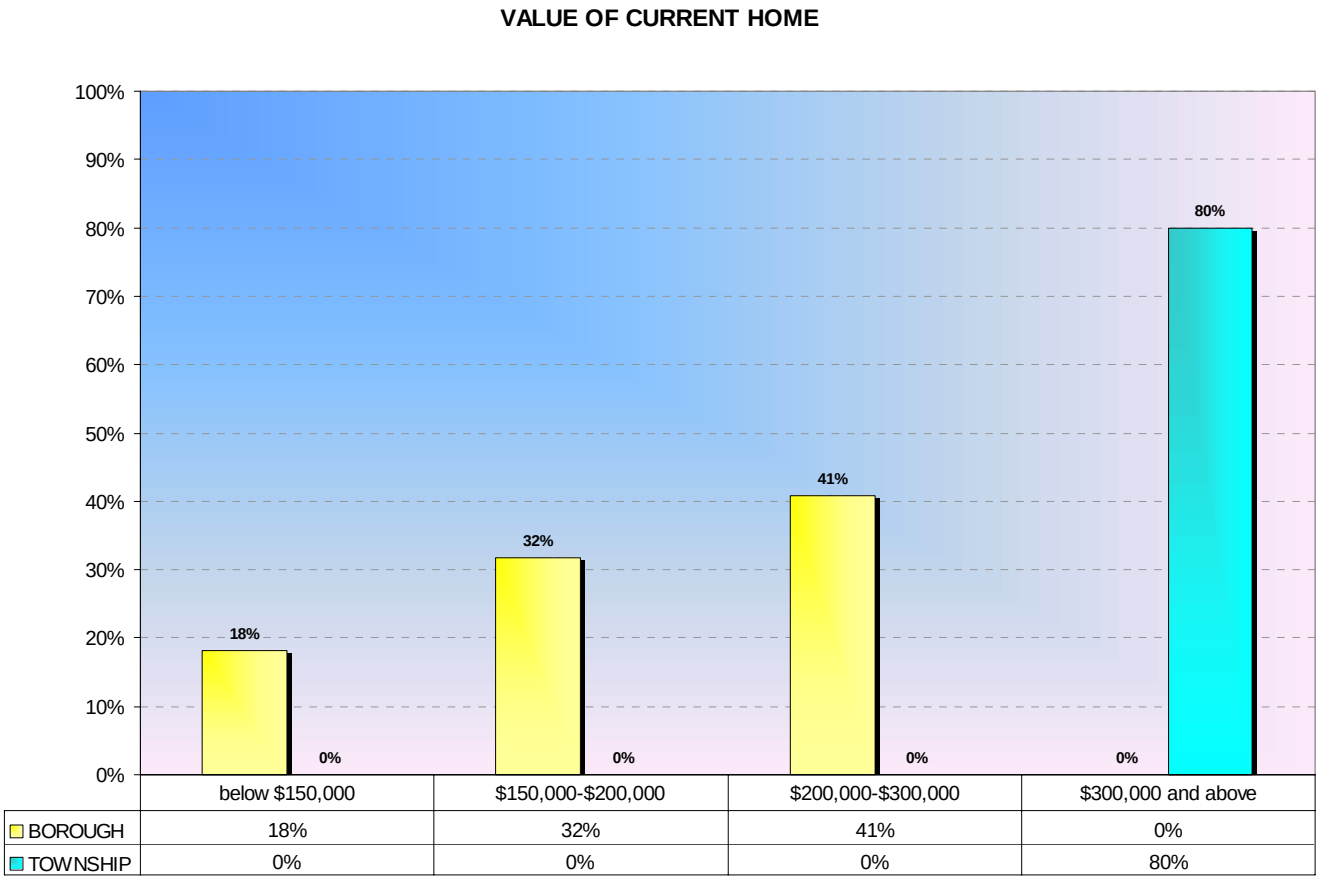


Figure 26.

Geographic area: Doylestown borough, Pennsylvania

Subject	Number	Percent
Specified owner-occupied units	**1,690**	**100.0**
VALUE		
Less than $50,000	8	0.5
$50,000 to $99,999	40	2.4
$100,000 to $149,999	403	23.8
$150,000 to $199,999	624	36.9
$200,000 to $299,999	410	24.3
$300,000 to $499,999	175	10.4
$500,000 to $999,999	19	1.1
$1,000,000 or more	11	0.7
Median (dollars)	180,800	(X)

Source: U.S. Bureau of the Census, Census 2000.

Figure 27.

Geographic area: Doylestown township, Bucks County, Pennsylvania

Subject	Number	Percent
Specified owner-occupied units	**4,472**	**100.0**
VALUE		
Less than $50,000	29	0.6
$50,000 to $99,999	35	0.8
$100,000 to $149,999	548	12.3
$150,000 to $199,999	807	18.0
$200,000 to $299,999	1,886	42.2
$300,000 to $499,999	1,050	23.5
$500,000 to $999,999	103	2.3
$1,000,000 or more	14	0.3
Median (dollars)	253,200	(X)

Source: U.S. Bureau of the Census, Census 2000.

Figure 28.

LIKELY PRICE RANGE OF NEXT HOME

Residents of the Borough and Township were at odds in their responses to this question. The majority of residents from the Borough (41%) responded that the price of their next home was likely to be under $150,000. Eighteen percent responded that their next home would cost between $150,000 and $200,000; 14% responded their next house would cost between $200,000 and $300,000, and only 9% responded that the cost of the next home would be above $300,000. In contrast, the majority of Township respondents (53%) chose the $300,000 and above price range for the cost of the next home. Twenty-seven percent of responded that the likely price range of their next home was between $200,000 and $300,000; 13% chose $150,000-$200,000, and no Township respondents selected the under $150,000 price range. This corresponds to the two groups' differences in median income (see figure 29).

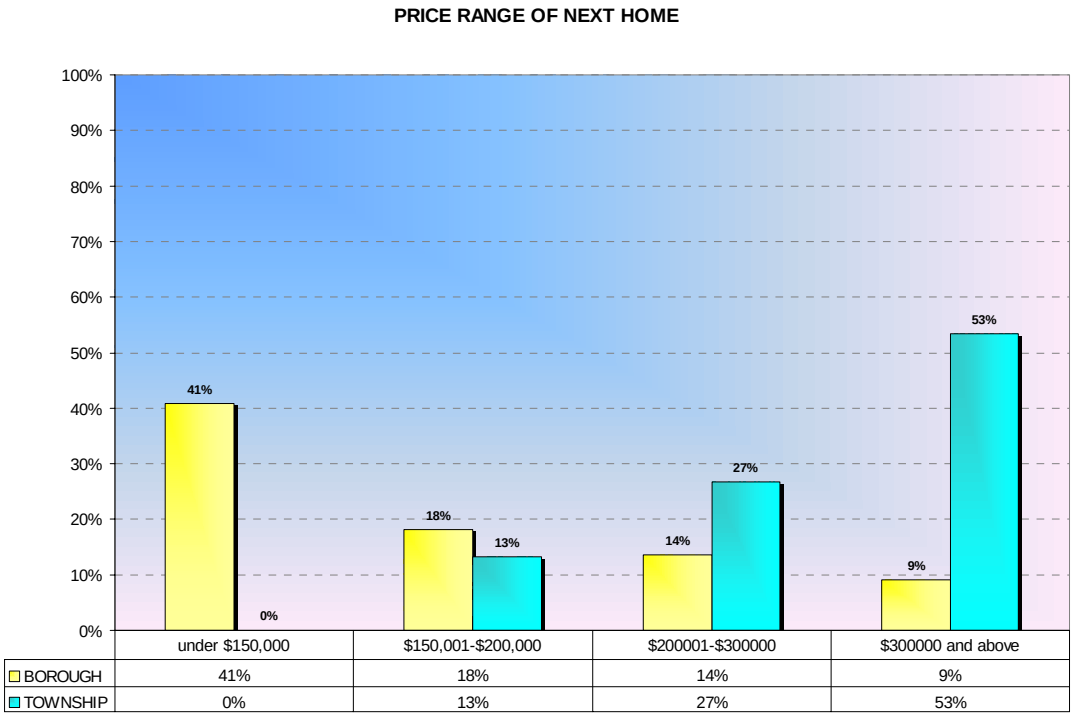


Figure 29.

CURRENT WORKING STATUS

The majority of respondents from both the Borough and Township are more than five years from retirement. Only 7% of the Township respondents are currently retired, with the rest the respondents who answered this question (73%) choosing 'more than 5 years from retirement'. Most of the

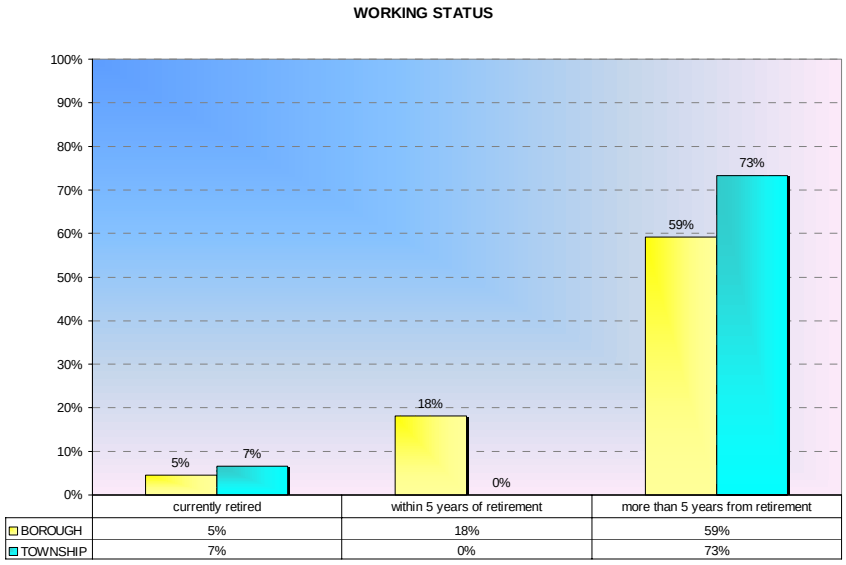


Figure 30.

Borough respondents (59%) are more than five years from retirement; 18% responded that they are five years from retirement, and 5% are currently retired (see figure 30).

NUMBER OF CHILDREN LIVING AT HOME

In this category, the Borough and Township are at variance (see figures 31, 32, and 33). Fifty percent of the Borough respondents have no children living at home; 32% have two or more living

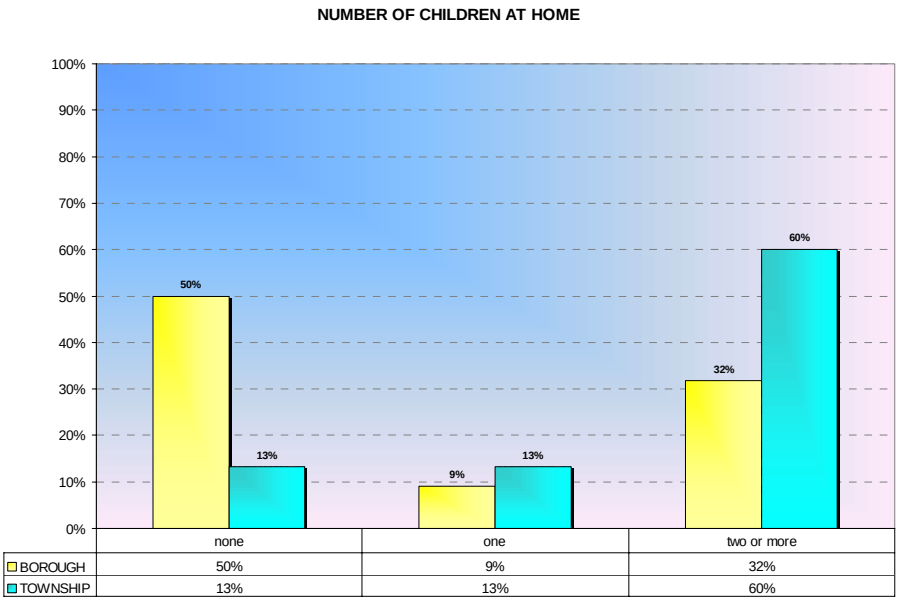


Figure 31.

Geographic area: Doylestown borough, Pennsylvania

Subject	Number	Percent
HOUSEHOLD BY TYPE		
Total households	**3,952**	**100.0**
Family households (families)	1,907	48.3
With own children under 18 years	750	19.0
Married-couple family	1,540	39.0
With own children under 18 years	596	15.1
Female householder, no husband present	283	7.2
With own children under 18 years	116	2.9
Nonfamily households	2,045	51.7
Householder living alone	1,754	44.4
Householder 65 years and over	901	22.8
Households with individuals under 18 years	806	20.4
Households with individuals 65 years and over	1,417	35.9
Average household size	1.98	(X)
Average family size	2.82	(X)

Source: U.S. Census Bureau, Census 2000.

Figure 32

Geographic area: Doylestown township, Bucks County, Pennsylvania

Subject	Number	Percent
HOUSEHOLD BY TYPE		
Total households	**5,999**	**100.0**
Family households (families)	4,446	74.1
With own children under 18 years	2,104	35.1
Married-couple family	4,004	66.7
With own children under 18 years	1,901	31.7
Female householder, no husband present	338	5.6
With own children under 18 years	155	2.6
Nonfamily households	1,553	25.9
Householder living alone	1,317	22.0
Householder 65 years and over	704	11.7
Households with individuals under 18 years	2,174	36.2
Households with individuals 65 years and over	1,685	28.1
Average household size	2.63	(X)
Average family size	3.11	(X)

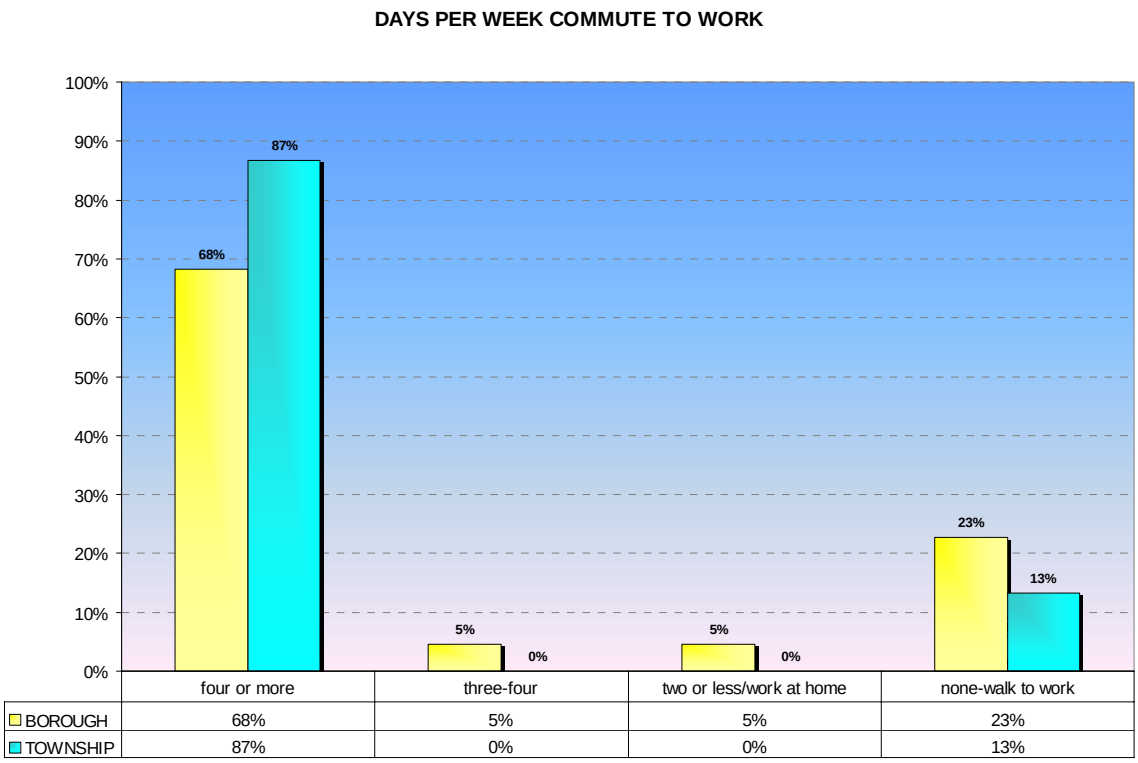
Source: U.S. Census Bureau, Census 2000.

Figure 33

at home, and 9% responded that they have one child living at home. In contrast, 60% of the Township respondents reported to have two or more children living at home, with the other choices each receiving 13% of the remaining responses.

COMMUTE

The majority of respondents from the Borough (68%) and the Township (87%) commute to work four or more days per week. Twenty-three percent of Borough respondents reported that they don't commute to work, or that they walk, which makes sense due to their proximity to the local business center. According to the U.S. Census approximately 6 percent of the Borough walks to work, as opposed to the 1% of Township residents that commute by walking (see figures 35 and 36). Thirteen percent of Township respondents reported that they didn't commute or that they walked to work. And very few respondents reported that they commuted to work less than four days per week or that they worked at home.



	four or more	three-four	two or less/work at home	none-walk to work
BOROUGH	68%	5%	5%	23%
TOWNSHIP	87%	0%	0%	13%

Figure 34

Geographic area: Doylestown borough, Pennsylvania

Subject	Number	Percent
COMMUTING TO WORK		
Workers 16 years and over	**4,191**	**100.0**
Car, truck, or van - - drove alone	3,324	79.3
Car, truck, or van - - carpooled	306	7.3
Public transportation (including taxicab)	92	2.2
Walked	244	5.8
Other means	35	0.8
Worked at home	190	4.5
Mean travel time to work (minutes)[1]	25.6	(X)

Source: U.S. Bureau of the Census, Census 2000.

Figure 35

Geographic area: Doylestown township, Bucks County, Pennsylvania

Subject	Number	Percent
COMMUTING TO WORK		
Workers 16 years and over	**8,131**	**100.0**
Car, truck, or van - - drove alone	6,872	84.5
Car, truck, or van - - carpooled	492	6.1
Public transportation (including taxicab)	136	1.7
Walked	87	1.1
Other means	68	0.8
Worked at home	476	5.9
Mean travel time to work (minutes)[1]	29.1	(X)

Source: U.S. Bureau of the Census, Census 2000.

Figure 36

Respondents' Opinions on Neighborhood Attributes

RANKING QUESTIONS

In the next two questions, respondents were asked to rank neighborhood attributes from 1 – 10, 1 being the least important factor when buying a home, 10 being the most important factor when buying a home. This part of the survey was not completed by many of the respondents in the manner intended by the surveyor. There seemed to be confusion on the part of some of the respondents. This confusion was manifested in a few ways. In some instances the initial ranking of the attributes was done using a reverse scale (i.e. making 1 the most important and 10 the least important – this is inferred by the surveyor because of a set of numbers being crossed out and then a new set was written in reverse order by the respondent). In other instances, respondents marked a 10 next to more than one attribute, and didn't assign other attributes a rank. And in some surveys, attributes were ranked 1 – 10 but not every attribute received a ranking.

This inconsistency in the responses is a result of the structure of the survey question. It is something one always has to take into account with ranking questions in surveys where an instructor is not present to answer questions and clarify directions. However, it may have been useful to have an example ranking of attributes for the respondents to gain a better understanding of what was being asked of them. The surveyor had considered this when creating the instrument, but did not include it for two reasons: 1) space was a limiting factor, and 2) she didn't want to bias any of the respondents towards certain attributes. However, if repeating the survey, it may be better to not include the ranking questions or to have accommodated a better instruction.

The results of the ranking questions will be included here, although they must given limited value, as the responses were so inconsistent.

RANKING QUESTIONS: SET ONE

Below is the first set of attributes survey respondents were asked to rank:

Please rank the following factors from 1-10 for importance to you when buying a home.
Use the following scale:
1= least important

10=Most important

assign only one number to one attribute

Private Backyards
Cul-de-Sac Streets
Large yards
Swim and tennis center within walking distance
Security gate
Fence or wall surrounding the community
Park or central green area within walking distance
Historic architecture
Walking access to coffee shops or restaurants
Community gathering area within walking distance

A private backyard was the most important factor when buying a home to the respondents. Next most important were large yards, a park or central green within walking distance and walking access to coffee shops or restaurants. Least important attributes to the respondents were a security gate, and a fence or wall surrounding the community.

RANKING QUESTIONS: SET TWO

Below is the first set of attributes survey respondents were asked to rank:

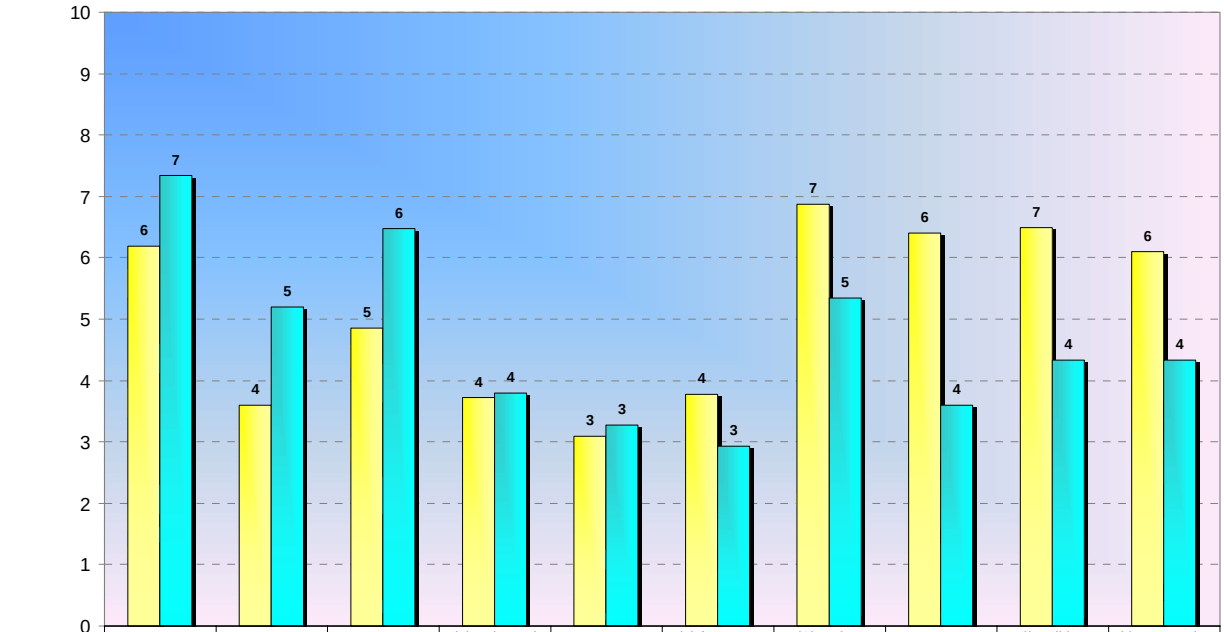
Please rank the following factors from 1-10 for importance to you when buying a home.
Use the following scale:
1= least important

10=Most important

assign only one number to one attribute

Private Backyards
Cul-de-Sac Streets
Large yards
Swim and tennis center within walking distance
Security gate
Fence or wall surrounding the community
Park or central green area within walking distance
Historic architecture
Walking access to coffee shops or restaurants
Community gathering area within walking distance

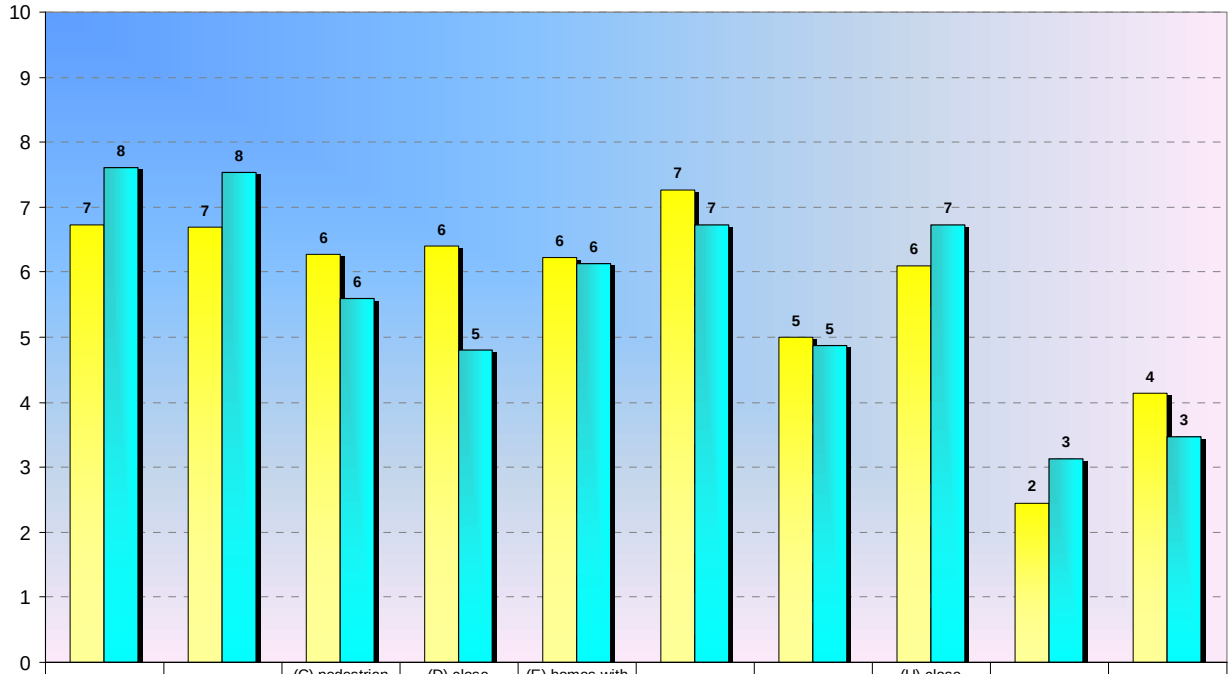
RANKING OF ATTRIBUTES SET I



	(A) private backyard	(B) cul-de-sac streets	(C) large yards	(D) swim and tennis center within walking	(E) security gate	(F) fence ore wall surrounding the community	(G) park or central green area within	(H) historic architecture	(I) walking access to coffee shops or	(J) community gathering area within walking
BOROUGH	6	4	5	4	3	4	7	6	7	6
TOWNSHIP	7	5	6	4	3	3	5	4	4	4

Figure 37

ATTRIBUTES SET II



	(A) good quality schools	(B) low to moderate traffic	(C) pedestrian oriented community	(D) close proximity to work	(E) homes with unique or different	(F) small town charm	(G) prestige of the area	(H) close proximity to shopping dining	(I) private gated community	(J) ability to walk to schools
BOROUGH	7	7	6	6	6	7	5	6	2	4
TOWNSHIP	8	8	6	5	6	7	5	7	3	3

Figure 38

In the second set of ranking questions, attributes that scored highest among respondents (average score of 7) were good quality schools, low to moderate traffic, and small town charm. Least important was having a private gated community. Ability to walk to schools also received relatively low ranking (average score of 4). A pedestrian oriented community, close proximity to work, close proximity to shopping and dining, and homes with unique or different architecture, attributes commonly associated with New Urbanism, all received a 5 or better (average score of 6) from both groups.

TRADE-OFF QUESTIONS

In the series of trade-off questions, residents were asked to choose which type of neighborhood attribute they preferred, choosing between two opposing scenarios. For example:

I prefer:
a community where kids are driven to a larger regional school
a community where kids are able to walk to a smaller neighborhood school

The results from this portion of the survey have much value because the format of the questionnaire in this section was clear and completed by almost all of the respondents. It is from this portion of the survey results that most conclusions will be drawn.

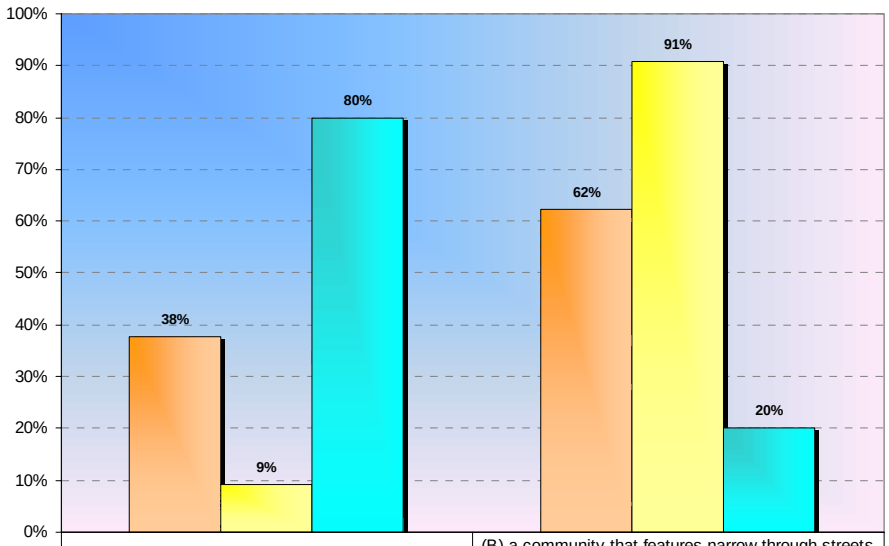
In all trade-off scenarios, when the results of the township and borough respondents are averaged, the majority of respondents chose the attribute associated with a New Urban style of development. (See Figures 30 and 31). However, when looking at the results of the Borough respondents, the majority of respondents chose the New Urban attributes by a significant percentage, often 90% or more. The Township respondents were much more evenly divided in their responses, and in some scenarios the majority chose the standard subdivision attribute.

When asked if they preferred a (A) community where you don't know your neighbors as well and are afforded a greater level of privacy or (B) a community where you know your neighbors better and have a sense of community, the Township residents preferred (A) to (B) by 20%. And when asked if they preferred (A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance or (B) a community that features narrow

through streets and smaller, more intimate parks within walking distance, the Township overwhelmingly preferred (A) by 60%.

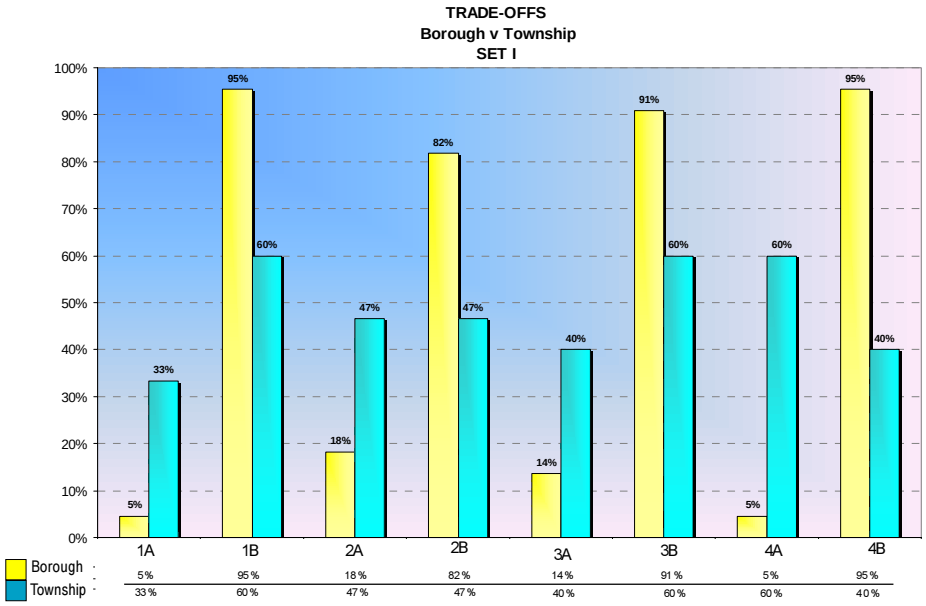
The one trade-off that the Borough was more closely divided on was the choice between having well-loved relative live in a retirement home at some distance or having them live in a unit above the garage or in the backyard. Only 55% of the Borough residents selected the New Urban associated attribute.

PREFERENCES REGARDING NEIGHBORHOOD LAYOUT



	(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance	(B) a community that features narrow through streets and smaller, more intimate parks within walking distance
SUMMARY OF ALL RESPONDENTS	38%	62%
BOROUGH	9%	91%
TOWNSHIP	80%	20%

Figure 39



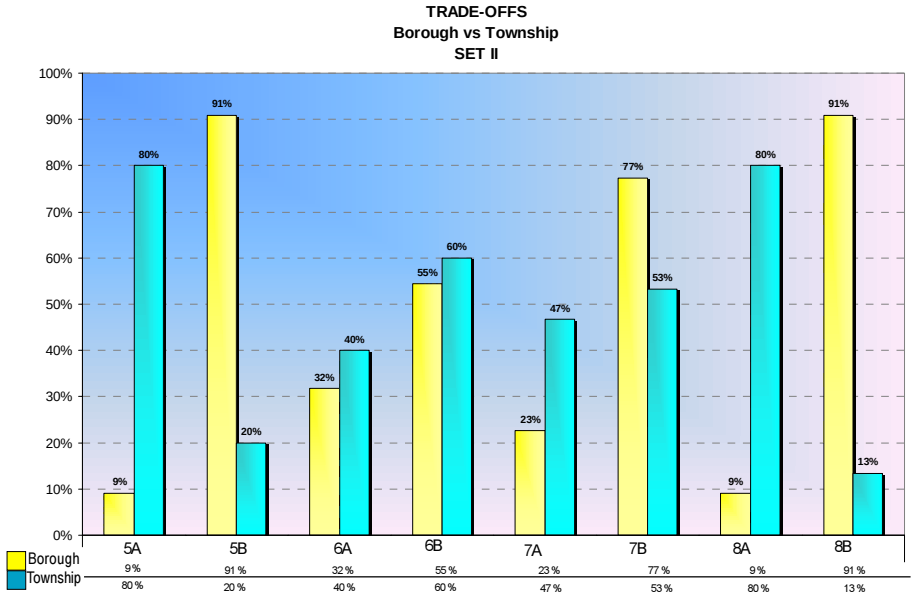
1(A) a community where kids are driven to a larger regional school
1(B) a community where kids are able to walk to a smaller neighborhood

2(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside
2(B) a smaller home on a smaller lot, with a high level of workmanship inside

3(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store
3(B) shopping at number of smaller stores where you are served by the owners

4(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy
4(B) a community where you know your neighbors better and have a sense of community

Figure 40



5(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance
5(B) a community that features narrow through streets and smaller, more intimate parks within walking distance

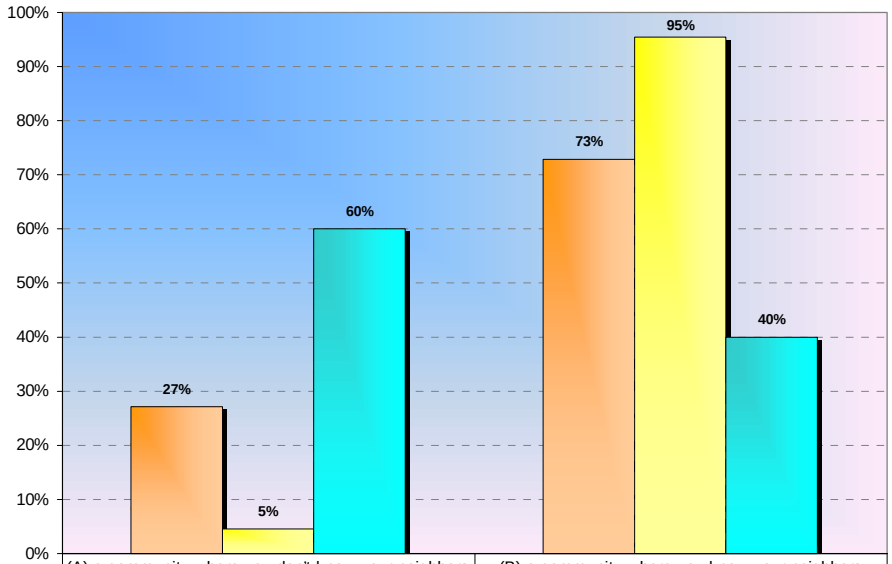
6(A) a well-loved close relative in a retirement home at some distance from you
6(B) a well loved close relative in a separate unit above your garage or in the back yard

7(A) an area which predominantly houses people that are more like you
7(B) and area that has a mix of singles, older people and families

8(A) a home on a large lot in which you drive to shopping
8(B) a home on a smaller lot within walking distance of shopping

Figure 41

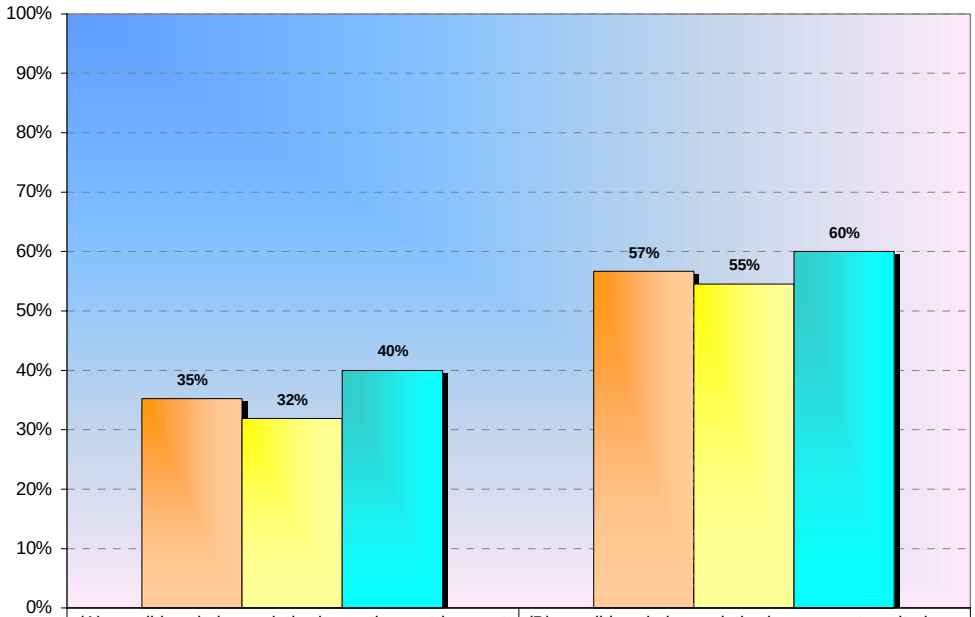
PREFERENCES REGARDING NEIGHBOR RELATIONS



	(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy	(B) a community where you know your neighbors better and have a sense of community
SUMMARY OF ALL RESPONDENTS	27%	73%
BOROUGH	5%	95%
TOWNSHIP	60%	40%

Figure 42

PRFERENCES REGARDING GRANNY FLATS



	(A) a well-loved close relative in a retirement home at some distance from you	(B) a well loved close relative in a separate unit above your garage or in the back yard
SUMMARY OF ALL RESPONDENTS	35%	57%
BOROUGH	32%	55%
TOWNSHIP	40%	60%

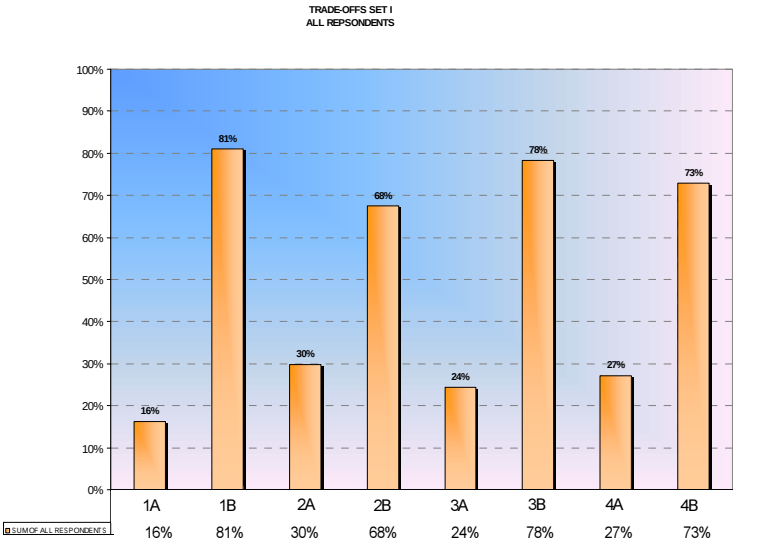
Figure 43

CHAPTER V

IMPLICATIONS AND CONCLUSIONS

Conclusions Based on Summary Results

What neighborhood attributes are most important to Doylestown homeowners? Upon review of the survey results, it can be concluded that collectively, Doylestown homeowners prefer neighborhoods that have traditional, or New Urban attributes. The key word being collectively. Most important to Doylestown homeowners are neighborhood attributes that affect "community feeling". Having schools within walking distance, privately owned small shops within walking distance, diversity among residents, and a sense of community, were attributes that received extremely high ratings among Doylestown respondents.



1(A) a community where kids are driven to a larger regional school
1(B) a community where kids are able to walk to a smaller neighborhood

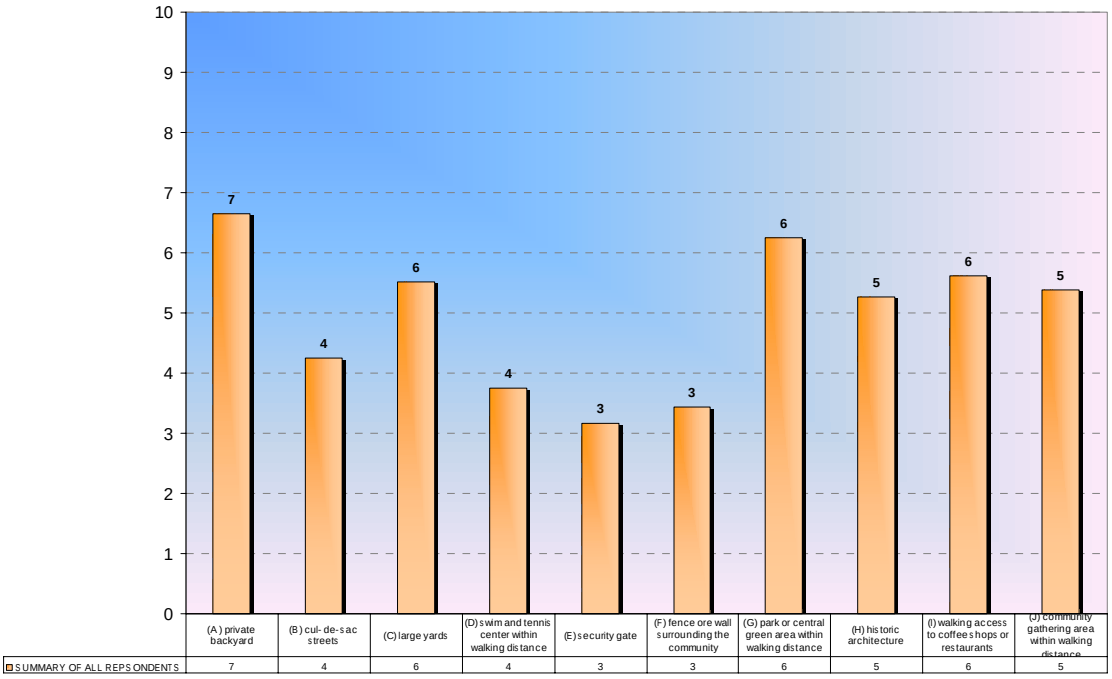
2(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside
2(B) a smaller home on a smaller lot, with a high level of workmanship inside

3(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store
3(B) shopping at a number of smaller stores where you are served by the owners

4(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy
4(B) a community where you know your neighbors better and have a sense of community

Figure 44. Trade-off of attributes, set I, sum of all respondents.

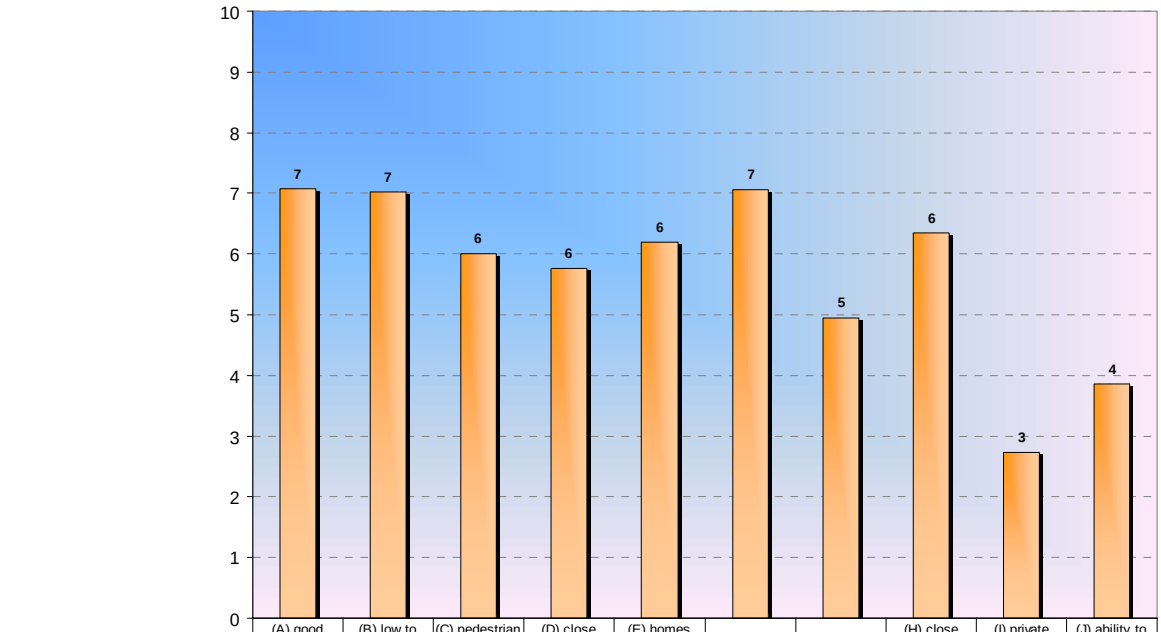
RANKING OF ATTRIBUTES - SET I



	(A.) private backyard	(B.) cul- de- sac streets	(C) large yards	(D) swim and tennis center within walking distance	(E) security gate	(F) fence ore wall surrounding the community	(G) park or central green area within walking distance	(H) historic architecture	(I) walking access to coffee shops or restaurants	(J) community gathering area within walking distance
SUMMARY OF ALL REPSONDENTS	7	4	6	4	3	3	6	5	6	5

Figure 45.

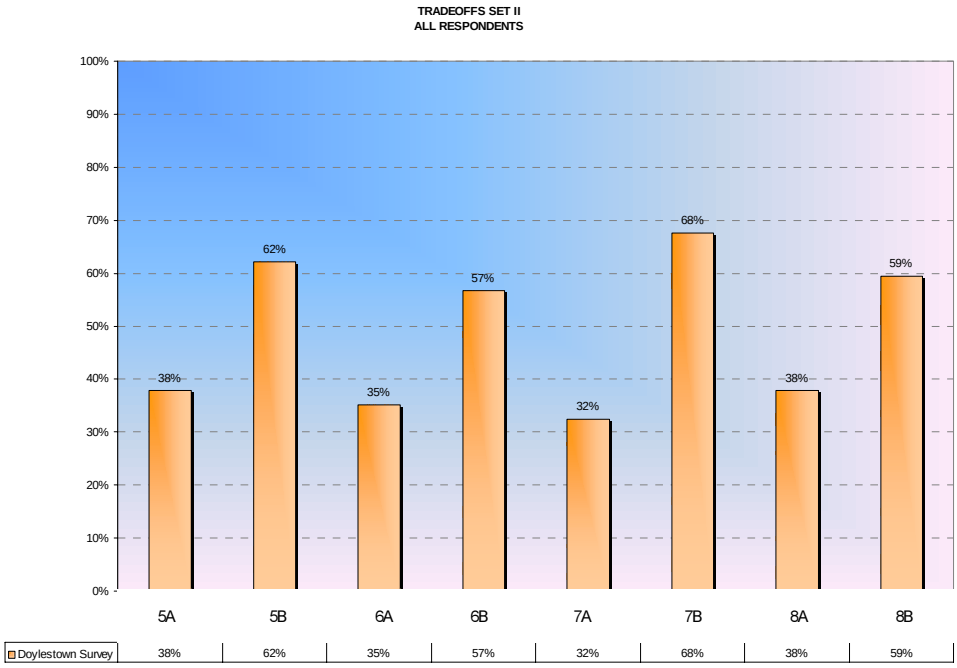
ATTRIBUTES SET II



	(A) good quality schools	(B) low to moderate traffic	(C) pedestrian oriented community	(D) close proximity to work	(E) homes with unique or different	(F) small town charm	(G) prestige of the area	(H) close proximity to shopping	(I) private gated community	(J) ability to walk to schools
SUMMARY OF ALL RESPONDENTS	7	7	6	6	6	7	5	6	3	4

Figure 46.

Good quality schools, low to moderate traffic, small town charm, and private backyards are other attributes that are important to Doylestown respondents. Attributes that are not important to



5(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance
5(B) a community that features narrow through streets and smaller, more intimate parks within walking distance

6(A) a well-loved close relative in a retirement home at some distance from you
6(B) a well loved close relative in a separate unit above your garage or in the back yard

7(A) an area which predominantly houses people that are more like you
7(B) and area that has a mix of singles, older people and families

8(A) a home on a large lot in which you drive to shopping
8(B) a home on a smaller lot within walking distance of shopping

Figure 47.

Doylestown respondents are features associated with gated communities, like security gates and fences or walls that surround the community (this stands in marked contrast to Oscar Newman's claims, as stated earlier, about homeowners wanting exclusivity and gates). Of the conventional suburban attributes, larger lot size received the highest rating but the majority of respondents prefer a smaller lot with amenities within walking distance rather than the large lot.

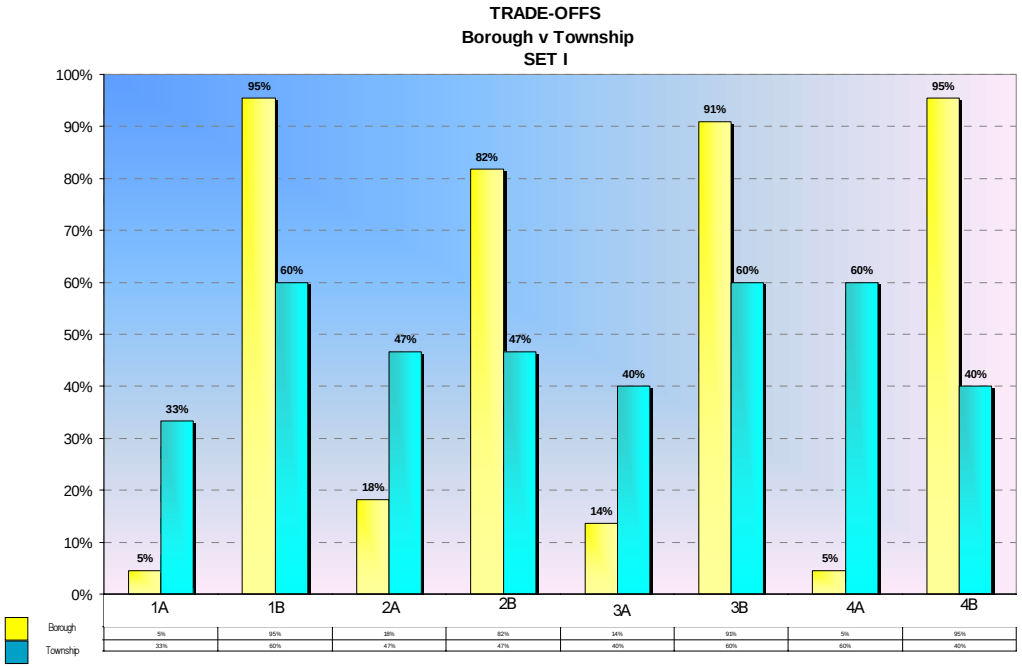
However, drawing conclusions based on the collective results of the survey presents a skewed picture. The researcher purposely divided the sample group into two different neighborhood styles on the presupposition that there may be differing preferences between the two groups, and that

these differences will help lead to a more clear answer to the question of preferences and homeownership and neighborhood design. Therefore, it is important to examine the results of the survey based on the respective neighborhood types.

Conclusions Based on Neighborhood Type

When reviewing the results of the survey by neighborhood type some marked differences in preferences occur. Generally, Township respondents were much more divided in their preferences for neighborhood style, where as the Borough respondents always preferred the New Urban style neighborhood, and typically by large margins. In more than half of the trade-off questions, at least half of the Township respondents selected the New Urban feature. This divide can be seen even for attributes typically associated with Conventional Suburban Design, such as large lot size. For example, while 80 percent of the Township respondents preferred neighborhoods with large yards and cul-de-sacs over neighborhoods with narrow streets and walking access to parks, they were evenly split (47 percent to 47 percent) on the issue of trading in a large lot for a house with a higher level of workmanship (see Figures 48 and 49). While it is not surprising that the vast majority of Borough respondents would prefer neighborhood attributes similar to those in which they currently live, it is interesting that the majority of Township respondents did not respond in kind. This division in response leads to a few conclusions.

Firstly, some Township respondents prefer Conventional Suburban Design. However, there is a significant portion of them, roughly half, that prefer New Urban Design neighborhoods, yet they are living in Conventional Suburban Design neighborhoods. Why are these respondents living in neighborhoods lacking attributes they prefer? Is it because the market has failed to provide them with this option? This is a question that would have to be answered in a follow up study, but we can speculate on the answer.



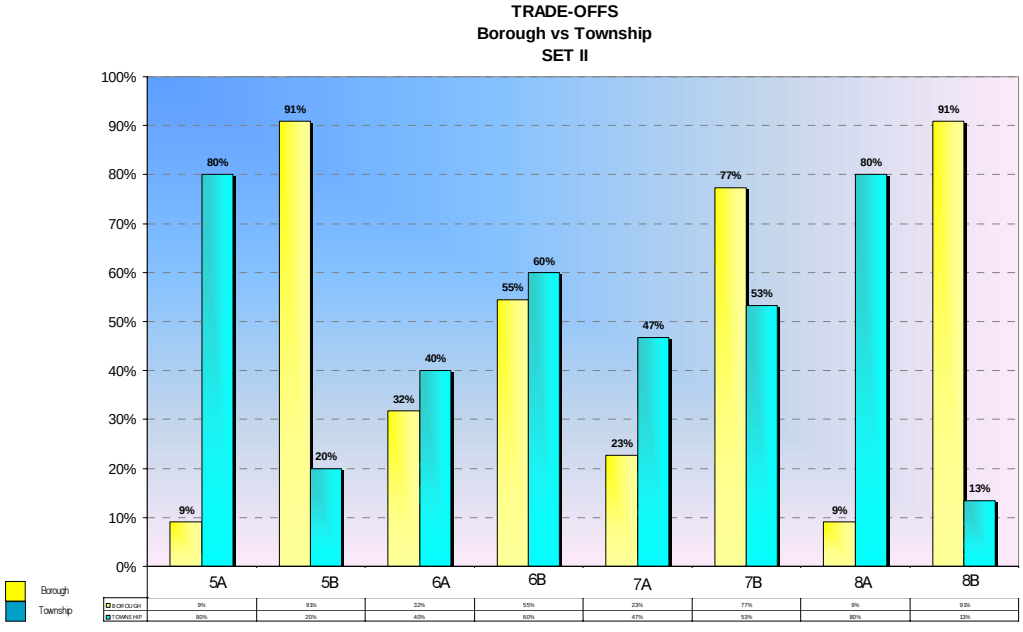
1(A) a community where kids are driven to a larger regional school
1(B) a community where kids are able to walk to a smaller neighborhood

2(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside
2(B) a smaller home on a smaller lot, with a high level of workmanship inside

3(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store
3(B) shopping at number of smaller stores where you are served by the owners

Figure 48.

4(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy
4(B) a community where you know your neighbors better and have a sense of community



5(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance
5(B) a community that features narrow through streets and smaller, more intimate parks within walking distance

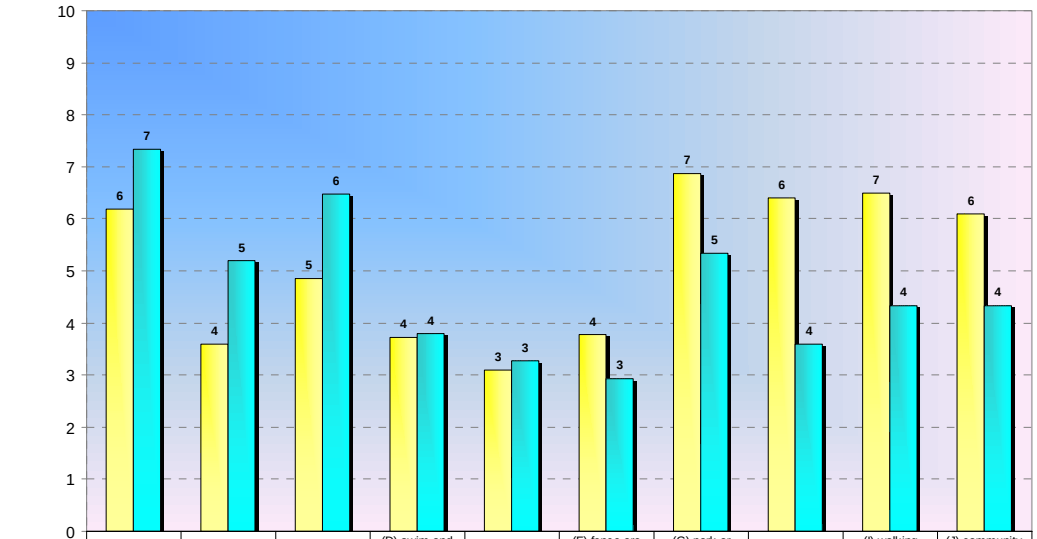
6(A) a well-loved close relative in a retirement home at some distance from you
6(B) a well loved close relative in a separate unit above your garage or in the back yard

7(A) an area which predominantly houses people that are more like you
7(B) and area that has a mix of singles, older people and families

Figure 49.

8(A) a home on a large lot in which you drive to shopping
8(B) a home on a smaller lot within walking distance of shopping

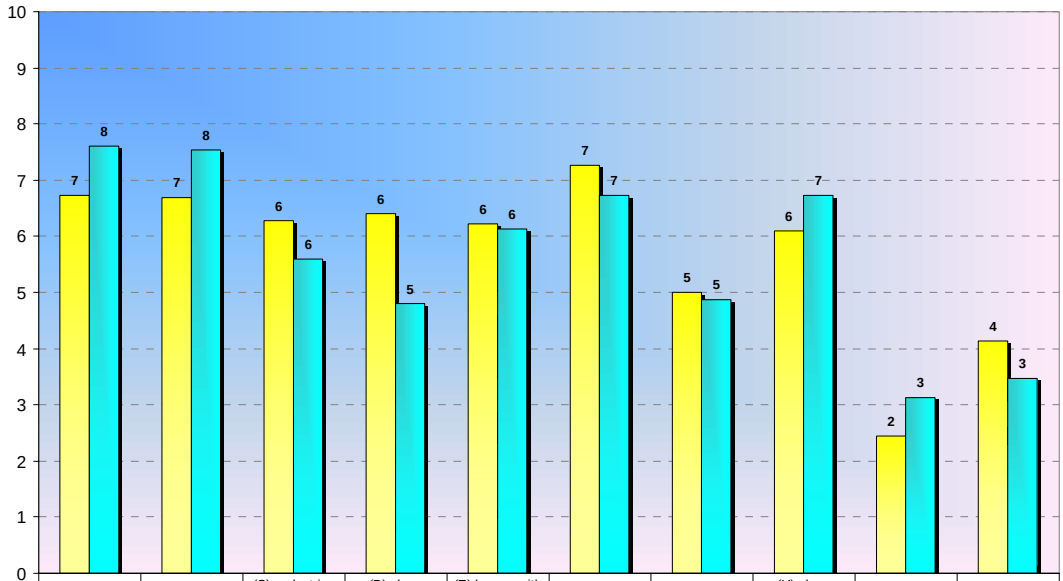
RANKING OF ATTRIBUTES SET I



	(A) private backyard	(B) cul-de-sac streets	(C) large yards	(D) swim and tennis center within walking	(E) security gate	(F) fence ore wall surrounding the community	(G) park or central green area within	(H) historic architecture	(I) walking access to coffee shops or	(J) community gathering area within walking
BOROUGH	6	4	5	4	3	4	7	6	7	6
TOWNSHIP	7	5	6	4	3	3	5	4	4	4

Figure 50.

ATTRIBUTES SET II



	(A) good quality schools	(B) low to moderate traffic	(C) pedestrian oriented community	(D) close proximity to work	(E) homes with unique or different	(F) small town charm	(G) prestige of the area	(H) close proximity to shopping dining	(I) private gated community	(J) ability to walk to schools
BOROUGH	7	7	6	6	6	7	5	6	2	4
TOWNSHIP	8	8	6	5	6	7	5	7	3	3

Figure 51.

Are Homebuyers buying into Neighborhoods with attributes that they like or are they buying what the market is providing?

From the results, it is determined that about 75% of homeowners are satisfied with their options. But about 25% of Doylestown homeowners are living in neighborhoods that are lacking attributes which they desire. Therefore it is concluded that the market is failing to provide a substantial portion of potential homebuyers with neighborhoods possessing attributes they desire. Instead, these people are forced to buy into neighborhoods that lack their desired attributes.

In May of 1995, Newsweek Magazine ran an edition devoted to the topic of suburbia. The following is a portion of that article:

> To even think of changing this culture is an enormous task. It runs counter to the dominant ideology of free-market economics, which in its reductive fashion holds that developers by definition are building what people want to buy. "There is this strange conceit among architects," says Peter Gordon, a professor of economics at the University of Southern California, "that people ought to live in what they design. If you look at how people really want to live in this country, suburbanization is not the problem, it is the solution."
>
> On the other hand, people can buy only what's for sale. The housing market is notoriously conservative and conformist, if for no other reason than that most people expect to sell their houses someday. Perhaps more people would choose to live in urban villages if they were exposed to them. "If you ask people if they want 'density,' they will always say no," says Peter Katz, author of "The New Urbanism." "But if you ask if they want restaurants and schools and other things close to where they live, they say yes. But you couldn't build a village in most places in the country even if you wanted to. Suburban sprawl is built into the zoning codes of most communities and the lending policies of virtually every bank. For new villages to become a reality, they will have to get past a phalanx of planning boards and bank officers, whose first principle is, "Nobody ever lost his job for following the code." (Adler, 1995, p. 40).

The results of this survey have helped answer some of this issues posed in the Newsweek article. Are developers building what people want to buy? From the results, it can be concluded that there is a significant portion of the homebuying market that is not satisfied with their current options. Gordon's point is true, that designers tend to believe that they know what is best for a client. In fact, designers need to investigate what their clients desire, so that they can create communities that are desired and preferred by people. This survey has also shown that many people do want attributes associated with traditional neighborhoods, even higher density.

Conclusions Based on Age of Respondents

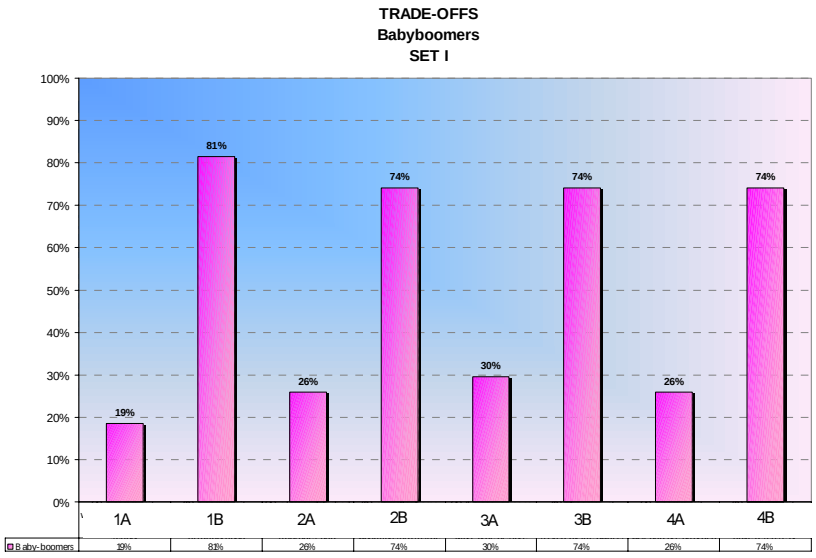
According to Myers and Gearin, "home buyers aged 45 and older who prefer denser, more compact housing alternatives will account for 31 percent of the total homeowner growth during the 2000-2010 period, double the segment's market share in the 1990s" (Myers and Gearin, 2001, p. 633). In the Doylestown survey, 65% of respondents are aged 45 and above. When reviewing their responses to the trade-off section of the survey, the New Urban option is chosen usually at percentages around 70% (see Figures 52 and 53). Attributes most important to these respondents are: low to moderate traffic; good quality schools; private back yards; small town charm and a pedestrian oriented community. Therefore, it can be concluded that there is a market for New Urban style neighborhoods among the baby boom generation in the Doylestown population, consistent with Myers' and Gearin's claims.

Comparison of Results with The Conservation Fund Study Results

When comparing the results of this study with those of the Conservation Fund Study, the model for this study, some interesting conclusions can be drawn. Results of the first four trade-off choices are almost identical between the two studies' responses (See Figure 54). In both studies' respondents chose the attributes associated with New Urbanism by large margins over the Conventional Suburban Design. These attributes were neighborhood schools that are within walking distance, smaller lots with a home of high level of workmanship, smaller owner-served stores, and neighborhoods where one knows one's neighbor and has a greater sense of community.

In the next four trade-off questions, the parallel between the two studies is not as strong (See Figure 55). While both study groups are divided on the neighborhood attribute associated with Granny Flats, the Doylestown study group has a much stronger preference for the New Urban neighborhood attributes. Most significant is the Conservation Fund Study (CFS) response to lot size. Seventy-two percent of the CFS respondents selected the 'large lot where one drives to shopping'. This is in marked contrast to the Doylestown study where respondents preferred the 'smaller lot within distance of shopping' fifty-nine percent to thirty-nine percent.

"As to why respondents of the CFS selected the large lot attribute by such a large a percentage,



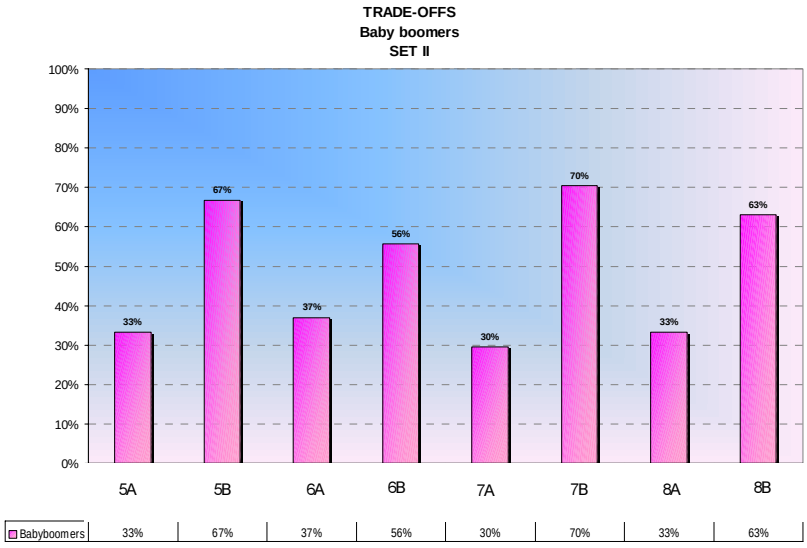
1(A) a community where kids are driven to a larger regional school
1(B) a community where kids are able to walk to a smaller neighborhood

2(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside
2(B) a smaller home on a smaller lot, with a high level of workmanship inside

3(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store
3(B) shopping at number of smaller stores where you are served by the owners

4(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy
4(B) a community where you know your neighbors better and have a sense of community

Figure 52.



5(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance
5(B) a community that features narrow through streets and smaller, more intimate parks within walking distance

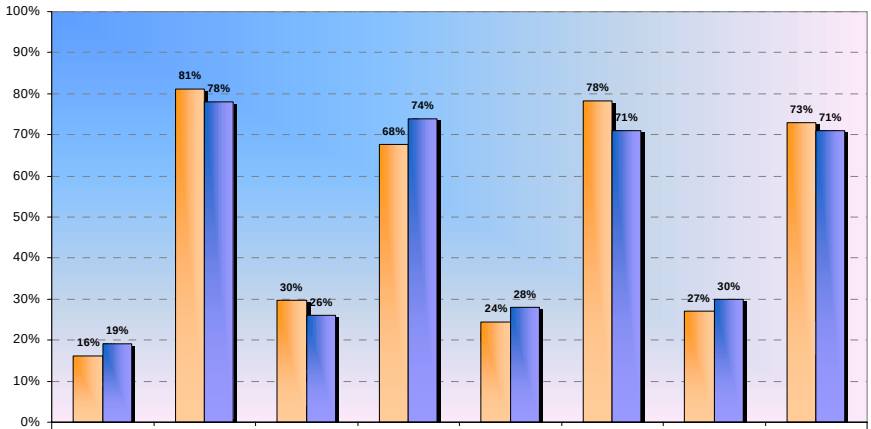
6(A) a well-loved close relative in a retirement home at some distance from you
6(B) a well loved close relative in a separate unit above your garage or in the back yard

7(A) an area which predominantly houses people that are more like you
7(B) and area that has a mix of singles, older people and families

8(A) a home on a large lot in which you drive to shopping
8(B) a home on a smaller lot within walking distance of shopping

Figure 53.

Comparisons Between Doylestown Survey Results and Conservation Fund Study Results
Trade-off selections SET I



	1A	1B	2A	2B	3A	3B	4A	4B
Doylestown Survey	16%	81%	30%	68%	24%	78%	27%	73%
Conservation Fund	19%	78%	26%	74%	28%	71%	30%	71%

1(A) a community where kids are driven to a larger regional school
1(B) a community where kids are able to walk to a smaller neighborhood

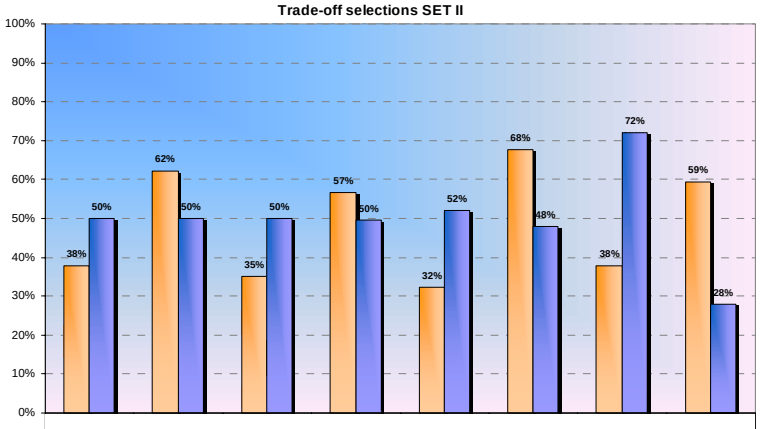
2(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside
2(B) a smaller home on a smaller lot, with a high level of workmanship inside

3(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store
3(B) shopping at number of smaller stores where you are served by the owners

4(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy
4(B) a community where you know your neighbors better and have a sense of community

Figure 54.

Comparisons Between Doylestown Survey Results and the Conservation Fund Survey Results
Trade-off selections SET II



	5A	5B	6A	6B	7A	7B	8A	8B
Doylestown Survey	38%	62%	35%	57%	32%	68%	38%	59%
Conservation Fund	50%	50%	50%	50%	52%	48%	72%	28%

5(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance
5(B) a community that features narrow through streets and smaller, more intimate parks within walking distance

6(A) a well-loved close relative in a retirement home at some distance from you
6(B) a well loved close relative in a separate unit above your garage or in the back yard

7(A) an area which predominantly houses people that are more like you
7(B) and area that has a mix of singles, older people and families

8(A) a home on a large lot in which you drive to shopping
8(B) a home on a smaller lot within walking distance of shopping

Figure 55.

Greg Logan, of RCLCO who conducted the survey for the Conservation Fund, "speculates that consumers have been conditioned to believe that they need large lots and equate them with value" (New Urban News, 2001). Logan also thinks that the lack of experience with New Urban style neighborhoods is a contributing factor in this choice (New Urban News, 2001).

This could be why respondents of the Doylestown study selected the New Urban attributes in larger percentages than the Conservation Fund study. Doylestown Borough is a traditional neighborhood and therefore has New Urban attributes. Consequently, these attributes are familiar to the residents/survey respondents. "[Malizia and Exline] note that, "visual surveys are more appropriate for measuring people's attitudes about density. When they can see what is being talked about, respondents showed a greater preference for higher density development with smaller lots, smaller homes, and a mix of housing types. "They will accept mixed land uses as long as human scale and good design are prominent, " [their] report states. "They will make trade-offs as long as the objectives of safety and investment value are not compromised" (New Urban News, 2001). While this study was not a visual preference survey, it had the advantage of surveying a group of residents who were very familiar with attributes ascribed to New Urbanism. The 'human scale' and 'good design', 'safety' and 'un-compromised investment value' are already present in Doylestown Borough, and therefore are familiar to the respondents of the survey.

How Can Landscape Architects Use This Information?

This study provides data about neighborhood attribute preferences that landscape architects can use during the design process. As landscape architects are often employed in positions where they do town planning, or review designs, they will be keen to learn more about what their clients expect from their product. In addition, due to the tremendous and lasting impact home development has upon the physical environment, it is best to take measures to improve the quality of the product before construction. In Bucks County, land development moratoriums have been proposed (Jolly, 2003, p. A1). With the concerns of the amount and rate of land being developed, so too must be considered how the land is developed.

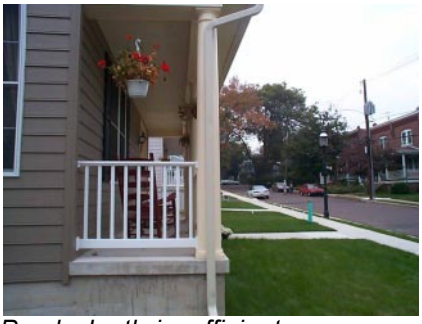
Much of Doylestown borough has been developed, and therefore the opportunities to create new

'traditional' neighborhoods are limited, but infill development in and surrounding the Borough should be considered. This is already occurring in some sections (see Figure 56).

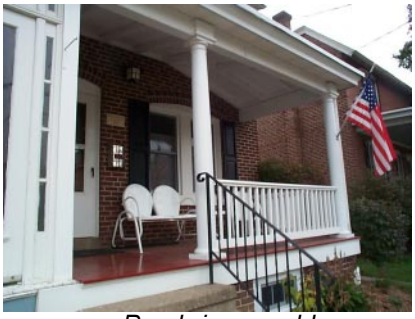
Is it possible to create a better unison of the Conventional Suburban neighborhood and the New Urban neighborhood? Some have attempted to do so in what is being called "hybrid" development. The hybrid developments are essentially Conventional Suburban neighborhoods with elements characteristic of New Urbanism, such as porches and sidewalks, but retaining features such as wide roads and large garages. Plater-Zyberk feels that "the middle ground will reinforce the worst characteristic of each type" (New Urban News, 2000, p. 24-6) . Evidence of this can bee seen in some of the infill development in the Borough (See Figure 56). While the density of the housing units is similar to existing density, architectural elements have been tacked on to mimic the traditional housing. Because these features are not designed properly, they become essentially decorative elements, and lose their functionality. A function which, as in the case of the front porch, can have a tremendous impact on the viability of the neighborhood .

Hybrid Housing Borough In-fill

Existing Borough Housing



Porch depth insufficient



Porch is a usable space

Figure 56.

Conclusions

This study has examined Doylestown residents for their preference regarding certain neighborhood attributes. Neighborhood attributes most important to Doylestown homeowners are those that influence feelings of community, such as walkable neighborhoods, privately owned shops, and the opportunity for neighbor interaction. This study has also shown that there is a sector of the homeowner market that is very interested in neighborhoods with New Urban attributes. While homeowners within the Borough are very much in agreement about their desire for neighborhood attributes which they already possess, only about half of the Township residents feel their neighborhoods are preferable to New Urban style neighborhoods.

Landscape architects should accommodate homebuyers' desires for neighborhoods that are pedestrian oriented, have diverse housing unit types, but don't neglect their desire for private back yards, and those that desire large yards. The diversity in responses from the Township respondents suggests that the uniform lot sizes and homogeneous subdivision layouts of Conventional Suburban development, may not be satisfactory to the market's desires. Demographics are also important when considering which neighborhood attributes to include as the results from this study and the examination by Myers and Gearin suggest. Landscape architects should propose subdivisions that include some larger lots with greater privacy, mixed with smaller lots and a variety of housing units and arrangements that will satisfy the portion of the market that is currently underserved.

While it is true that many studies do show a preference for low density conventional development, and an affinity for the automobile, it is the contention of this researcher that there is a lack of development styles for consumers to choose from, resulting a default response of low density preference. This study has shown that when surveying a group of homeowners familiar with New Urban attributes, results are similar to visual preference surveys.

Suggestions for Further Research

If repeating the survey, it is recommend that the ranking portion of the survey be revised to a rating scale. This will increase the validity of the results.

"Zimmerman [of the market research firm Zimmerman Volk & Associates] has some suggestions for how to reach a reasonable conclusion on the size of the market for the New Urbanism. "A qualifying phone or mail survey to a truly random sample would be the starting point." Following that, the survey should ask trade-off questions such as the ones used in the RCLCO surveys and refine those results through a visual survey. Finally, Zimmerman says, qualitative focus group interviews are necessary to get a full picture. Such an undertaking would cost a lot of money and would have to be carried out by an expert public opinion research firm such as Gallup" (New Urban News, 2001).

An investigation into the homebuyer decision process would provide further insight as to why 25% of respondents are living in neighborhoods lacking desired attributes.

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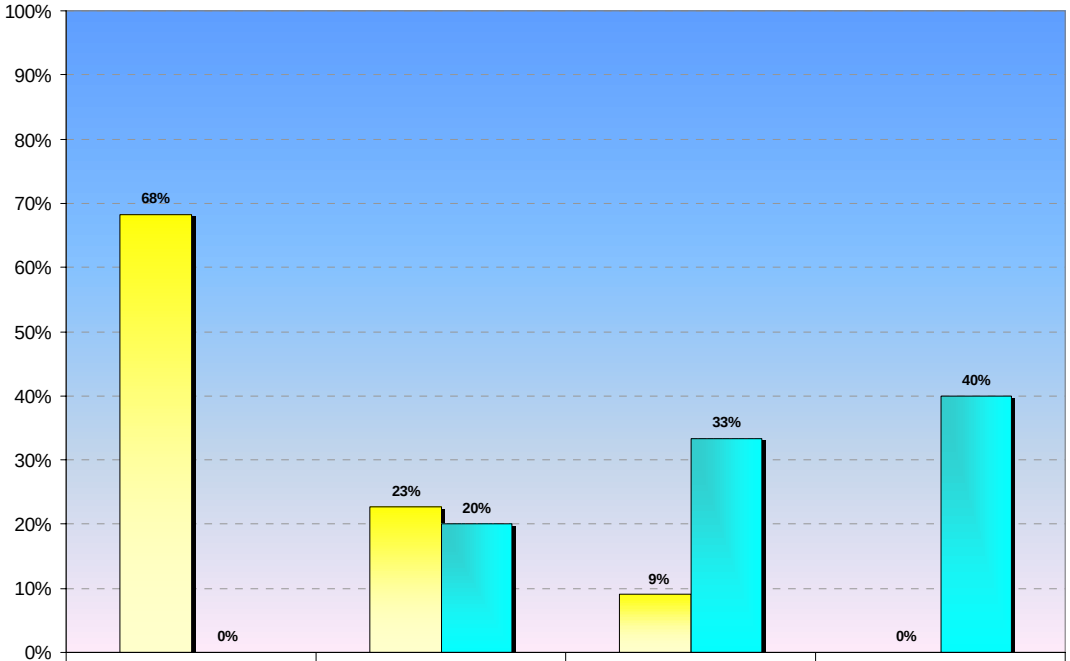
APPENDIX A

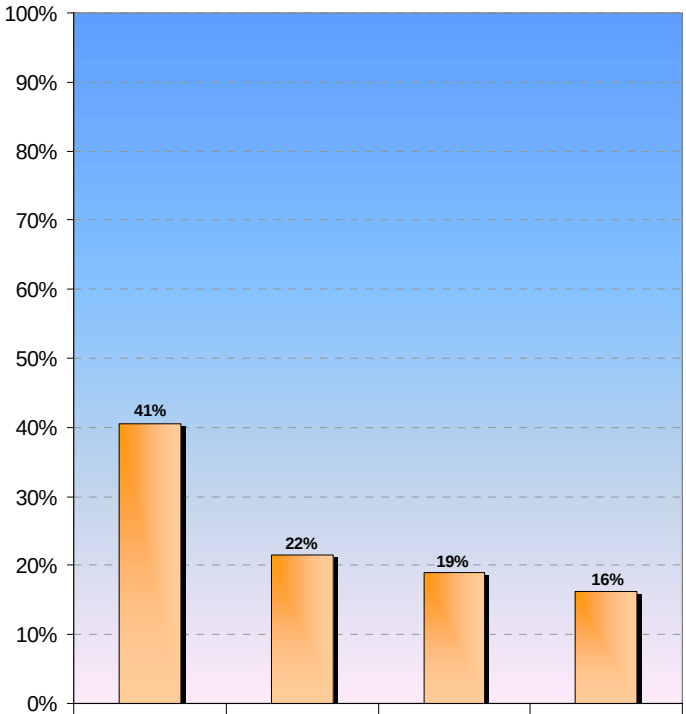
SURVEY RESULTS

ANNUAL HOUSEHOLD INCOME



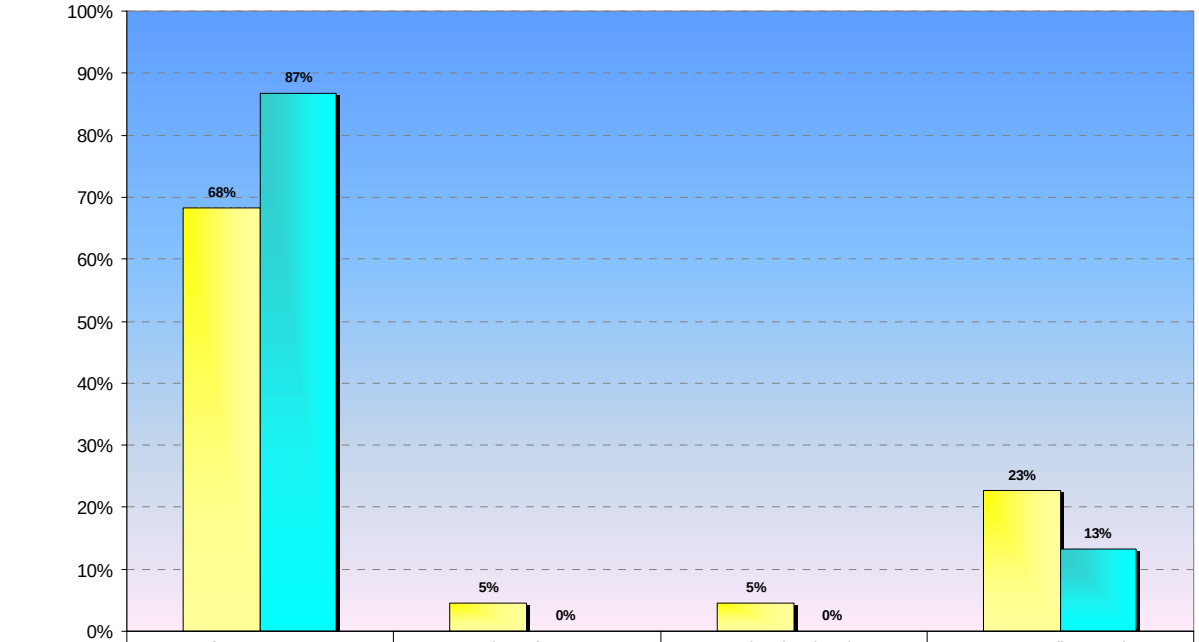
	$75000	$75000-$100000	$100000-$150000	above $150000
BOROUGH	68%	23%	9%	0%
TOWNSHIP	0%	20%	33%	40%

ANNUAL HOUSEHOLD INCOME



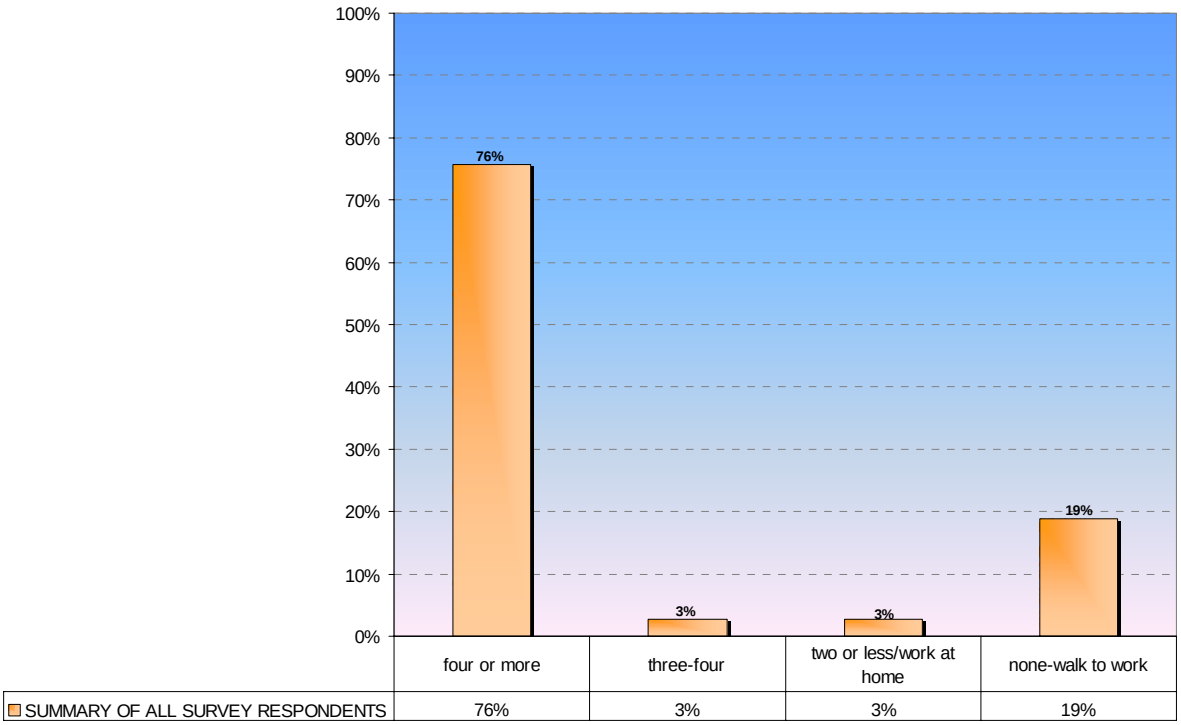
	$75000	$75000-$100000	$100000-$150000	above $150000
SUMMARY OF ALL SURVEY RESPONDENTS	41%	22%	19%	16%

DAYS PER WEEK COMMUTE TO WORK



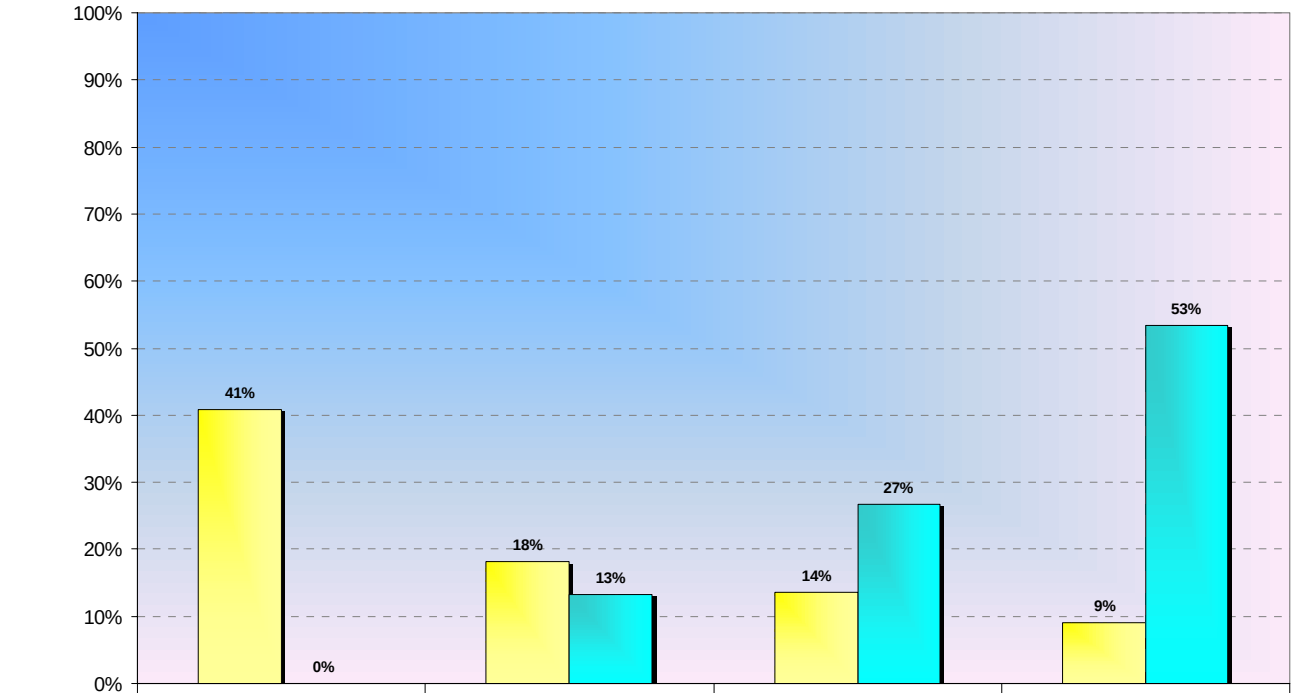
	four or more	three-four	two or less/work at home	none-walk to work
BOROUGH	68%	5%	5%	23%
TOWNSHIP	87%	0%	0%	13%

DAYS PER WEEK COMMUTE TO WORK



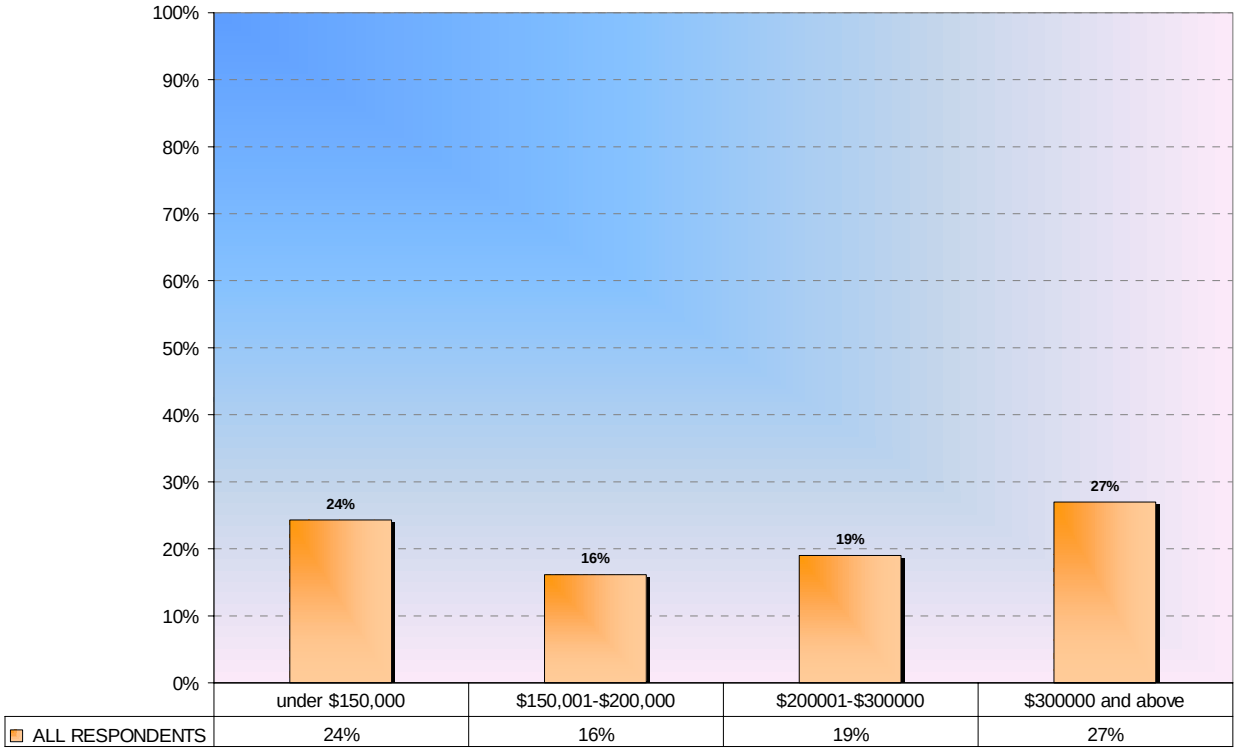
	four or more	three-four	two or less/work at home	none-walk to work
SUMMARY OF ALL SURVEY RESPONDENTS	76%	3%	3%	19%

PRICE RANGE OF NEXT HOME



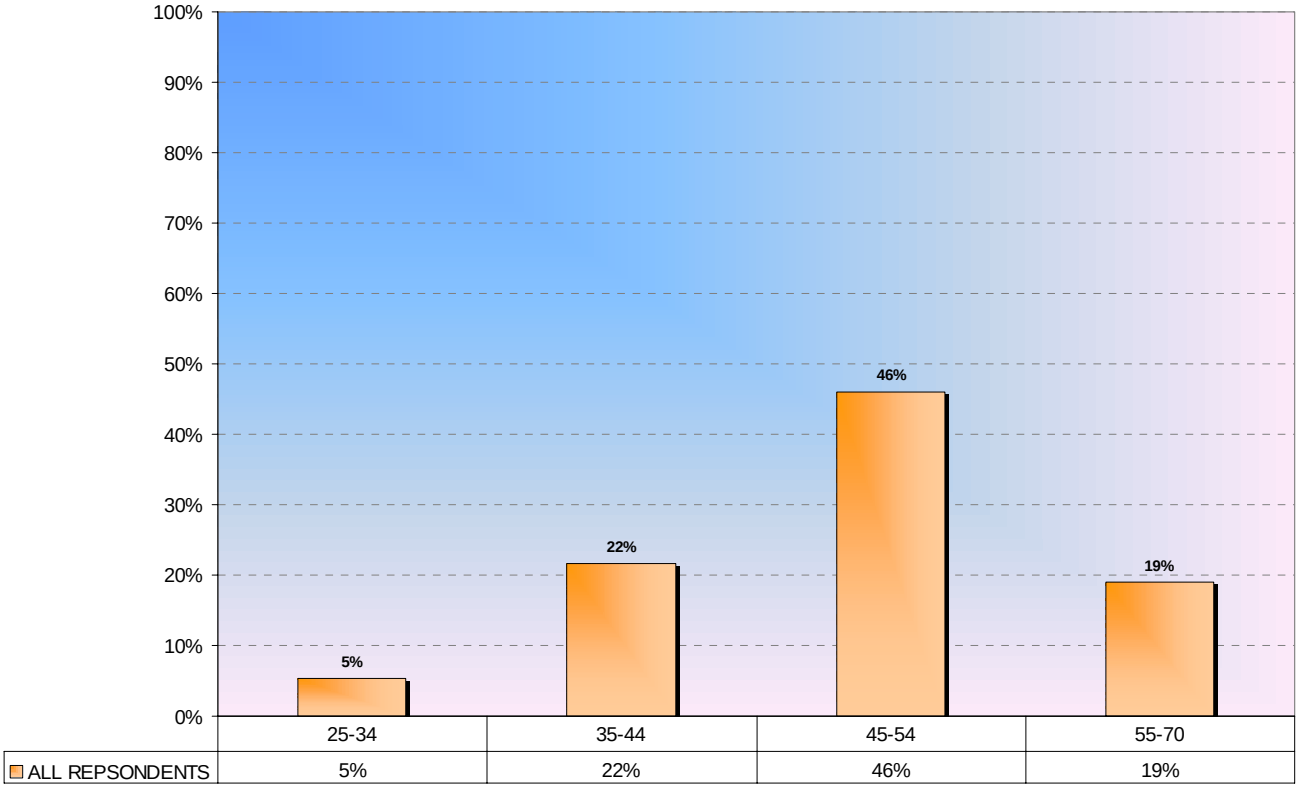
	under $150,000	$150,001-$200,000	$200001-$300000	$300000 and above
BOROUGH	41%	18%	14%	9%
TOWNSHIP	0%	13%	27%	53%

PRICE RANGE OF NEXT HOME

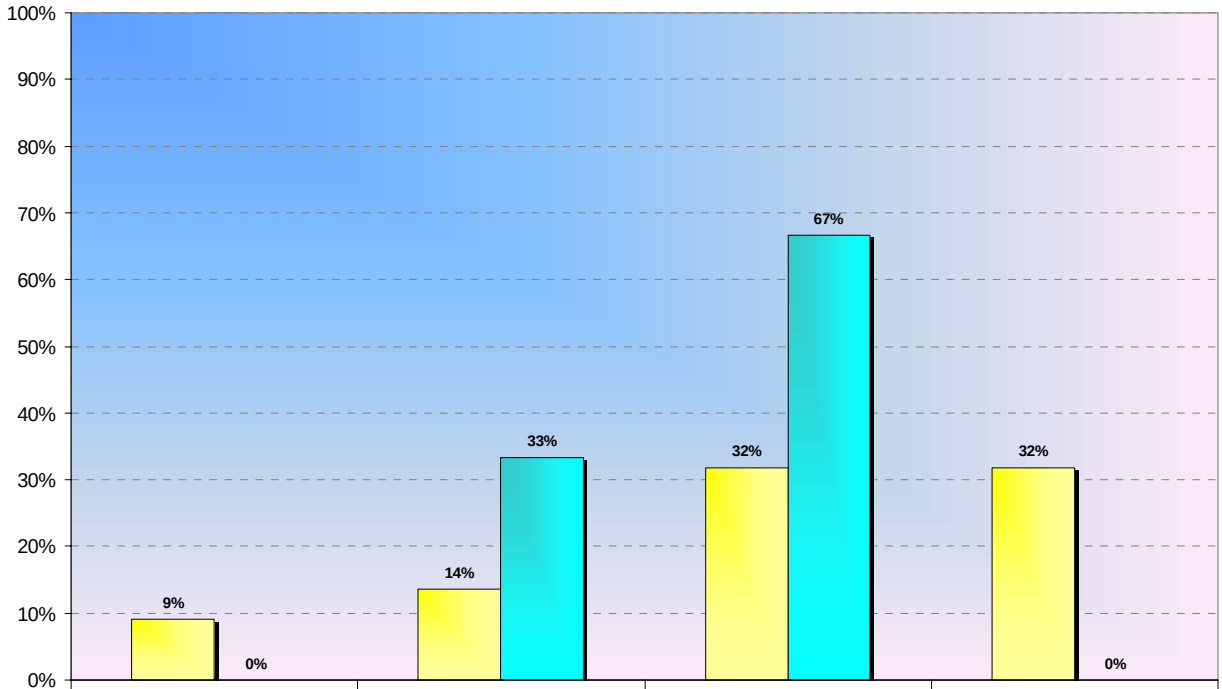


	under $150,000	$150,001-$200,000	$200001-$300000	$300000 and above
ALL RESPONDENTS	24%	16%	19%	27%

AGE

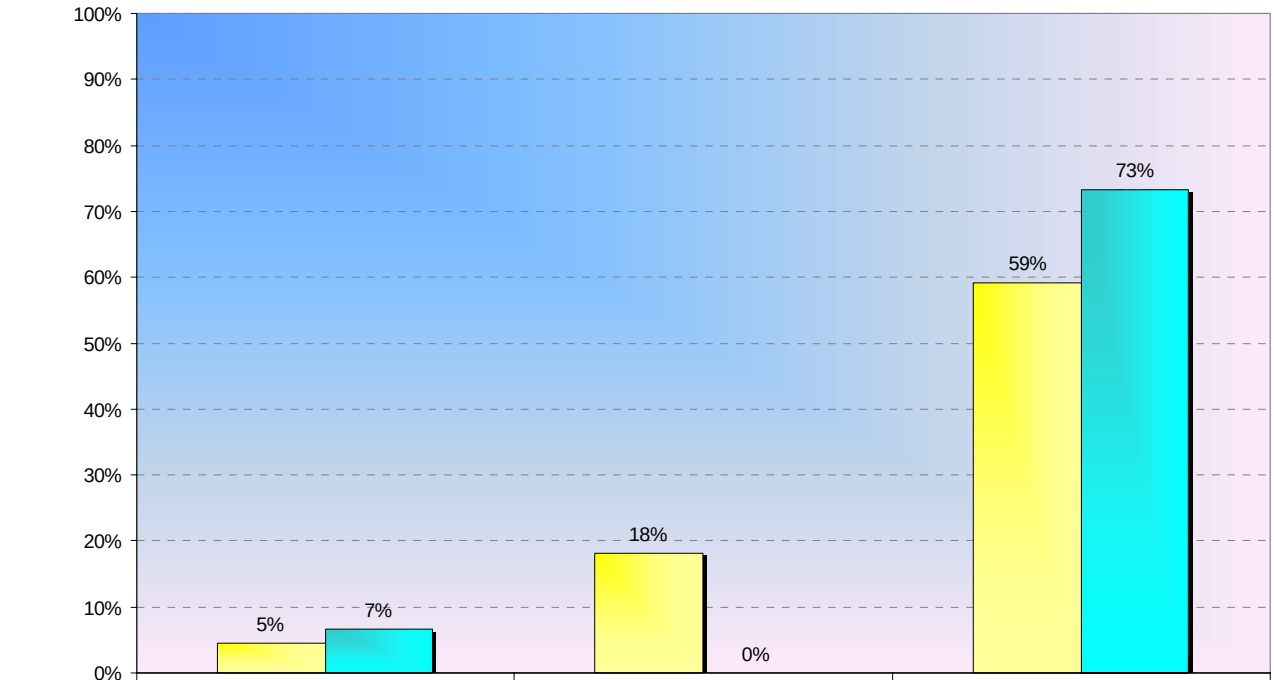

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
5%
22%
46%
19%
25-34
35-44
45-54
55-70
ALL REPSONDENTS
5%
22%
46%
19%

AGE OF RESPONDENTS



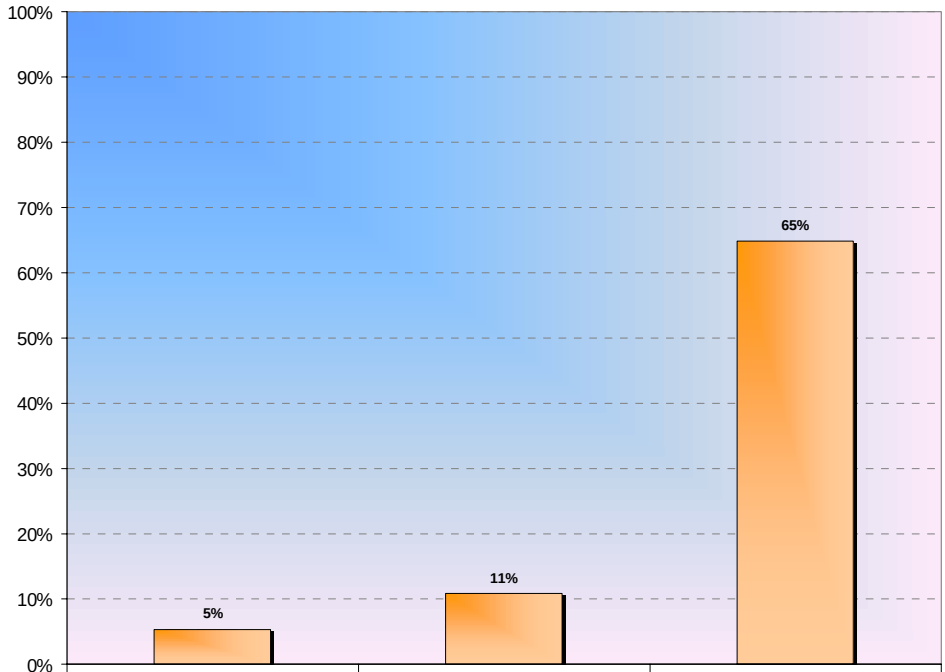
	25-34	35-44	45-54	55-70
BOROUGH	9%	14%	32%	32%
TOWNSHIP	0%	33%	67%	0%

WORKING STATUS



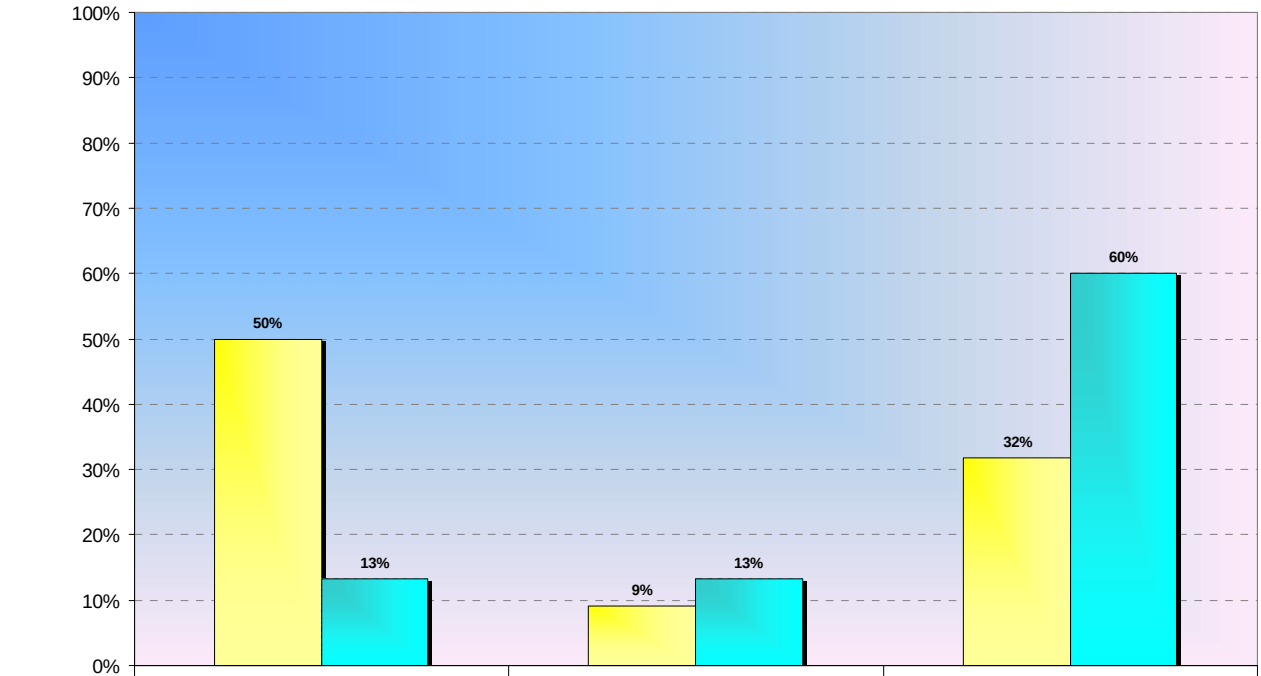
	currently retired	within 5 years of retirement	more than 5 years from retirement
BOROUGH	5%	18%	59%
TOWNSHIP	7%	0%	73%

WORKING STATUS



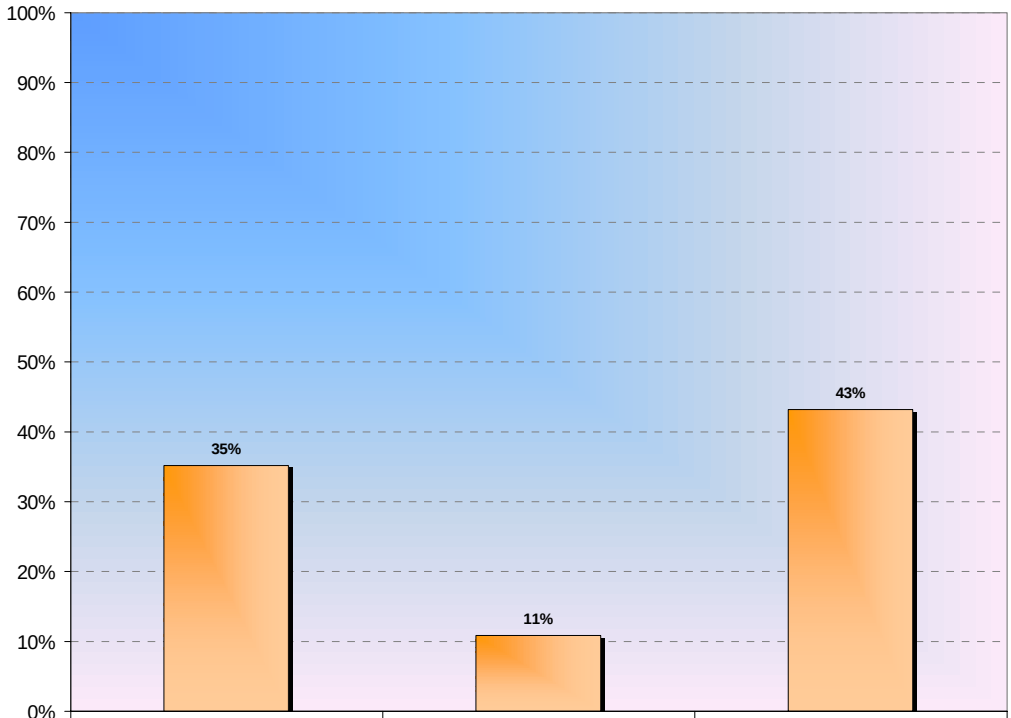
	currently retired	within 5 years of retirement	more than 5 years from retirement
SUMMARY OF ALL RESPONDENTS	5%	11%	65%

NUMBER OF CHILDREN AT HOME



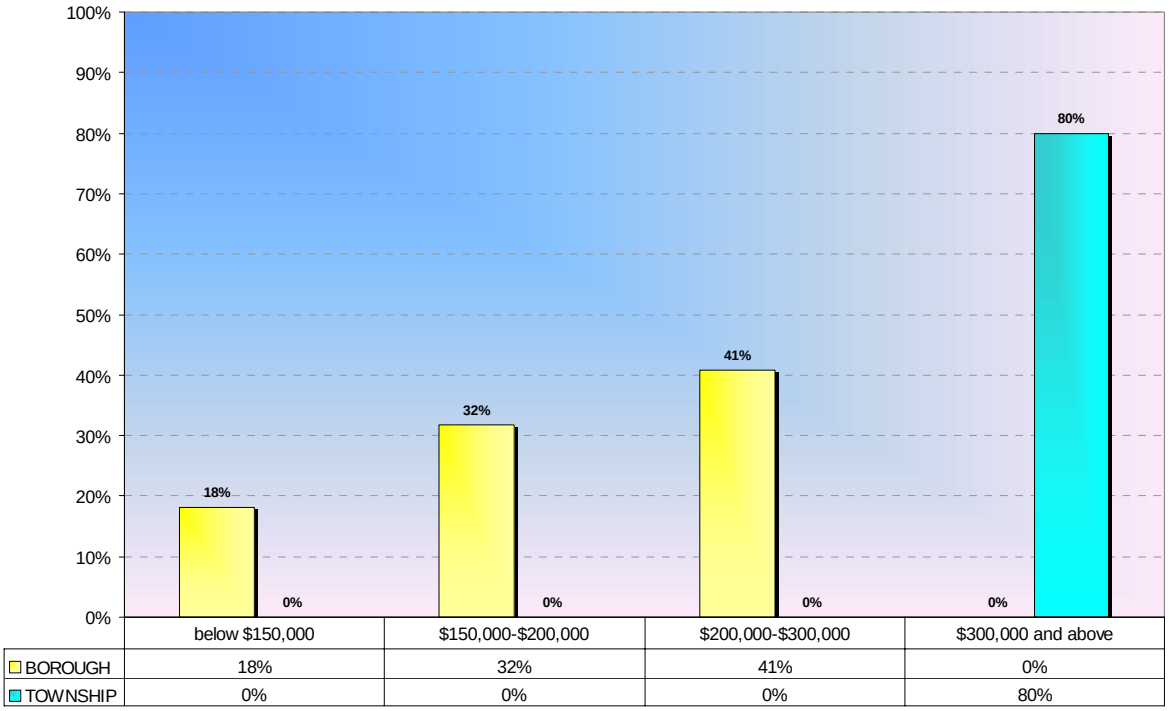
	none	one	two or more
BOROUGH	50%	9%	32%
TOWNSHIP	13%	13%	60%

NUMBER OF CHILDREN AT HOME



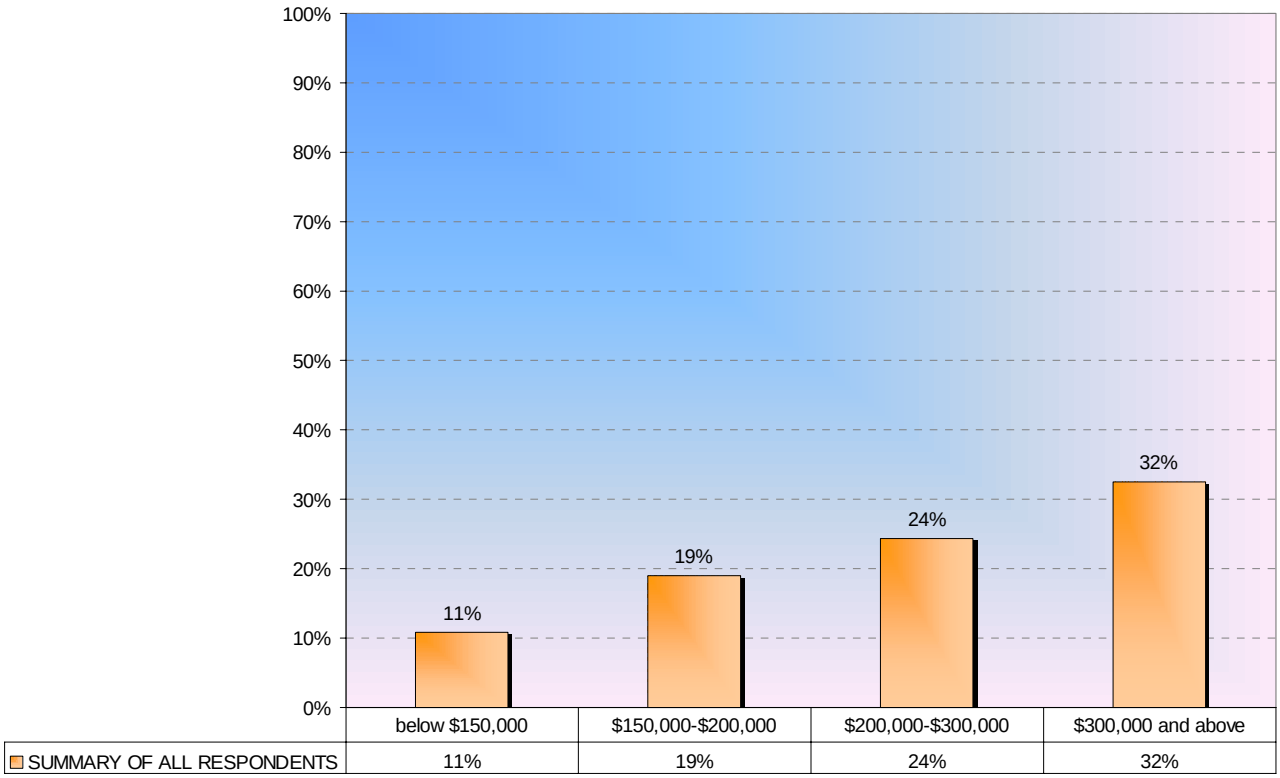
	none	one	two or more
SUMMARY OF ALL RESPONDENTS	35%	11%	43%

VALUE OF CURRENT HOME



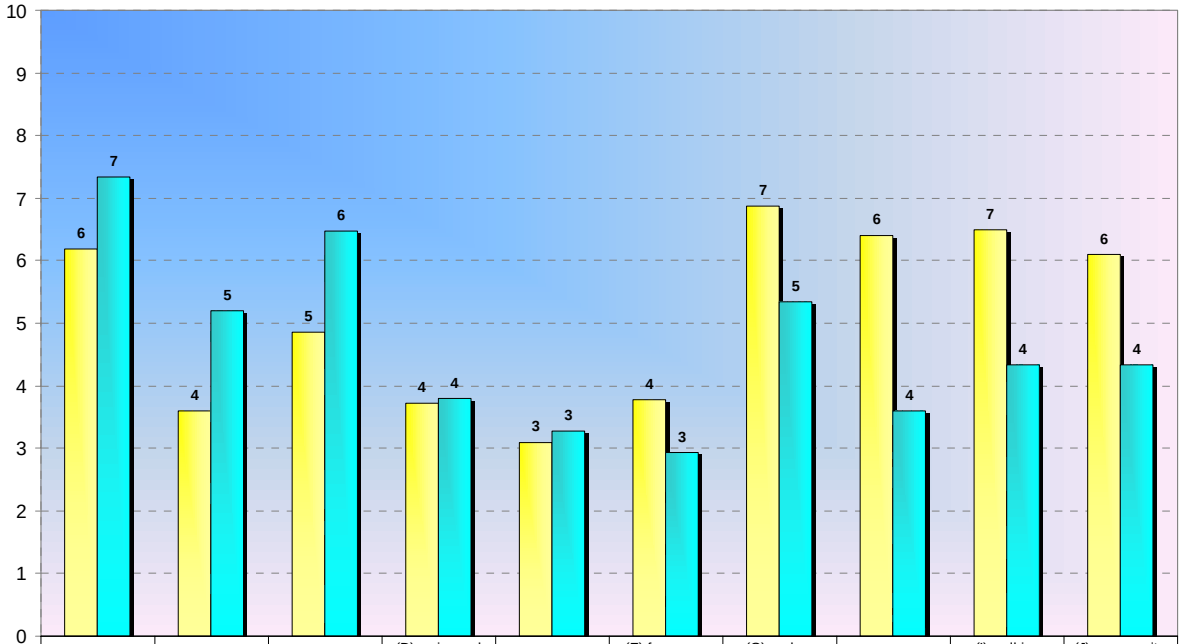
	below $150,000	$150,000-$200,000	$200,000-$300,000	$300,000 and above
BOROUGH	18%	32%	41%	0%
TOWNSHIP	0%	0%	0%	80%

VALUE OF CURRENT HOME



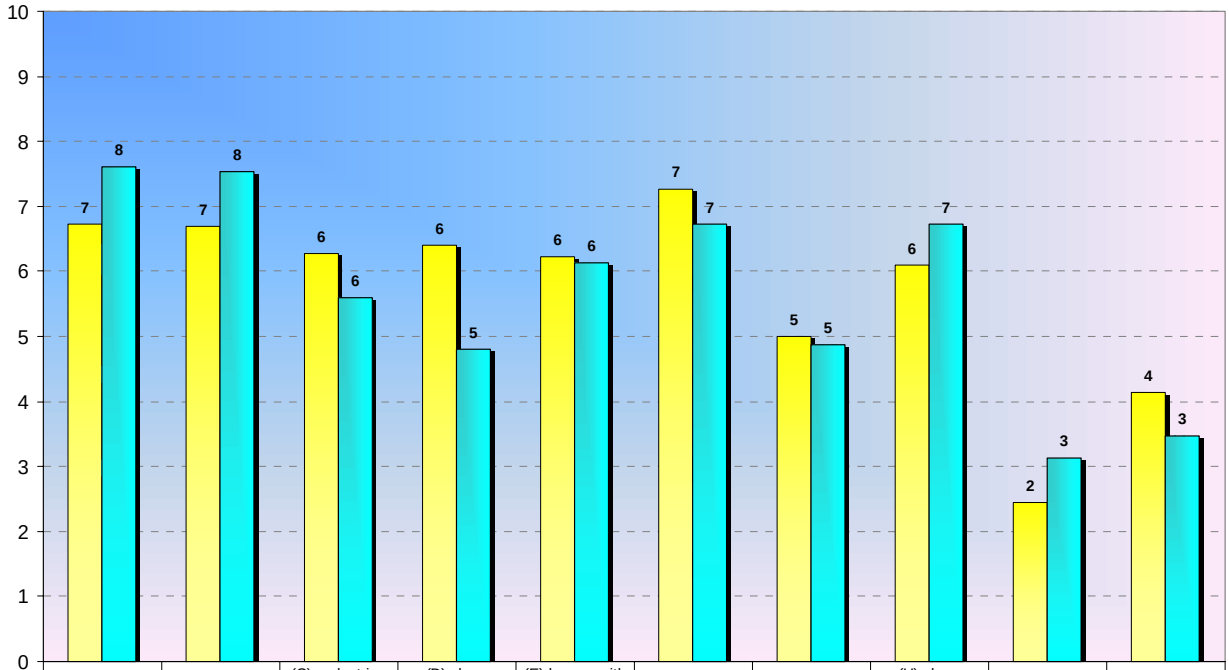
	below $150,000	$150,000-$200,000	$200,000-$300,000	$300,000 and above
SUMMARY OF ALL RESPONDENTS	11%	19%	24%	32%

RANKING OF ATTRIBUTES SET I



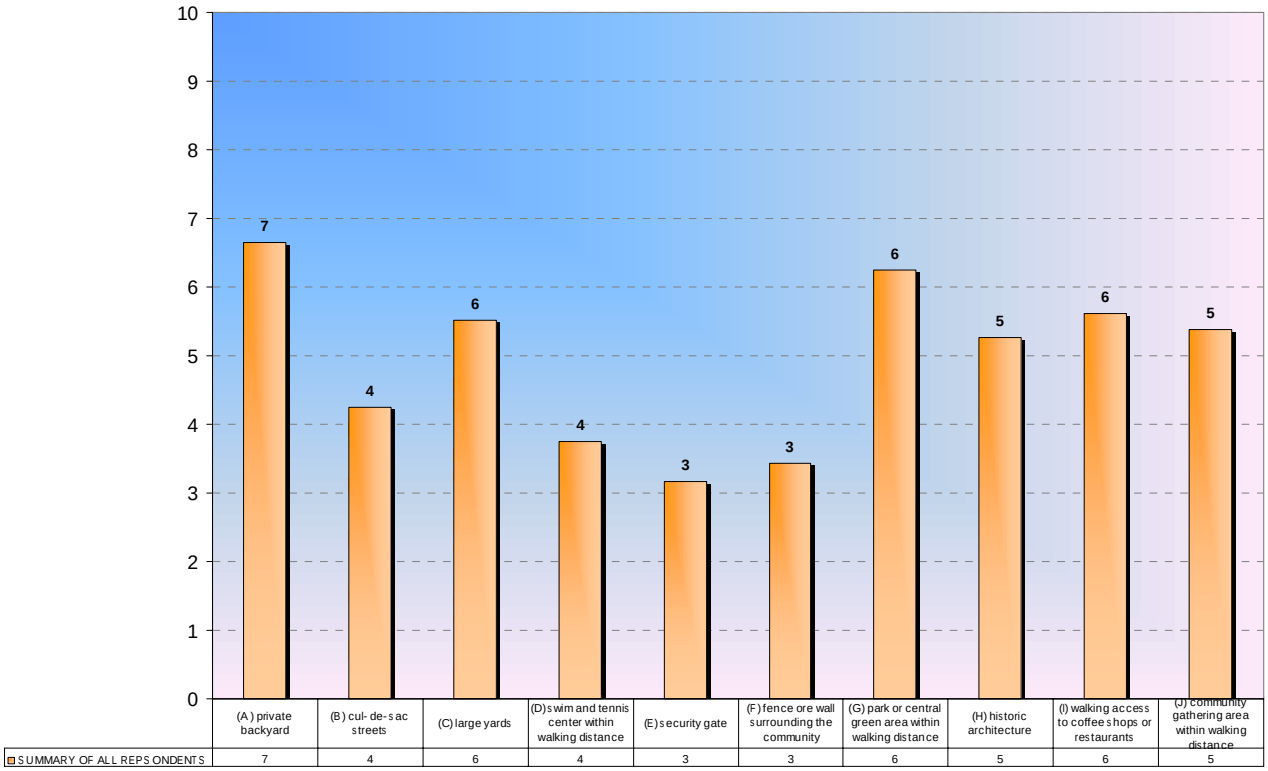
	(A) private backyard	(B) cul-de-sac streets	(C) large yards	(D) swim and tennis center within walking	(E) security gate	(F) fence ore wall surrounding the community	(G) park or central green area within	(H) historic architecture	(I) walking access to coffee shops or	(J) community gathering area within walking
BOROUGH	6	4	5	4	3	4	7	6	7	6
TOWNSHIP	7	5	6	4	3	3	5	4	4	4

ATTRIBUTES SET II



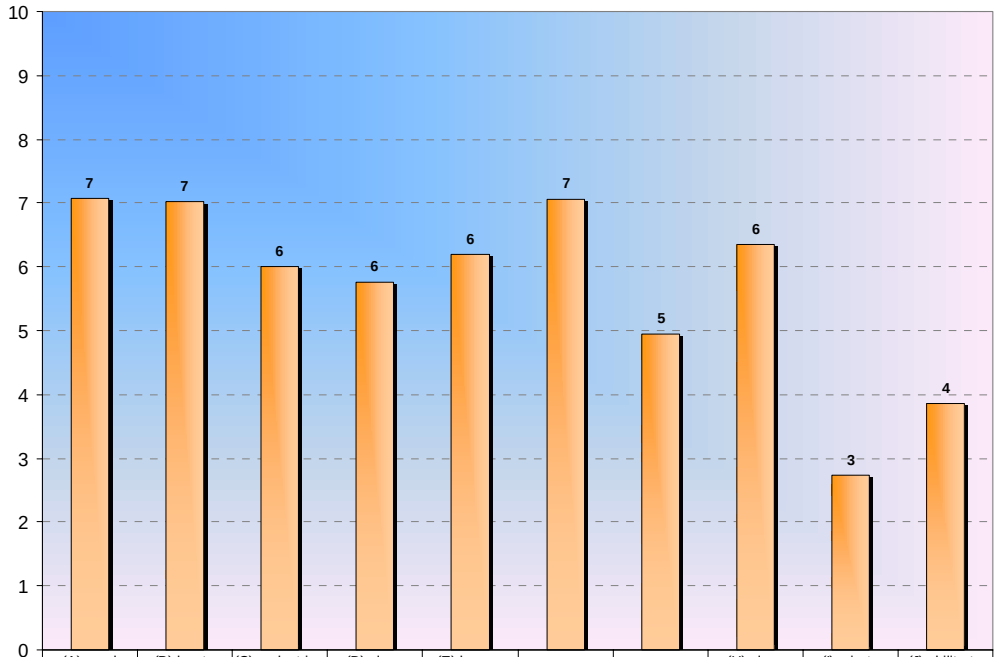
	(A) good quality schools	(B) low to moderate traffic	(C) pedestrian oriented community	(D) close proximity to work	(E) homes with unique or different	(F) small town charm	(G) prestige of the area	(H) close proximity to shopping dining	(I) private gated community	(J) ability to walk to schools
BOROUGH	7	7	6	6	6	7	5	6	2	4
TOWNSHIP	8	8	6	5	6	7	5	7	3	3

RANKING OF ATTRIBUTES - SET I



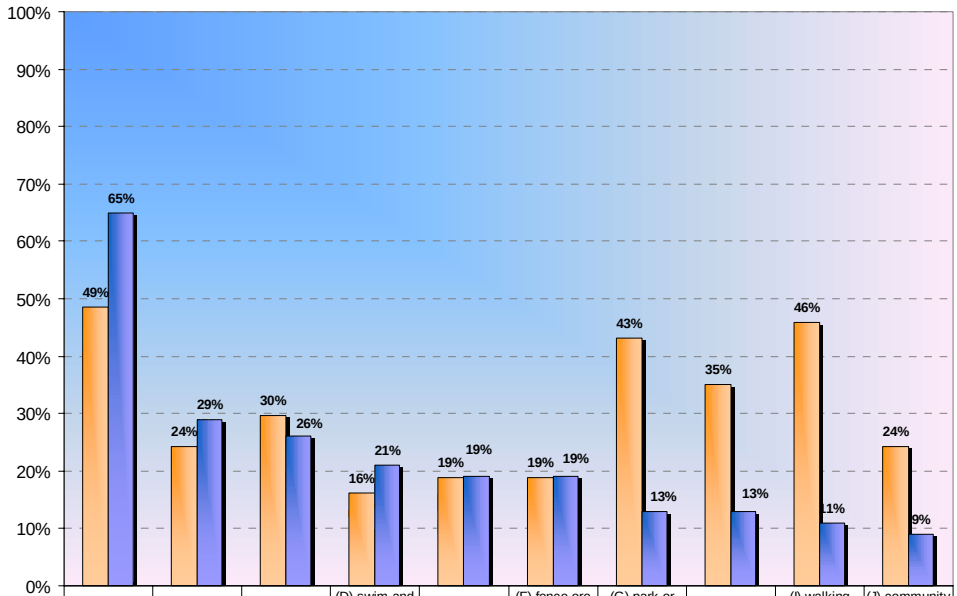
	(A) private backyard	(B) cul- de- sac streets	(C) large yards	(D) swim and tennis center within walking distance	(E) security gate	(F) fence ore wall surrounding the community	(G) park or central green area within walking distance	(H) historic architecture	(I) walking access to coffee shops or restaurants	(J) community gathering area within walking distance
SUMMARY OF ALL RESPONDENTS	7	4	6	4	3	3	6	5	6	5

ATTRIBUTES SET II



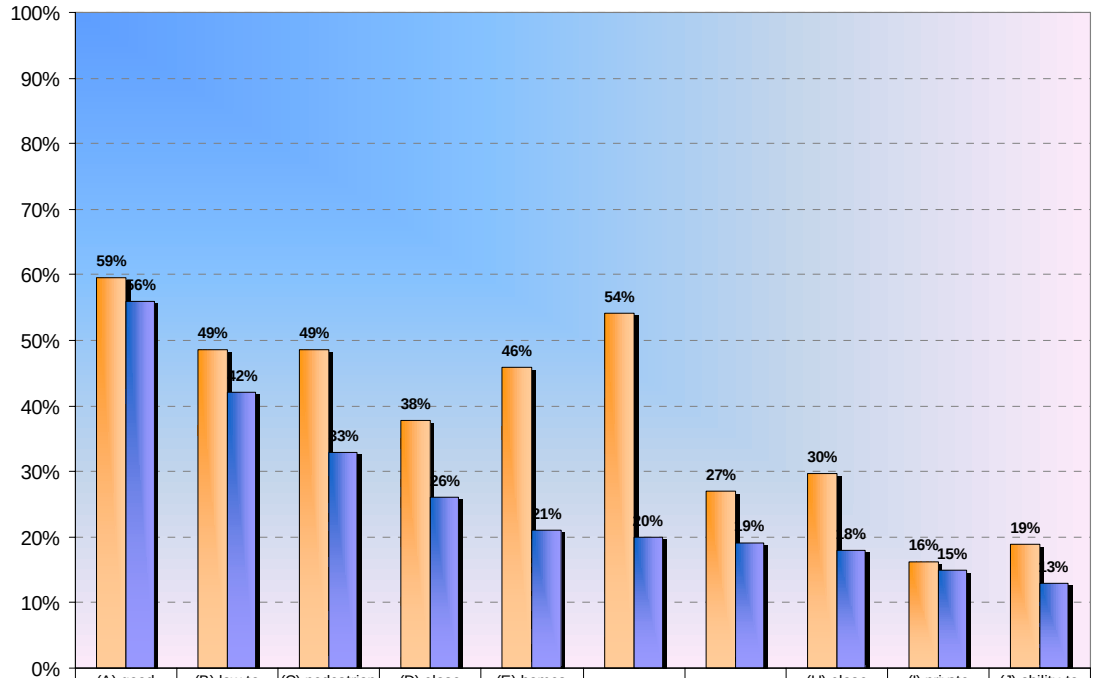
	(A) good quality schools	(B) low to moderate traffic	(C) pedestrian oriented community	(D) close proximity to work	(E) homes with unique or different	(F) small town charm	(G) prestige of the area	(H) close proximity to shopping	(I) private gated community	(J) ability to walk to schools
SUMMARY OF ALL RESPONDENTS	7	7	6	6	6	7	5	6	3	4

RANKING OF ATTRIBUTES - SET I



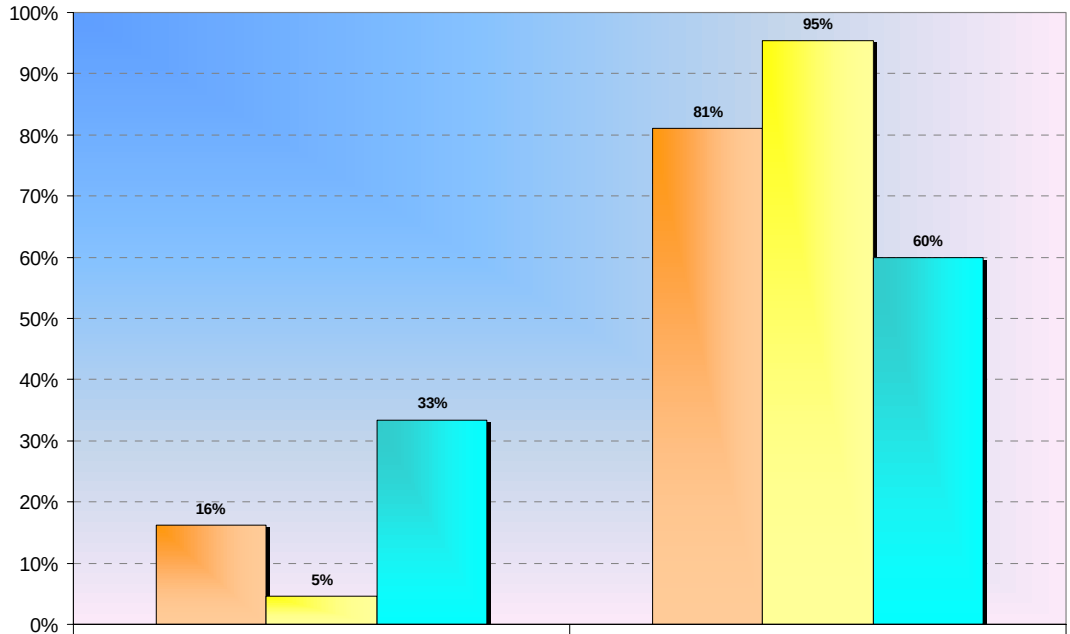
	(A) private backyard	(B) cul-de-sac streets	(C) large yards	(D) swim and tennis center within walking	(E) security gate	(F) fence ore wall surrounding	(G) park or central green area within	(H) historic architecture	(I) walking access to coffee shops	(J) community gathering area within walking
SUMMARY OF ALL REPSONDENTS	49%	24%	30%	16%	19%	19%	43%	35%	46%	24%
CONSERVATION FUND	65%	29%	26%	21%	19%	19%	13%	13%	11%	9%

ATTRIBUTES SET II



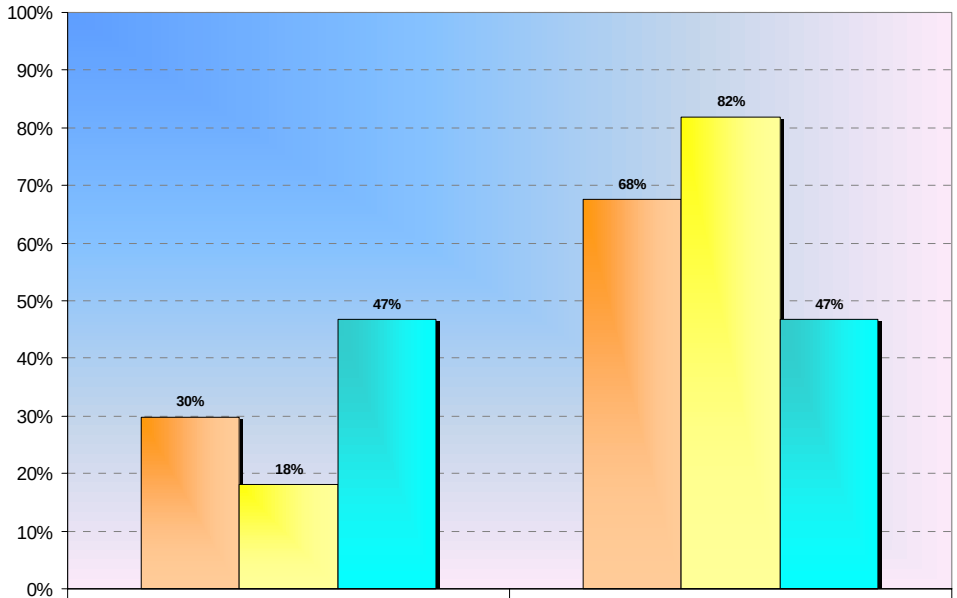
	(A) good quality schools	(B) low to moderate traffic	(C) pedestrian oriented community	(D) close proximity to work	(E) homes with unique or different	(F) small town charm	(G) prestige of the area	(H) close proximity to shopping	(I) private gated community	(J) ability to walk to schools
SUMMARY OF ALL RESPONDENTS	59%	49%	49%	38%	46%	54%	27%	30%	16%	19%
Conservation Fund	56%	42%	33%	26%	21%	20%	19%	18%	15%	13%

PREFERERNCES FOR TRANSPORTATION OF CHILDREN



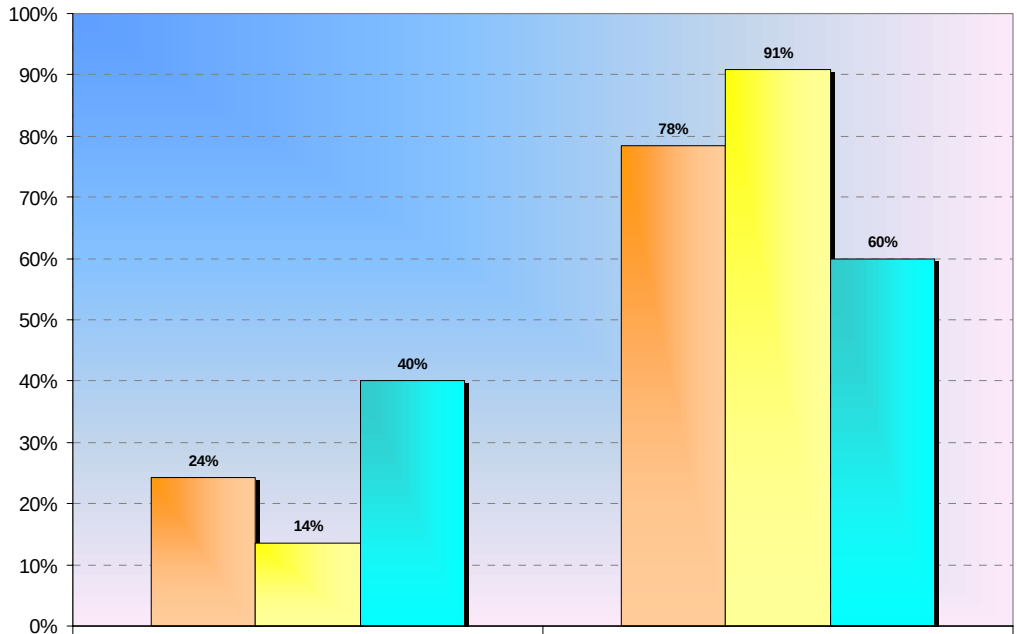
	(A) a community where kids are driven to a larger regional school	(B) a community where kids are able to walk to a smaller neighborhood
SUM OF ALL RESPONDENTS	16%	81%
BOROUGH	5%	95%
TOWNSHIP	33%	60%

PREFERENCES REGARDING LOT SIZE



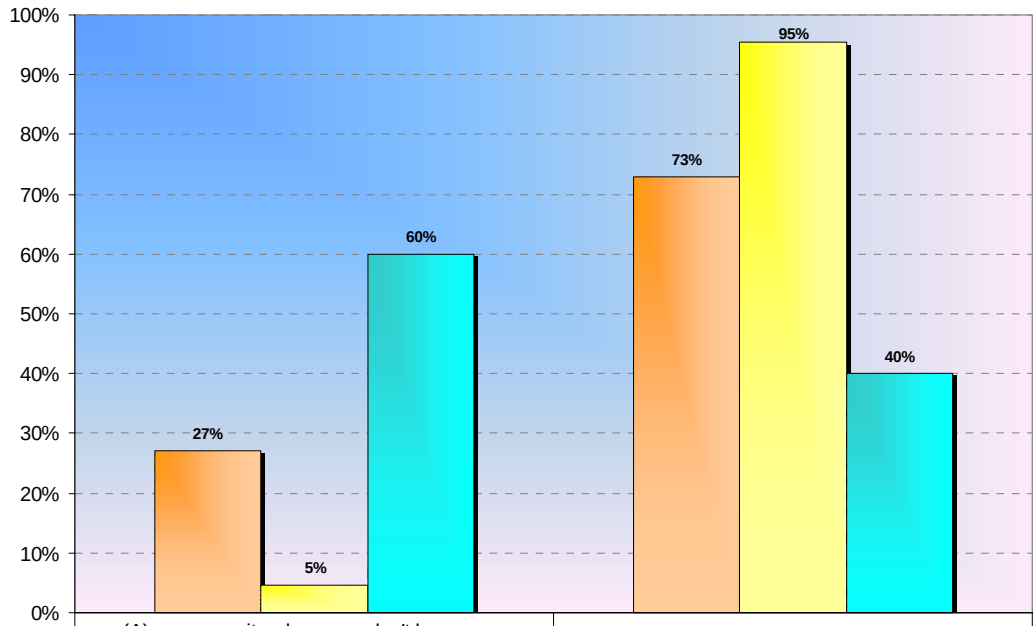
	(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside	(B) a smaller home on a smaller lot, with a high level of workmanship inside
SUMMARY OF ALL RESPONDENTS	30%	68%
BOROUGH	18%	82%
TOWNSHIP	47%	47%

PREFERENCES REGARDING SHOPPING



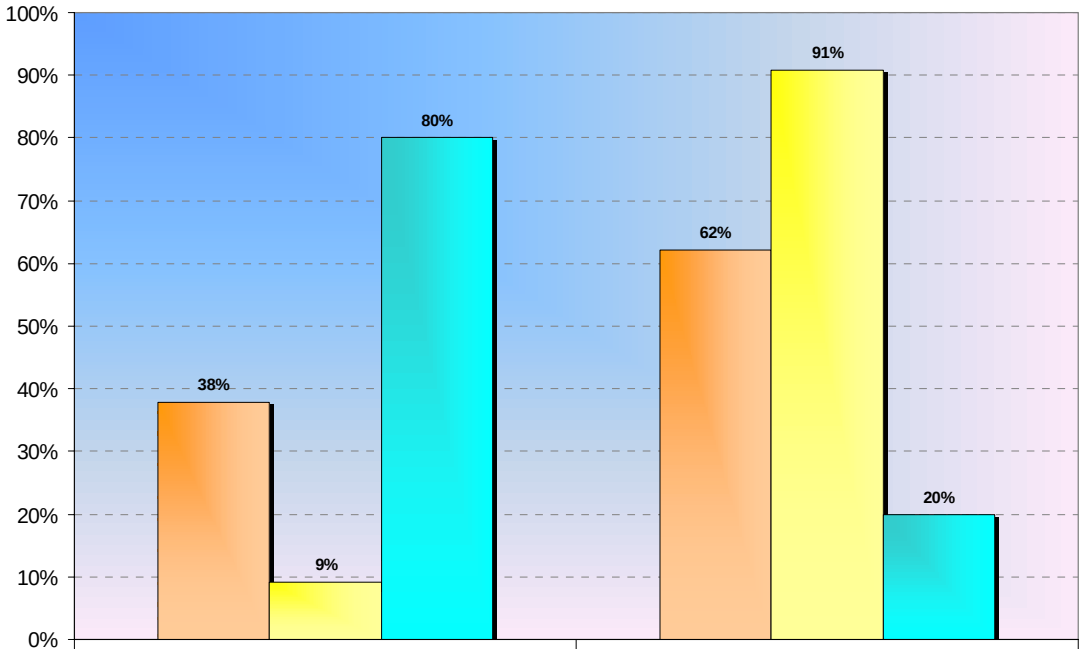
	(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store	(B) shopping at number of smaller stores where you are served by the owners
SUMMARY OF ALL RESPONDENTS	24%	78%
BOROUGH	14%	91%
TOWNSHIP	40%	60%

PREFERENCES REGARDING NEIGHBOR RELATIONS



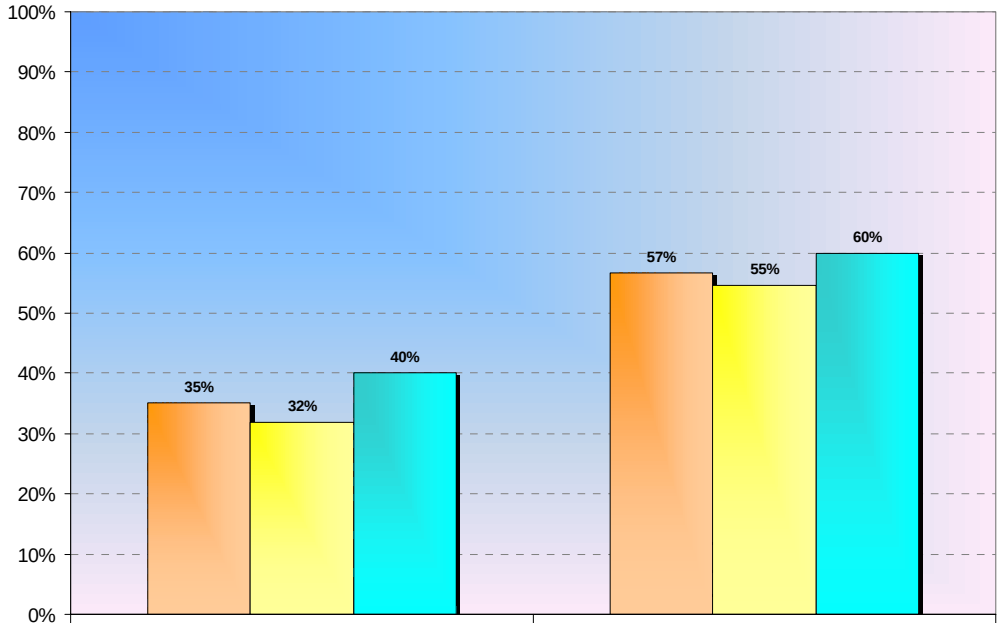
	(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy	(B) a community where you know your neighbors better and have a sense of community
SUMMARY OF ALL RESPONDENTS	27%	73%
BOROUGH	5%	95%
TOWNSHIP	60%	40%

PREFERENCES REGARDING NEIGHBORHOOD LAYOUT



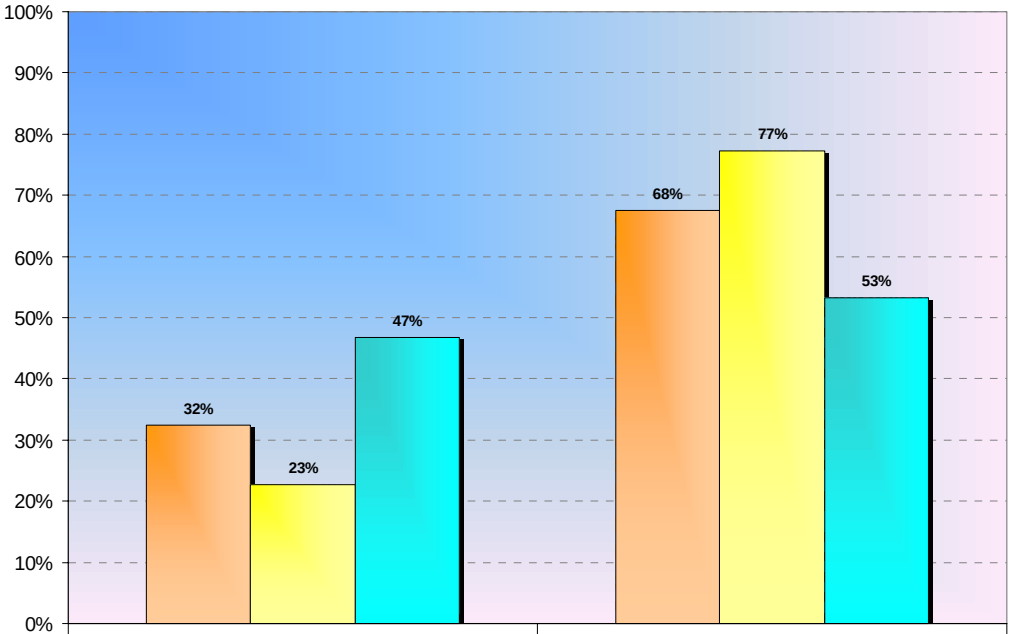
	(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance	(B) a community that features narrow through streets and smaller, more intimate parks within walking distance
SUMMARY OF ALL RESPONDENTS	38%	62%
BOROUGH	9%	91%
TOWNSHIP	80%	20%

PRFERENCES REGARDING GRANNY FLATS



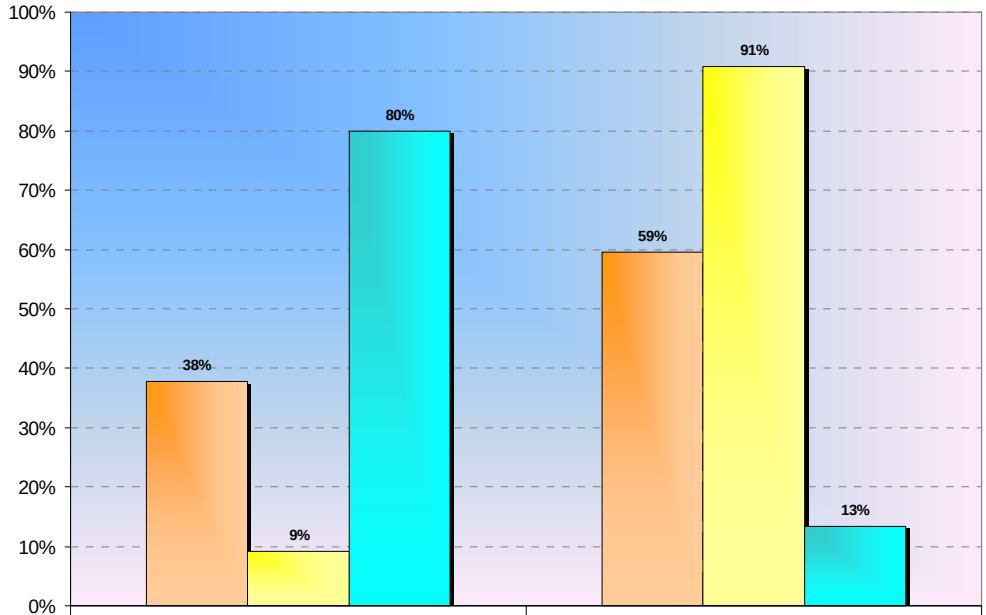
	(A) a well-loved close relative in a retirement home at some distance from you	(B) a well loved close relative in a separate unit above your garage or in the back yard
SUMMARY OF ALL RESPONDENTS	35%	57%
BOROUGH	32%	55%
TOWNSHIP	40%	60%

PREFERENCES REGARDING NEIGHBORHOOD POPULATION DIVERSITY



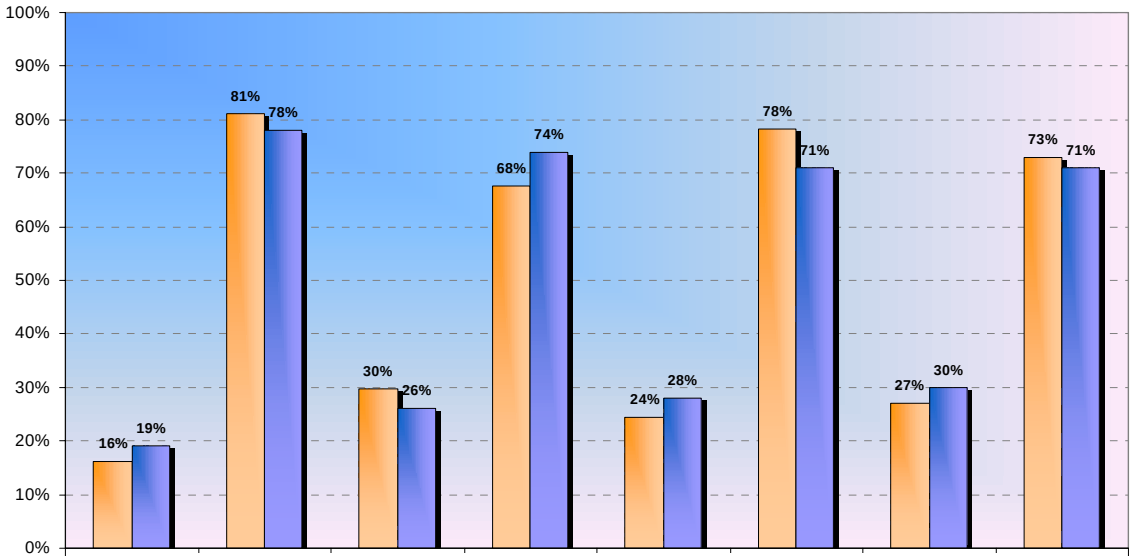
	(A) an area which predominantly houses people that are more like you	(B) and area that has a mix of singles, older people and families
SUMMARY OF ALL RESPONDENTS	32%	68%
BOROUGH	23%	77%
TOWNSHIP	47%	53%

TRADEOFF OF LOT SIZE FOR ACCESS TO SHOPPING



	(A) a home on a large lot in which you drive to shopping	(B) a home on a smaller lot within walking distance of shopping
SUMMARY OF ALL RESPONDENTS	38%	59%
BOROUGH	9%	91%
TOWNSHIP	80%	13%

Comparisons Between Doylestown Survey Results and Conservation Fund Study Results
Trade-off selections SET I



	1A	1B	2A	2B	3A	3B	4A	4B
Doylestown Survey	16%	81%	30%	68%	24%	78%	27%	73%
Conservation Fund	19%	78%	26%	74%	28%	71%	30%	71%

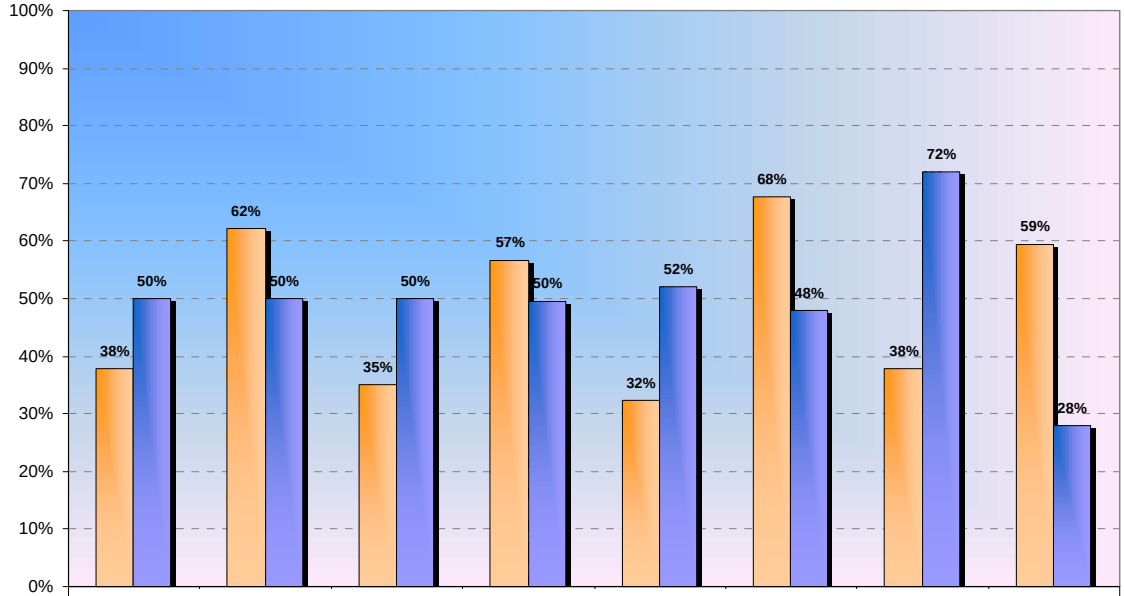
1(A) a community where kids are driven to a larger regional school
1(B) a community where kids are able to walk to a smaller neighborhood

2(A) a larger detached home on a larger lot that has few upgrades and average workmanship inside
2(B) a smaller home on a smaller lot, with a high level of workmanship inside

3(A) the convenience of shopping at a one-stop Super 'Wal-Mart' type of store
3(B) shopping at number of smaller stores where you are served by the owners

4(A) a community where you don't know your neighbors as well and are afforded a greater level of privacy
4(B) a community where you know your neighbors better and have a sense of community

Comparisons Between Doylestown Survey Results and the Conservation Fund Survey Results
Trade-off selections SET II



	5A	5B	6A	6B	7A	7B	8A	8B
Doylestown Survey	38%	62%	35%	57%	32%	68%	38%	59%
Conservation Fund	50%	50%	50%	50%	52%	48%	72%	28%

5(A) a community that features cul-de-sacs and homes with large yards, but no parks within walking distance
5(B) a community that features narrow through streets and smaller, more intimate parks within walking distance

6(A) a well-loved close relative in a retirement home at some distance from you
6(B) a well loved close relative in a separate unit above your garage or in the back yard

7(A) an area which predominantly houses people that are more like you
7(B) and area that has a mix of singles, older people and families

8(A) a home on a large lot in which you drive to shopping
8(B) a home on a smaller lot within walking distance of shopping

APPENDIX B

THE SURVEY INSTRUMENT

Dear Homeowner,
Thank you for taking time to complete this survey. This survey will be used to aid me in my thesis research on homeowner preferences for neighborhood design. Please take the next 15 minutes to fill out the survey.

When you are finished, please fold this paper so that the 'Neighborhood Design Survey' address is showing, and seal using the attached stickers. I have attached a stamp, so that you do not need to pay for postage. If you would like to remain anonymous, please remove the portion of the page which shows your address.

Thank you for taking the next 15 minutes to complete this survey.

stamp 37 cents

Neighborhood Design Survey
P.O. Box ###
Doylestown, PA 18901

PLACE STICKER HERE

PLACE STICKER HERE

PLEASE DO NOT THROW OUT

This is a very easy and short survey to complete

Neighborhood Design Survey

Neighborhood Design Survey
P.O. Box ###
Doylestown, PA
18901

To:

Resident of 34 Maple Lane
Doylestown, PA
18901

Please place a check in whichever box corresponds to your information

The first group of questions are demographic questions, so that I may draw conclusions about different market preferences. At the end of the survey, you may remove the portion of the pamphlet containing your address, should you wish to remain anonymous.

What is your annual household income?

- ☐ $75,000 or below
- ☐ $75,001 to $100,000
- ☐ $100,000 to $150,000
- ☐ Above $150,000

What is your age?

- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-70

What is your current working status?

- ☐ Currently Retired
- ☐ Within Five years of retirement
- ☐ More than five years from retirement

How many days per week do you currently commute to work?

- ☐ Four or more
- ☐ Three to Four
- ☐ Two or less/work at home

How many children live at home?

- ☐ None
- ☐ One
- ☐ Two or more

What is the likely price range for your next home? Please check one.

- ☐ under $150,000
- ☐ $150,001-$200,000
- ☐ $200,001-$300,000
- ☐ $300,001 and Above

What is the value of your current home?

- ☐ Below $150,000
- ☐ $150,000 to $200,000
- ☐ $200,000 to $300,000
- ☐ $300,000 and Above

Please rank the following factors from 1-10 for importance to you when buying a home.
Use the following scale:
1= least important
10=Most important
assign only one number to one attribute

_____ Private Backyards
_____ Cul-de-Sac Streets
_____ Large yards
_____ Swim and tennis center within walking distance
_____ Security gate
_____ Fence or wall surrounding the community
_____ Park or central green area within walking distance
_____ Historic architecture
_____ Walking access to coffee shops or restaurants
_____ Community gathering area within walking distance

Please rank the following factors from 1-10 for importance to you when buying a home.
Use the following scale:
1= least important
10=Most important
assign only one number to one attribute

_____ Good quality of schools
_____ Low to moderate traffic
_____ Pedestrian Oriented Community
_____ Close proximity to work
_____ Homes with unique or different architecture
_____ Small town charm
_____ Prestige of the area
_____ Close proximit to shopping, dining, entertainment
_____ Private/Gated Community
_____ Ability to walk to schools

Please cut here, if you wish to remain anonymous

For the next group of questions, please check which situation you prefer.

I prefer...
_____ A community where kids are driven to a larger regional school
_____ A community where kids are able to walk to a smaller neighborhood school

I prefer…
_____ A larger detached home on a larger lot that has few upgrades and average workmanship inside
_____ A smaller home on smaller lot, with a high level of workmanship inside

I prefer…
_____ The convenience of shopping at a one-stop Super 'Wal-Mart' type store
_____ Shopping at a number of smaller stores where you are served by the owners

I prefer…
_____ A community where you don't know your neighbors as well and are afforded a greater level of privacy
_____ A community where you know your neighbors better and hava sense of community

I prefer…
_____ A community that features cul-de-sacs and homes with large yards, but no parks within walking distance
_____ A community that features narrow through-streets and smaller, more intimate parks within walking distance

I prefer…
_____ A well-loved close reative in a retirement home at some distance from you
_____ A well-loved close relative in a separate unit above your garage in the back yard

I prefer…
_____ An area which predominantly houses people that are more like you
_____ An are that has a mix of singles, older people and families

I prefer…
_____ A home on a large lot in which you would drive to shopping
_____ A home on a smaller lot within walking distance of shopping

Please cut here, if you wish to remain anonymous

Please cut here, if you wish to remain anonymous

Thank you for completing the survey!

Please fold this paper so that the Survey Design P.O. BOX is showing on the outside, and please use these attached stickers to seal the pamphlet on the locations shown.
(DO NOT USE STAPLES-the post office will not accept if sealed with staples- THANK YOU)

Suzanna J. Fabry

742 S. 10 Street Apt. 3D
Philadelphia, PA 19147
s.j.fabry@att.net

Landscape Architectural Designer, educated in geography and landscape architecture. Over three years of professional experience in site specific design, and three years experience in visual assessment, county planning and tourism. Strengths include site design, planting design, as well as research and writing. Skilled in AutoCAD drafting, and computer graphics using PhotoShop, Macromedia Freehand, PageMaker and PowerPoint. Interested in stormwater management and how it can be woven into site design and regional planning. Enthusiastic about continuing professional development as a landscape architect and exploring the many facets of the profession.

EDUCATION

Master of Landscape Architecture studies, *Virginia Tech*, 1997-2000

Thesis: Neighborhood Attributes Desired by Doylestown, Pennsylvania Homeowners

Bachelor of Arts, Geography, Magna Cum Laude, *University of Arizona*, 1995

PROFESSIONAL EXPERIENCE

Landscape Architectural Designer, Wallace Roberts & Todd, LLC, 2000-present

Research Assistant/Universities Studies Team, Virginia Tech, University of West Virginia, 1998-2000

Research Assistant, Center for Rural Massachusetts and Great Falls discovery Center, University of Massachusetts, Amherst, 1995-1996

Intern, Bucks County Planning Commission, Summer 1995

HONORS AND AWARDS

ASLA Graduate Merit Award, 2000

Sigma Lambda Alpha, 1999

Phi Beta Kappa, 1995

Phi Kappa Phi, 1995

Gamma Theta Upsilon, 1994

TEACHING EXPERIENCE

Teaching Assistant, Landscape Architecture Hydrology Class, Virginia Tech, 2000

TECHNICAL SKILLS

AutoCAD 2002, Photoshop, Macromedia Freehand, Pagemaker, Powerpoint, ArcView 3.2.

SUMMARY OF WORK EXPERIENCE

Wallace Roberts & Todd, LLC: Philadelphia, PA
Junior Landscape Architect

- Took projects from concept to construction documents
  - HUB Plaza, Water Feature
  - Brooksby Senior Village Courtyard
  - Presque Isle Visitor Center Planting Plan
- Assisted Senior landscape architects with design and documentation
- Worked on large scale planning projects to small courtyard designs
- Employed AutoCAD, PhotoShop, Macromedia Freehand, Pagemaker, PowerPoint, and ArcView to complete assignments.
- Tagged Trees
- Attended meeting with clients

Visual Assessment of 765kv Powerline with American Electric Power and the Universities Studies Team, Blacksburg, VA
Research Assistant

- Assisted in a visual assessment study for a proposed powerline stretching from northwestern West Virginia to southwestern Virginia, covering over 200 miles.
- Photo documented areas along the proposed corridor for use in photo-simulations.
- Used Adobe PhotoShop to create photo-simulations showing proposed powerline corridor.
- Assisted with G.I.S. analysis of proposed route using ArcView and ArcInfo.
- Analyzed data to determine significant cultural, historic, or ecologic areas to be avoided in routing process.

Heritage Discovery Network : Great Falls Discovery Center, Turner Falls, MA
Research Assistant with the Center for Rural Massachusetts

- Assisted in preparation of a computerized tourism database for Franklin County, Massachusetts.
- The Database was a state initiative to allow small business owners to advertise free of cost, educate visitors about a locale, and thereby encourage tourism and economic development.
- Conducted phone interviews with business owners, attended public meetings, and prepared the database.

Tools and Techniques Manual : Bucks County Planning Commission, Doylestown, PA
Intern

- Researched material for a County publication entitled, *Tools and Techniques*. The document summarized and highlighted the pros and cons of planning tools and techniques available to Pennsylvania planners. It was created to be a quick reference tool for town planners.