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COMMUNITY PARTICIPATION AND TRAVEL CHOICE: AN ANALYSIS OF CENTRAL
FLORIDA NEW URBAN AND CONVENTIONAL SUBURBAN RESIDENTS

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
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ABSTRACT

Previous research has demonstrated a relationship between the built environment and social and transportation outcomes when comparing traditional and conventional suburban neighborhoods, but much remains to be learned about whether New Urbanism can produce similar results. Among studies where new urban neighborhoods have been assessed, most have centered on regions with highly-utilized public transit systems and with climates that are amenable to utilitarian physical activity. This research sought to build on the existing research base through direct comparison of new urban and conventional suburban neighborhoods in central Florida, a region with an under-developed transit system and a climate that renders utilitarian physical activity impractical. Further, this research sought to lend greater insights into neighborhood selection factors across neighborhood types.

A mixed-methods, single-case design was utilized to evaluate one new urban and one conventional suburban neighborhood in the central Florida region. Regional new urban neighborhoods were subjectively rated for adherence to tenets of the Charter of the New Urbanism, with the neighborhood (Celebration, in Osceola County, FL) found to most closely adhere to these tenets selected as the experimental group for the study. A socio-demographically comparable conventional suburban neighborhood (Sweetwater, in Seminole County, FL) was selected as the control group. Quantitative methods consisted of a household survey issued to 250 randomly- and convenience-sampled addresses in each neighborhood, followed by regression analysis to evaluate study hypotheses. Qualitative methods employed analysis of open-ended survey responses, detailed case studies of selected neighborhoods, and resident interviews. The household survey yielded net response rates of 15.79 percent and 25.50 percent

for experimental and control neighborhoods, respectively, and a mean cross-neighborhood response rate of 20.64 percent. Twenty resident interviews (10 per neighborhood) were conducted. Quantitative and qualitative findings were compared to collectively address research questions.

Regression results indicated no statistically significant difference between neighborhoods in attitudinal and behavioral components of community participation, in vehicle miles driven per week, or utilitarian physical activity frequency. However, results indicated that new urban residents had more positive attitudes toward utilitarian physical activity than conventional suburban residents and that attitudes toward community participation and utilitarian physical activity were positively correlated with associated behaviors. Qualitative findings provided substantial individual- and environmental-level insights to factors impacting evaluated attitudes and behaviors, and supported some quantitative findings while not aligning with others.

Neighborhood selection factors were found to be quite different across neighborhoods: Celebration residents identified neighborhood social atmosphere and connection to the Walt Disney Company brand as top contributors to their selection decision, while Sweetwater residents expressed that access to quality schools was the most important factor in their selection decision. Qualitative findings indicated that car culture and climate within the central Florida region diminished both attitudinal and behavioral components of utilitarian physical activity across neighborhood types.

This research expanded the understanding of the social and transportation outcomes of New Urbanism, particularly with respect to the central Florida region. While case and quantitative limitations may have impeded the ability of this study to draw decisive conclusions

about research questions, distinctive themes regarding social and transportation outcomes were identified. Findings of this research supported those of some prior studies while contradicting others, indicating that further exploration is needed to establish a firm understanding of the capabilities of new urban development to achieve desired outcomes, and of regional characteristics that may influence these outcomes.

To my brother, Johnny:

Your time with us was short, but you will forever be in our hearts.

ACKNOWLEDGMENTS

This journey could not have been completed without the love and support of the three men in my life. Mike, you took the role of Super Dad, you made everything go, and you stayed awake to let me get my 10,000 words out. Noah, your beyond-your-years patience, wisdom, and faith humble me; I aspire to one day be like you. Michael, your energy, enthusiasm, and passion for life amaze me: after you are done with pre-school, I anticipate you will earn advanced degrees in astrophysics, mechanical engineering, and meteorology and be the fastest runner yet on the Oregon track team. Thank you, my precious husband and sons, for blessing my life.

To my parents (all of them): Thank you for telling me that anything is possible.

To Noah, Michael, Denzel, Dylan, and Jaden: As a wise soul once told me, education is your passport to life. Put everything you have into it and you will undoubtedly reap the rewards.

To Heather: Pick a 2014 Ironman and I'll toe the line (and try to keep up) with you.

To Robb: I will now start working on more important things, like qualifying for Boston.

To my extended family and friends: Thank you for your understanding throughout this journey as I missed countless holiday and birthday celebrations.

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To my committee members, Dr. Ronnie Korosec, Dr. Owen Beitsch, Dr. Chris Hawkins, and Dr. Claire Knox: Thank you for driving me to the finish line. From your inputs I have taken away lessons in leadership and mentorship that will endure throughout my professional and personal pursuits.

A reminder to myself: The educational journey never ends. Stay hungry, stay foolish.

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CHAPTER 1: INTRODUCTION

Study Background

American urban and regional planning practices reflect the composite product of inherited European standards and paradigms, the desire to maximize individual and community well-being, technological and sociological evolution, economic stimulus mechanisms, and commercial opportunity. In the past century, these factors have generated a gradient of built environments, ranging from tightly-knit, high-density, mixed-use urban centers with a strong sense of place to sprawling, physically- and socially-isolated suburban neighborhoods (Frumkin, 2002; Putnam, 2000).

At its idealistic core, the field of urban and regional planning centers on one component of this multi-faceted landscape: maximizing individual and community well-being. From the City Beautiful movement in the late nineteenth century and Howard's Garden City model in the early twentieth century to Levittown and similar post-World War II suburbanization projects, urban planners and social idealists have striven to create places that promote quality of life. These milestone models demonstrated that "quality of life" is subjective and historically contextual, as they inspired both vibrant, highly-regarded urban neighborhoods and conventional suburban neighborhoods that became the breeding ground for a new set of social, public health, transportation, economic, and environmental issues (Ryan and McNally, 1995; Putnam, 2000).

Since the advent of conventional suburban development, a multitude of research demonstrating the benefits of pre-WWII traditional development has amassed. Characteristics of

traditional neighborhoods, including walkability, availability of public spaces, and inherent opportunities for casual social engagement have been established as facilitators of community participation. Likewise, grid street networks, high residential and commercial densities, and multi-use land development have been found to promote utilitarian physical activity, thereby decreasing automobile dependency and, in turn, the occurrence of chronic diseases associated with the lack of physical activity. In contrast, sprawl, low population densities, single-use land zoning, unstructured street networks, automobile-centric design, and similar characteristics of conventional suburban development have been demonstrated to discourage social interaction and utilitarian physical activity while promoting isolation, automobile-dependency, and sedentary lifestyles (Frumkin, 2002; Ewing, Pendall, and Chen, 2003; Ewing, Schmid, Killingsworth, Zlot, and Raudenbush, 2003; Lassell, 2004).

The New Urbanist movement evolved as an attempt to rectify the negative outcomes of a half-century of conventional suburban development through a return to human-scaled design elements and land use practices. New Urbanism, also referred to as neotraditionalism, leverages pre-WWII, traditional neighborhoods as blueprints for newly-developed infill, brownfill, and greenfield projects. Since its first materialization in the northwestern Florida community of Seaside, a number of master-planned communities around the globe have embraced new urban principles with varying degrees of success in resurrecting the social fabric and transit- and pedestrian-centric transportation characteristics of traditional neighborhoods (CNU, 2011; Fulton, 1996).

Proponents of New Urbanism hold that the construct seeks to improve social, transportation, and environmental factors that contribute to individual and community well-being

(CNU, 2011; Fulton, 1996). While not necessarily critical, some works have posited that the popularity of New Urbanism is the result of what seems to be growing desire, particularly among baby-boomers, to return to small-town, “Main Street” ideals (Frantz and Collins, 1999; Ross, 1999). Critics question the ability of the built environment to yield attitudinal and behavioral changes in social and transportation outcomes. Can a sense of community be manufactured? Do new urban residents with high levels of social capital bring this capital with them through their self-selection into a neighborhood that they perceive as supporting community participation? Do the physical features of new urban communities enable attitudinal and behavioral changes toward mode choice that reduce automobile usage and decrease regional traffic congestion? Do new urban neighborhoods contain enough commercial opportunities to sustain the needs of their residents? These and other related questions, while probed by researchers in the field, remain largely unanswered.

Problem Statement

New Urbanism seeks to correct multitude issues that have plagued the American population since the proliferation of conventional suburban development and, in effect, “reset” the American ideal of what a neighborhood is and should be. A strong body of research demonstrating the positive social, transportation, environmental, and health-related outcomes of traditional neighborhood design supports this effort, but the ability of new urban neighborhoods to achieve the same results remains unclear.

Much of the research to date explores social and transportation-related outcomes of New Urbanism independently rather than considering these potentially interdependent outcomes in parallel. Further, while some research has explored the impact of self-selection on observed attitudes and behaviors, there remains much to be understood about the roles of the built environment and of self-selection in social and transportation outcomes of varying neighborhood types. Additionally, many transportation-centric studies involving new urban neighborhoods are conducted in regions with established public transit systems, reputations for being pedestrian-centric, and climates that support utilitarian physical activity, thus leaving to question the cross-regional applicability of corresponding findings.

This research sought to provide further insights into the ability of New Urbanism to achieve desired social and transportation goals as well as to bridge knowledge gaps in existing research. To support a holistic understanding of outcomes of new urban and conventional suburban neighborhoods, this study evaluated one neighborhood of each type utilizing both quantitative and qualitative methods. To better understand whether observed differences are the result of the built environment itself or of neighborhood self-selection, a variety of selection factors were considered. To initiate exploration of the cross-regional applicability of prior studies' findings regarding the transportation outcomes of new urban development, this research targeted an automobile-centric, public transit deficient region where climate is a potential deterrent of utilitarian physical activity and public transit usage.

Theoretical Framework

Previous research has asserted that both individual and environmental factors contribute to determinants of public health (Frank and Engelke, 2001; Frumkin, 2002; Frank, Andreson, and Schmid, 2004), that environmental change can yield individual change (Handy, Cao, and Mokhtarian, 2005), and that individual change subsequently influences environmental change (Putnam, 2000). These concepts are well founded in social-ecological theory (SET), an epidemiological model for identifying and assessing environmental factors that contribute to individual behavior. SET posits five “targets for intervention” through which attitudes and behaviors can be influenced: 1) individual, 2) interpersonal, 3) organizational, 4) community, and 5) system or policy factors (McLeroy et al, 1988). This framework has been utilized in a number of studies exploring the impact of the built environment on social and physical health factors. Sallis and Owen (1999) utilized SET to create a model describing the interaction of six categories of factors concerning the built environment, social patterns, physical activity levels, attitudes, and health. The categories included 1) demographic and biological factors such as age, gender, race, and socioeconomic status; 2) psychological, cognitive, and emotional factors including knowledge, attitudes, beliefs about exercise, and stress levels; 3) behavioral attributes and skills, such as an individual’s past history of physical activity; 4) social and cultural factors including family and social support; 5) physical environmental factors such as the presence of sidewalks and attractive scenery; and 6) physical activity characteristics, including the intensity of an exercise session. Brownson, Baker, Housemann, Brennan, and Bacak (2001), who equated SET to systems theory, utilized this model to examine environmental and policy determinants of

physical activity and how these determinants interact with each other. Galea and Ahern (2005) evaluated education distribution in urban areas as a possible determinant of population health. Haughton (2006) evaluated the impact of environmental factors on nutritional choices with respect to disease prevention. Newes-Adeyi, Helitzer, Caulfield, and Bronner (2000) assessed designing and implementing nutritional programs for low-income families from a SET perspective.

This research evaluated attitudinal and behavioral aspects of community participation, automobile usage, and utilitarian physical activity in the context of different neighborhood types and a region with specific transportation and climate characteristics. Given the internal (personal) and external (environmental) factors that might influence respective social and transportation attitudes and behaviors, SET served as a strong framework for this research. At the individual level, the targets for intervention for attitudinal and behavioral changes intended by new urban design might include a desire to give back to the community or to foster an enriching environment for one's children. At the interpersonal level, motivators are more socially-driven and may include a neighborhood initiative to support increased parent involvement in school activities. At the organizational level, targets for intervention might include parent-teacher associations that reward students for walking or bicycling to school. Motivators at the community level may be more extrinsic and organized, such as neighborhood watch programs intended to increase neighborhood safety. Finally, system and policy factors can be equated to guidelines, rules, ordinances, and laws intended to quality of life, such as toll systems intended to reduce automobile traffic in congested areas.

Figure 1 illustrates a condensed SET model with four targets for intervention specific to the impact of neighborhood type and regional influencers on social and transportation behaviors. In this model, the neighborhood bridges both interpersonal and organizational targets for intervention, while the region bridges both organizational and community targets. These “shades of grey” reflect the interdependent, overlapping nature of the five targets in the classic SET model.

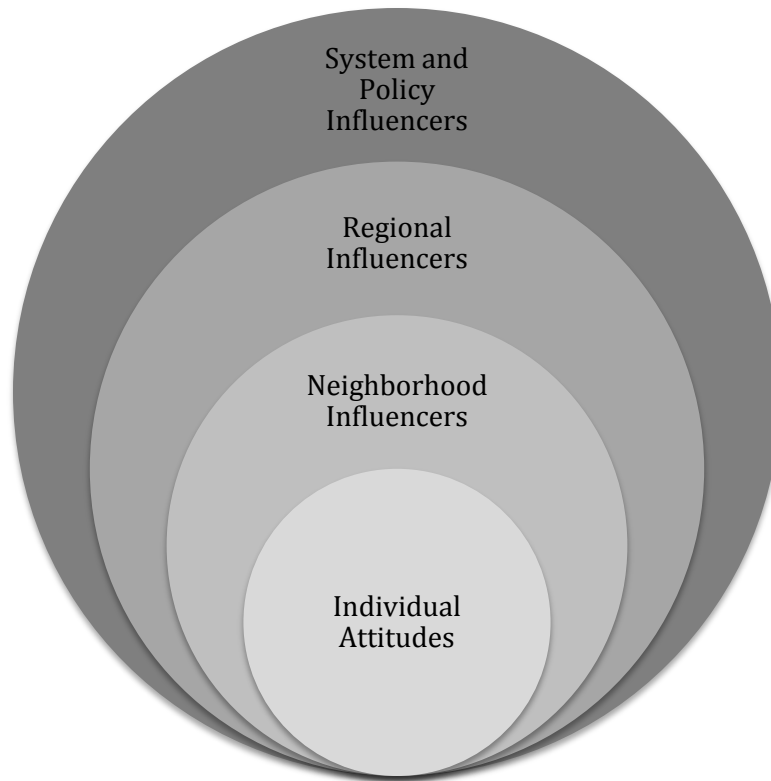


Figure 1: Condensed SET Model Representing Factors Contributing to Social and Transportation Behaviors

Research Questions and Hypotheses

This research sought to determine 1) whether neighborhood type was a significant predictor of community participation, automobile usage, and utilitarian physical activity attitudes and behaviors, 2) whether attitudes themselves were predictors of associated behaviors, 3) what factors most influenced neighborhood selection, and 4) whether regional factors contributed to

attitudinal and behavioral facets of utilitarian physical activity. Neighborhood type and attitude-behavior relationships were quantitatively and qualitatively assessed, while neighborhood selection and regional factors impacting utilitarian physical activity were evaluated solely through qualitative means.

Research questions and hypotheses evaluated in this research included:

1. What is the impact of neighborhood type on community participation?

H1: New urban neighborhood residents are more likely to have positive attitudes toward community participation than conventional suburban neighborhood residents.

H2: New urban neighborhood residents participate in community activities more frequently than conventional suburban neighborhood residents.

2. What is the impact of neighborhood type on automobile usage?

H3: New urban neighborhood residents are more likely to have drive-minimizing attitudes than conventional suburban neighborhood residents.

H4: New urban neighborhood residents driver fewer miles per week than conventional suburban neighborhood residents.

3. What is the impact of neighborhood type on utilitarian physical activity?

H5: New urban neighborhood residents are more likely to have positive attitudes toward utilitarian physical activity than conventional suburban neighborhood residents.

H6: New urban neighborhood residents make more utilitarian walking and bicycling trips per week than conventional suburban neighborhood residents.

4. What is the impact of community participation, automobile usage, and utilitarian physical activity attitudes on associated behaviors?

H7: There is a positive correlation between attitudes supportive of community participation and frequency of community participation.

H8: There is a negative correlation between attitudes supportive of minimizing automobile usage and vehicle miles driven per week.

H9: There is a positive correlation between attitudes supportive of utilitarian physical activity and frequency of utilitarian physical activity.

5. What factors impact neighborhood selection, and are these factors consistent across neighborhood types?

6. What, if any, regional factors impact attitudes and behaviors with respect to utilitarian physical activity, and are these factors consistent across neighborhood types?

The variables and directionality of relationships assessed in each of the above hypotheses are detailed in Figure 2 and Figure 3. Figure 2: illustrates hypotheses H1—H6, which evaluated the impact of neighborhood type on attitudes and behaviors. Figure 3 illustrates hypotheses H7—H9, which evaluated the impact of attitudes on respective behaviors. Research questions five and six were evaluated utilizing qualitative, exploratory means, and no hypotheses were posed for these questions.

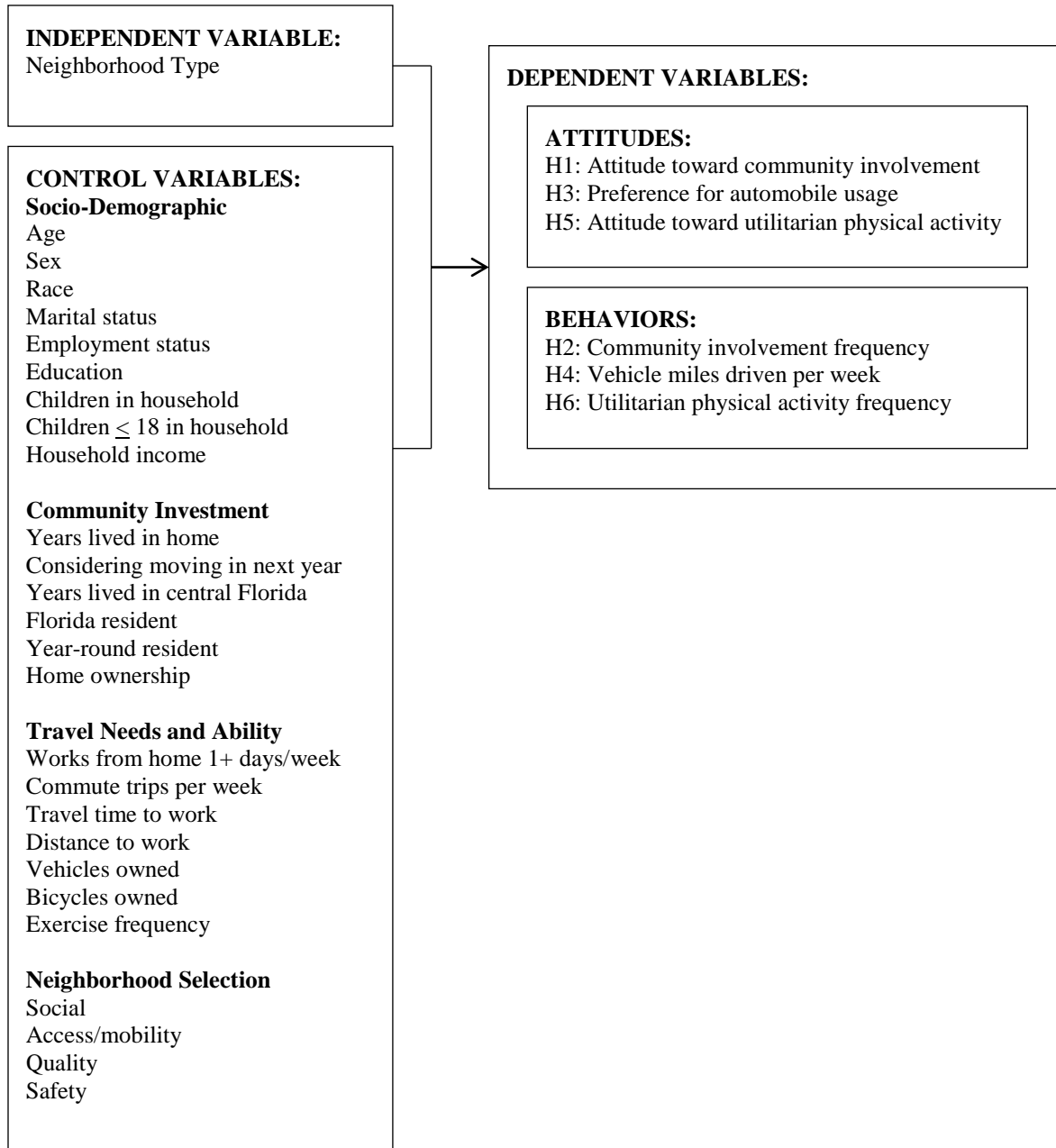


Figure 2: Proposed Model for Impact of Neighborhood Type on Community Participation, Automobile Usage, and Utilitarian Physical Activity

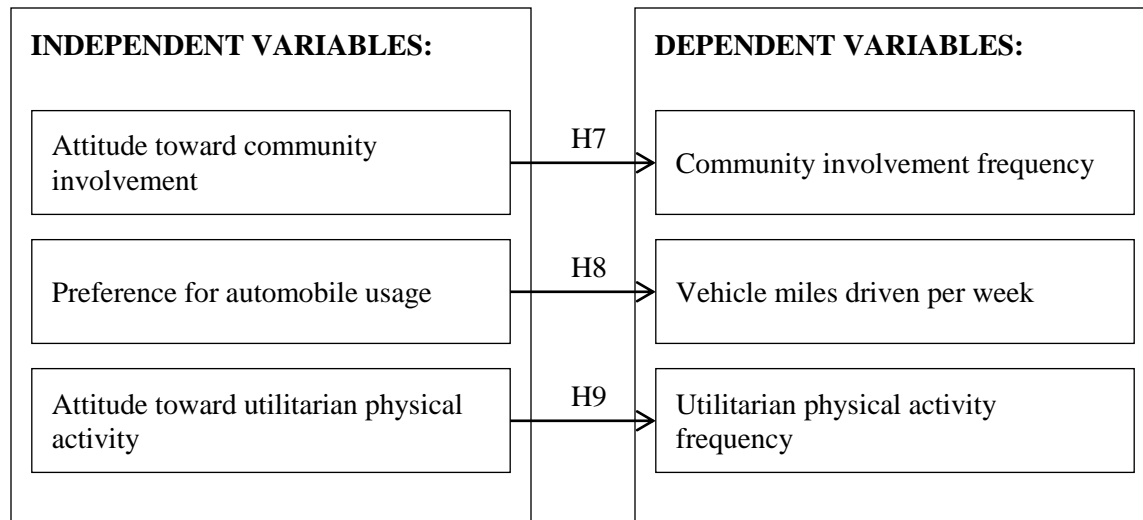


Figure 3: Proposed Model for Impact of Community Participation, Automobile Usage, and Utilitarian Physical Activity Attitudes on Respective Behaviors

CHAPTER 2: LITERATURE REVIEW

The Evolution of Urban Planning in the United States

Like many fields, urban planning has evolved on a basis of need. Pioneering Americans brought with them European standards for shaping towns and cities, and these standards have been continuously modified to suit economic, moral, technological, environmental, and political demands. Borrowed European ideals for the built environment are best reflected in older American neighborhoods, specifically those built before World War II (WWII). These neighborhoods, commonly referred to as “traditional” neighborhoods, are typically located in urban city centers and immediate periphery. In general, the further away from city centers and into the post-WWII era neighborhoods are built, the less traditional they become (Ryan and McNally, 1995; Levy, 2006).

The Industrial Revolution to the National Housing Act

A medley of movements, paradigm shifts, technological advancements, and legislation have driven the evolution of urban planning practices in the United States. The impetus of many modern planning practices was the substantial growth of city centers in the late nineteenth century, a product of the combined effects of immigration and the Industrial Revolution. This growth resulted in overcrowding and poor living conditions, particularly in lower-income areas

(Schilling and Linton, 2005). Recognizing that an inadequate infrastructure exacerbated an already unsanitary environment, early planners embarked on a mission to municipalize urban sanitation in the 1880s (Knowlton, 2001). At the same time, the understanding of how microbes impacted human health was evolving: the miasma theory of disease, which projected that “bad air” resulted in common diseases such as cholera, typhoid, malaria, and tuberculosis, was replaced with the germ theory, a breakthrough that illuminated the role of microorganisms in these diseases and subsequently lead to public health reform (Schilling and Linton, 2005; Melosi, 2000).

The City Beautiful movement, a milestone in US urban planning, was jump-started by the 1893 Columbia Exposition in Chicago, Illinois. This movement sought to blend utilitarian urban infrastructure with aesthetically pleasing design elements through the fusion of municipal art, civic improvement, and landscape design. The fusion of infrastructure and quality of life embarked by the City Beautiful movement transcended into the early twentieth century when US planners continued to seek rectification of health issues in urban centers. Tenement residential structures in New York City, a product of the mass migration to urban centers in the late nineteenth century, were rampant with acute, easily transmissible diseases. Public health professionals concluded that the extremely cramped living conditions of tenement structures, coupled with inadequate natural lighting, poor ventilation, and inadequate plumbing, was the primary source of disease proliferation. The outcome of this assessment was the first urban planning legislation to pass in the US, the New York City Tenement Housing Act of 1901 (Frank, Engelke, and Schmid, 2003; Levy, 2006).

Like the City Beautiful movement, Ebenezer Howard's garden city model sought to alleviate the ailments of overpopulated urban city centers. Howard proposed diverting urban populations to new urban centers, or "garden cities", in which a balance of city and country living would be achieved. The garden city (Figure 4) would include a central business hub encircled first by homes and gardens, then by agricultural and industrial areas. Boulevards radiating from the business hub would be the basis for a circular grid street network that provided ease of access between the business, residential, agricultural, and industrial areas, and rail lines would provide access to other garden cities. Residential areas would be a walkable distance both from the business hub and from industrial areas on the periphery, but far enough from these areas not to be exposed to pollution or associated traffic congestion. Between employment opportunities in the business hub and in industrial and agricultural areas, a single garden city could sustain employment of its residents, thus eliminating the need to commute to other areas. Howard's vision was realized in two London-area communities, Letchworth Garden City, founded in 1903, and Welwyn Garden City, founded in 1919. Both Letchworth and Welwyn were deemed successful endeavors through enablement of a strong community life, local employment, proliferation of industries, and overall self-sustainability. The success of Letchworth and Welwyn inspired development of numerous other European cities based on the garden city model, as well as the community of Radburn in New Jersey; Sunnyside Gardens in Queens, New York; Columbia, Maryland; and Reston, Virginia in the United States (Frank, Engelke, and Schmid, 2003; Howard, 1902/1946; Levy, 2006; Fulton, 1996).

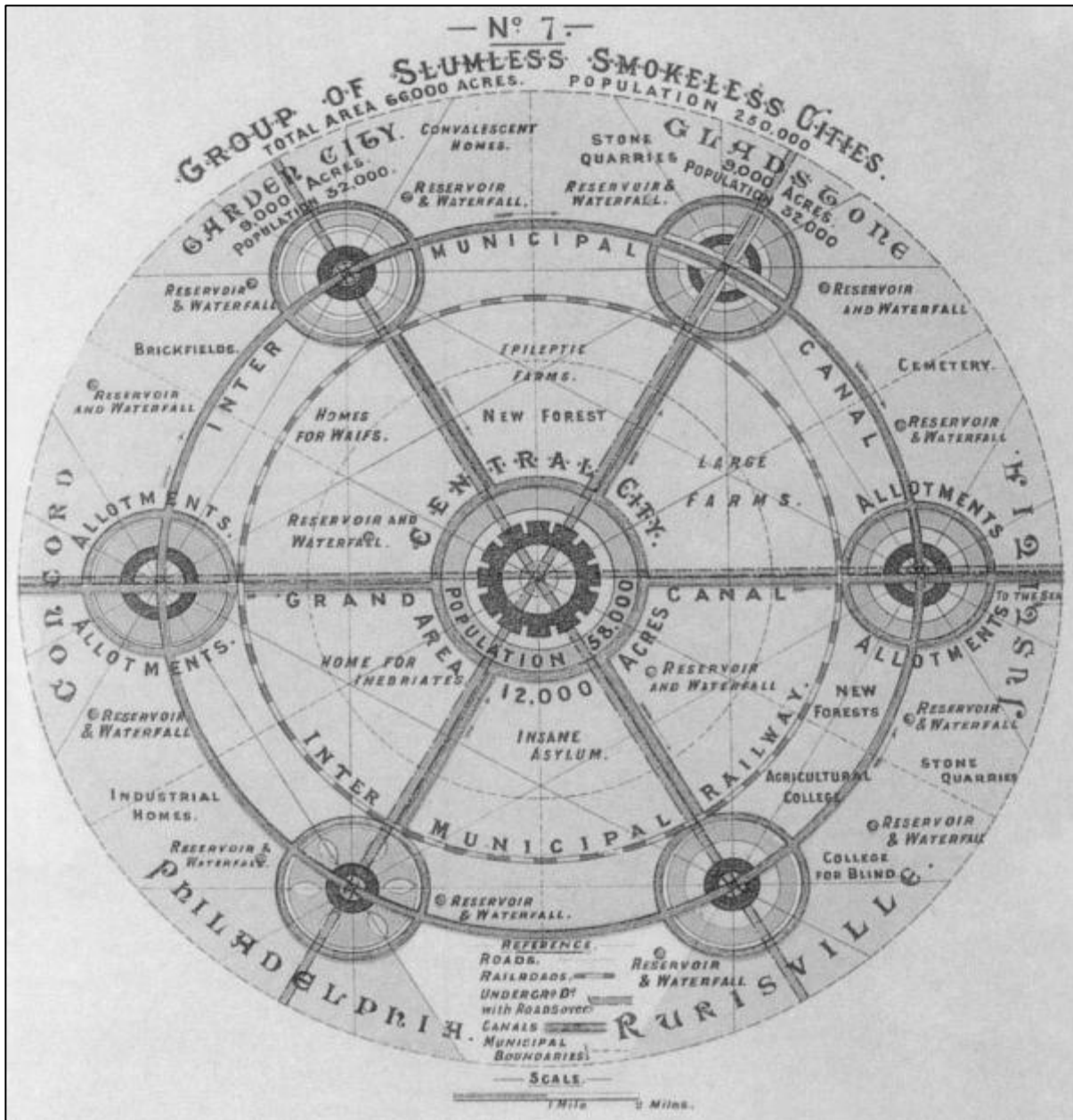


Figure 4: Howard's Garden City Model

The practice of separating land uses, also referred to as land use zoning, was driven in part by Neighborhood Unit Plan (NUP) introduced by Clarence Perry in 1923. Perry realized that, with the proliferation of automobiles, traffic thoroughfares divided areas that could once be

easily traveled on foot. He concluded that the areas between these thoroughfares—neighborhoods—were the basic unit around which city design should occur and were the only areas that planning could control. This in mind, Perry proposed that cities be divided into self-contained units (neighborhoods) that were flanked on four sides by traffic arteries that were part of a larger grid of street networks and enclosed neighborhoods. Each neighborhood's enclosure within major arteries would prevent nonresidents from entering the neighborhood on foot—a characteristic Perry purported as a benefit of the NUP design (Lawhon, 2009).

Perry's NUP provided a construct for definition of the neighborhood that in some ways established an ideal neighborhood environment and in others contributed to the ailments generated by the implementation of conventional suburban development techniques in the latter half of the twentieth century. Perry proposed that the neighborhood should provide education for children through contained schools, recreational spaces for children, contained service and retail venues, and facilitate a safe and attractive environment (Lawhon, 2009). As described later in this chapter, these core functions of the neighborhood are among the characteristics readily researched in the modern urban planning community as characteristics that promote social capital and utilitarian physical activity. However, the NUP detracted from inter-neighborhood pedestrianism by separating neighborhoods by pedestrian-detering traffic thoroughways, thus supporting automobile dependency. Additionally, within each NUP, Perry embraced an unstructured, curvilinear street network intended to deter through traffic. While this strategy would reduce automobile traffic within neighborhoods, it would also create longer point-to-point routes between destinations within the neighborhood, making it more difficult to access within-

neighborhood destinations on foot or on bicycle (Frank, Engelke, and Schmid, 2003; Levy, 2006).

While housing reform in the early twentieth century was intended to address public health and economic concerns, it both encouraged and limited social progression. This quandary is perhaps demonstrated best by the outcomes of the National Housing Act of 1934, which resulted in the formation of the Federal Housing Administration and a number of subsequent housing policies (United States Department of Housing and Urban Development, 2008; von Hoffman, 2000). The National Housing Act of 1934 facilitated an unprecedented increase in home-ownership through the provision of ninety-percent mortgages while contributing simultaneously to “urban flight” and development of suburban neighborhoods on the periphery of urban centers. As a result, while middle class families sought an increased standard of living in suburban neighborhoods, many urban neighborhoods areas were left desolate and uncared for. In turn, inner city living became associated with high crime, low property values, and an eclectic mix of racial minorities, while suburban living was associated with safety, affluence, and racial homogeneity. Political and planning professionals later attempted to address this unanticipated outcome of the FHA with the Urban Renewal initiative, which sought to redirect development and investment to blighted urban areas; however, Urban Renewal was only questionably successful in achieving these objectives (Levy, 2006).

The Federal Aid Highway Act and the Proliferation of Suburbanization

During this time of policy reform, automobile ownership was proliferating throughout the US and contributing further to economic and geographic divides. The increasing number of automobiles resulted in automobile-centric development patterns that have since been accepted as the standard for land use planning and transportation infrastructure design. Automobile-centricity became especially apparent in post-WWII suburban neighborhoods, which were often scaled to the automobile rather than the pedestrian with wide streets, no or disconnected sidewalks, sparse public transit systems, and separate (rather than mixed) land uses (Frank, Engelke, and Schmid, 2003).

The Federal Aid Highway Act of 1956, passed by Congress during the tenure of the Eisenhower administration, further aided automobile-centricity. The legislation was supported by vehicle excise and fuel taxes utilized to establish the Highway Trust Fund, which was dedicated specifically to highway construction. Implemented in part as a means of establishing a consistent national highway network to meet growing automobile travel needs and in part as an economic stimulus for central business districts through improved access to these areas, the Federal Aid Highway Act enhanced regional and national connectivity but also created barriers within and around cities. In some cases, highways bisected cities and rendered pedestrian travel from one side of the highway to the other impossible. In others, beltways were built around major cities, prompting businesses to be built along beltways, further promoting suburban sprawl, and giving rise to the edge city, new communities located on the periphery of metropolitan areas. The establishment of an interstate highway system also shifted freight

hauling from rail- to truck-based, which further accelerated urban decentralization through ready-availability of goods in locations without direct rail line access (Levy, 2006).

The secondary market for mortgages enabled by the Federal Housing Administration, the post-WWII economic prosperity, the desire to move away from plighted urban areas, and the growing roadway infrastructure, jointly supported an unprecedented level of suburban construction in the mid-twentieth century (Meredith, 2003). While the Industrial Revolution and tenement housing resulted in airborne acute illnesses becoming a major health threat in the late nineteenth century, suburbanization, a factor demonstrated to be a contributing factor to decreased physical activity, played a role in the rise of chronic illnesses such as heart disease and diabetes in recent decades (Frank, Andresen, and Schmid, 2004).

As automobile culture grew, opportunities for informal social encounters diminished. Garages were moved from the alley-ways behind homes to being attached at the front to enable direct access to the street. This design evolution enabled commuters to drive from their place of work directly into their garage and walk directly into their adjoined home, thus avoiding social interaction with neighbors or passers-by. Garages replaced front porches, which formerly provided opportunity for unplanned socialization with neighbors, and the family unit retreated to the confines of the home interior and the fenced backyard. With suburban home plots large enough to have sizable private yards, the value of the neighborhood park weakened. Schools were built on neighborhood periphery—where land was cheaper—or in another neighborhood or location altogether. With schools located farther away, students were bussed to and from school instead of walking or riding a bicycle. Through single use planning, commercial venues were not permitted to be built within residential areas, and were often built too far from homes to be

accessed on foot or on bicycle. Fewer walkable destinations lent to fewer opportunities for unplanned social interaction and to a shift to a more private social lifestyle (Frank, Engelke, and Schmid, 2003; Frantz and Collins, 1999; Putnam, 2000).

The Introduction of New Urbanism

While the policies enabling suburbanization offered Americans an escape from heavily-populated areas, more house for the dollar (as compared to homes closer to city centers), increased opportunity for homeownership, and the abundant independence afforded by the automobile, it also derailed centuries-old urban design practices that supported social, physical, and environmental health. In suburbia, neighbors were no longer “neighborly” with one another, people became disengaged with community life, and the overall level of social capital fell (Putnam, 2000). The automobile-centric development practices that were part of the suburban “package” altered attitudes toward utilitarian physical activity and enforced automobile dependency (Ryan and McNally, 1995). Where traditional neighborhoods provided a vibrant mixture of retail and service venues within walking distance from homes to sustain the social and commercial needs of the community, the single-use land zoning of conventional suburban development removed this internal social and commercial fabric and redirected it to outlying commercial areas that were only accessible by automobile. The attitudinal and behavioral changes of conventional suburban development also transcended to children: rather than walking or riding their bicycles to schools located in the heart of the community, to the local market to

enjoy a Coca-Cola with friends, or to after-school activities, children of suburbia relied on their “personal taxi” parents to drive them to schools located outside of neighborhood boundaries and to social and extracurricular activities. Conventional suburban living encouraged adults and children to defer to the private seclusion of personal automobiles and, in turn, bypass opportunities for casual social engagement and health-supporting utilitarian physical activity.

Was this a healthy, fulfilling way to live? Was this the lifestyle parents wanted for their children? Was the deterioration of sense of community and sense of place worth having a bigger house and larger plot of land? As the negative impacts of suburbanization were increasingly realized, this type of counter-argument proliferated among urban planners and the general public alike. Gradually, a modern alternative to conventional suburban development, one that retrofitted modern conveniences to the design features known to create and sustain a sense of community and encourage non-automobile travel, emerged. This alternative, the New Urbanism, embraced seemingly forgotten design practices and would evolve to be a driving force, from both urban planning and economic perspectives, of forward-thinking community planning.

Design principles supported by the New Urbanist movement first materialized in Seaside, a planned community located on the Gulf of Mexico in northwestern Florida. Spearheaded by landowners and developers Robert and Daryl Davis and esteemed architects Andres Duany and Elizabeth Plater-Zyberk, Seaside is considered by the urban planning community to be the unofficial starting point of new urban development. Designed by Duany and Plater-Zyberk in 1981 and 1982, they and the Davis’ sought to create a community that revived social engagement and pedestrianism and offer an alternative to the condominium and strip-mall dotted Gulf coastline (Fulton, 1996; Seaside Institute, n.d.). Although it has received a fair share of criticism

(largely for its part-time resident base), Seaside's neotraditional design elements and progressive attempt at social engineering would make it a readily-referenced milestone in the New Urbanist movement (Fulton, 1996).

After Seaside, Duany and Plater-Zyberk went on to be heavy-hitters in the New Urbanist movement. Along with other architects with similar planning ideals, including Peter Calthorpe, Elizabeth Moule, Stefanos Polyzoides, and Dan Solomon, they co-founded the Congress for the New Urbanism (CNU) in 1993. The CNU advocates not only new developments like Seaside, but also infill and brownfill developments that embrace traditional design principles to encourage community-building and reduce automobile-dependency. The organization leverages the interdisciplinary input of urban planners, public health professionals, and academics to restore existing urban areas, reconfigure sprawling suburban areas to enable greater diversity, preserve the natural environment, promote mixed-use development and walkability, and enable self-sustaining communities (CNU, 2011).

In the nearly 20 years since the CNU was founded, it has become the most-recognized voice and body of governance for the New Urbanism. Core to its governance is its Charter of the New Urbanism, which is readily-leveraged as a framework for developing new urban neighborhoods and for assessing their adherence to CNU principles. The Charter of the New Urbanism specifies three categories of development standards: 1) those targeted to the region (metropolis, city, and town); 2) those targeted to the neighborhood, district, and corridor; and 3) and those targeted to the block, street, and building. Regional components of the charter focus on larger-scale environmental, economic, transportation, and land use policies believed to be integral to retrofitting existing neighborhoods and appropriately planning for future

neighborhoods. Neighborhood-level components of the charter focus on establishing a distinguishable sense of place, walkability, residential and commercial densities, socio-demographically-heterogeneous housing and resident make-up, the presence of schools and public gathering places, sustainable economic health, and within-neighborhood conservation areas. Block, street, and building components prescribe optimal architectural and landscape design, roadways that safely accommodate pedestrians and automobiles, neighborhood safety, environmentally-friendly technologies, and historic preservation and renewal (CNU, 2001). The Charter of the New Urbanism is detailed in Appendix A.

Since Seaside, new urban projects have taken a variety of shapes, ranging from neighborhoods that seek to embrace as many characteristics specified in the Charter of the New Urbanism as possible to those that seemingly seek to benefit from the marketing buzz of the New Urbanist movement through inclusion of select superficial new urban-esque design elements like front porches and rear-facing garages. Other “new urban” developments are commercial-only outdoor malls that, while fairly successful at reinvigorating the storefront in a Main Street-type, intimate atmosphere, employ superficial mixed-use facades, such as faux upper story residences above street-level commercial venues).

Relationships between the Built Environment, Community Participation, and Travel Mode

The advent of the New Urbanist movement has initiated a deep interest in researching the impact of the built environment on anticipated outcomes of new urban communities. In parallel,

to define these anticipated outcomes, a significant amount of research on the social and transportation outcomes of traditional neighborhoods, the benchmark for new urban communities, has been conducted. Pursuant to the interdisciplinary nature of the goals of New Urbanism, corresponding research is threaded with themes of public and individual health, environmentalism, sociology, and economic policy. This study targeted the community participation, automobile usage, and utilitarian physical activity outcomes of new urban and conventional suburban neighborhoods. Accordingly, the review of literature below details recent studies focusing on social and transportation outcomes of the built environment.

Handy (1996a) evaluated the methodologies utilized to study the relationship between urban form and travel behavior. A large portion of research centers on two techniques: leveraging findings from traditional neighborhoods as a proxy for new urban neighborhoods in comparing travel between new urban and conventional suburban models, and utilizing aggregated (neighborhood-level) data to compare travel behaviors across neighborhoods of varying design or density. Handy suggested that, while these methods were successful in demonstrating that higher density neighborhoods yielded fewer automobile trips and shorter automobile trip distances, they might be less effective in providing insights needed to establish effective local and regional policies. Rather than these methods, Handy suggested that travel choice models, in which disaggregate (individual-level) data representing neighborhood form and other factors that predict mode choice, be utilized. Travel choice models take into account a broad array of factors—for instance, the quality and level of customer service of a particular retail venue, whether the walking route to a destination is shaded, or whether there are nearby transit stops—that may carry more weight in mode choice than characteristics of the built

environment. Handy contended that the choices available to individuals, and the desirability of these choices, that guide travel behavior, and that planners and policy-makers should focus on providing residents choices that make non-automobile modes of transportation more appealing rather than trying to shape new behaviors through policies targeting urban form.

In a continuation of her earlier work, Handy (1996b) applied a travel choice model to four San Francisco area neighborhoods to evaluate the relationship between the built environment and shopping travel patterns. Neighborhoods were selected based on their location within the region and accessibility to retail centers. Silicon Valley was identified as a well-developed and regionally-accessible region, while Santa Rosa was identified as a less accessible region. Within each Silicon Valley and Santa Rosa, two neighborhoods (one traditional and one modern) were selected. Traditional neighborhoods exhibited rectilinear grid street networks and were built around the turn of the twentieth century. Modern neighborhoods were post-WWII and exhibited the curvilinear street networks and cul-de-sacs that are typical of suburban neighborhoods. Socioeconomic factors were also considered in neighborhood selection. Through quantitative and qualitative evaluations, Handy assessed whether the mode and destination options inherent to each neighborhood influenced the choices that residents made. Findings indicated that accessibility and destination choice impacted travel choices on multiple fronts. Higher accessibility with no variation in destination choices was found to lead to shorter trips. The pairing of higher accessibility and more destination choices was found to offset the benefits of nearby destinations by producing, on average, longer trips to regional shopping areas. The pairing of higher accessibility and more destination choices was also found to increase trip

frequency. Additionally, higher actual accessibility with higher perceptions of accessibility was found to contribute to more frequent utilitarian walking trips.

In another study of four San Francisco Bay neighborhoods, Lamont (2001) assessed the impact of new urban environments on pedestrianism and automobile usage. The study consisted of a two-stage surveying process: 1) an assessment of neighborhood walkability that was subsequently utilized to create a walkability spectrum and 2) an evaluation of the accuracy of the walkability spectrum paired with an assessment of residents' perceptions of walkability and their use of neighborhood amenities. The combined results of the two surveys were utilized to determine if variations in urban form (less walkable or more walkable) impacted perceived walkability, use of neighborhood amenities, and perceptions of neighborhood livability. The accuracy of the walkability spectrum was confirmed with respondents' reported travel behaviors and neighborhood perceptions. Results also indicated that the distance to neighborhood amenities played the biggest role in walking frequency, with residents that lived closer to neighborhood amenities making more walking trips than residents that lived further away.

Podobnik (2002) studied three neighborhoods—one traditional, one conventional suburban, and one new urban—in and near Portland, OR to examine the social and travel impacts of living in a higher density neighborhood. The study positioned Orenco Station, a widely researched new urban neighborhood, as the experimental group, and the traditional and conventional suburban neighborhoods as control groups. When contrasted with expectations of New Urbanism stated by the CNU (2001), this study produced mixed results: new urban residents were more likely to be socially active in their neighborhoods but were more automobile-dependent than either control group. Podobnik found that 40% of Orenco Station

residents reported participation in formal or informal neighborhood groups, compared with 31% and 30% in traditional and conventional suburban neighborhoods, respectively. In contrast, 24.1% of Orenco Station residents reported only using mass transit, carpooling, walking, biking, or mixed modes of transportation, compared with 33.6% and 27.8% in traditional and conventional suburban neighborhoods, respectively.

Leyden (2003) evaluated eight neighborhoods in Galway, Ireland to determine the impact of neighborhood type on walkability, and, in turn, the impact of neighborhood walkability on social capital. Neighborhoods evaluated were classified as one of three types: 1) neighborhoods in or near the city center, characterized by abundant mixed-use development and easy pedestrian travel; 2) older, mixed-use suburban neighborhoods, characterized by some mixed-use development and moderate ease of pedestrian travel; and 3) modern, automobile-dependent suburban neighborhoods, which were entirely automobile-centric with little, if any, pedestrian support. To gauge walkability and to validate the neighborhood classification scheme, a walkability index that rated the ease of walking to nine common destinations was utilized. Four measures of social capital—how well residents know their neighbors, frequency of political participation, a trust index, and a social participation index—were utilized as dependent variables. Results indicated that resident perceptions drawn from the walkability index supported the Leyden's neighborhood classification method. Further, results indicated a positive correlation between perceived walkability and social capital.

Like Leyden (2003), Lund (2003) assessed the sequential impact of the built environment on pedestrianism and of pedestrianism on social interaction, but progressed a step further to determine if the built environment directly impacted social interaction. Eight Portland, OR area

neighborhoods were selected and grouped on a basis of neighborhood type and era built, with four neighborhoods categorized as inner city, pre-WWII, and four as suburban, post-WWII. Among these neighborhoods, some were new urban—including Orenco Station, the new urban neighborhood also studied by Podobnik (2002)—some traditional, and some a hybrid of the two types. Distinctions in the study, however, were not based on neighborhood type, but on their level of access to retail centers and parks, followed by their proximity to the city center and era built.

Lund (2003) utilized walking trip frequency and acts of neighboring as dependent variables, hypothesizing 1) that neighborhood design elements, such as retail centers and parks, facilitated increased walking trip frequency; 2) that the same design elements facilitated more frequent acts of neighboring; 3) that increased walking trip frequency influenced more frequent acts of neighboring; 4) that increased neighborhood age influenced more frequent acts of neighboring; and 5) that increased neighborhood age influenced increased walking trip frequency. At the neighborhood level, results indicated that utilitarian (purposeful) trips were higher in neighborhoods with embedded retail centers; that unplanned neighbor interaction was higher in neighborhoods with embedded parks; and that inner-city neighborhood residents made more utilitarian trips and had more social ties than residents of suburban neighborhoods. At the individual level, Lund found that embedded retail and parks and attitudes toward the importance of utilitarian walking most significantly contributed to utilitarian trip frequency. Likewise, the importance of utilitarian trips was a factor in strolling (recreational) trip frequency. Also at the individual level, results indicated that the number of strolling trips made was the most significant determinant of unplanned neighbor interactions, followed by the importance residents placed on

neighbor interaction. In turn, the importance of neighbor interaction had the greatest impact on the frequency of supportive acts of neighboring, such as helping a neighbor with a project, and on the number of social ties in the immediate vicinity.

Khattak and Rodriguez (2005) surveyed residents from one new urban and one conventional suburban neighborhood (in Carrboro and Chapel Hill, North Carolina, respectively) to determine if reductions in the number of driving trips as a percentage of all trips were a result of substitution with walking trips, or a result making more trips overall. After controlling for self-selection, results indicated that residents of the new urban neighborhood did substitute driving trips with walking trips. While residents of both neighborhoods were found to make a similar number of total trips, new urban residents made 20% fewer driving trips per day, 24.1% fewer external (outside neighborhood) trips per day, and to travel 24.3% fewer miles per day.

Handy, Cao, and Mokhtarian (2005) evaluated the relationship between neighborhood characteristics and travel behavior in a study of eight northern California neighborhoods. The authors note that many studies fall short of assessing the impact of time on travel behavior and that cross-sectional studies often do not account for self-selection and related attitudes. To remedy this issue, a novel, multi-method approach was utilized: multivariate analysis was conducted on cross-sectional data to evaluate the role of attitudes on travel behaviors in different neighborhood types, while a quasi-longitudinal analysis was utilized to assess the relationship between the built environment and travel behavior. The latter method incorporated resident feedback about their attitudes and behaviors in current and previous neighborhoods and compared responses to determine if changes in neighborhood type resulted in respective attitudinal and behavioral changes. Cross-sectional results indicated that residents of

conventional suburban neighborhoods drove 18% more miles per week than residents of traditional neighborhoods, that car-dependent attitudes most significantly impacted the number of vehicle miles driven, and that only attitudes toward transportation—not physical characteristics of the built environment—explained differences in vehicle miles traveled between neighborhood types. Results from quasi-longitudinal analysis indicated a positive correlation between neighborhood walkability and walking frequency, and that changes in neighborhood characteristics (i.e., moving to a different neighborhood) impacted walking frequency more significantly than it impacted other dependent variables. The only variable significantly impacting changes in driving was accessibility to frequent destinations, with a negative correlation between vehicle miles driven and accessibility. As stated by the authors, these results imply that changes in neighborhood characteristics better explain changes in walking than it did changes in driving.

In a review of 22 studies on travel behavior and 28 studies on physical activity, Handy (2005) concluded that a definitive, causal relationship between the built environment and physical activity (utilitarian or recreational) could not be established. The study did, however, make several specific conclusions about this body of research, including 1) that a strong correlation exists between accessibility and away-from-home physical activity; 2) the impact of built environment design variables on physical activity is ambiguous; 3) design variables may impact general physical activity more than utilitarian physical activity specifically as distance, rather than design, appears to be the most important factor in utilitarian physical activity; 4) non-environmental factors—specifically, individual and interpersonal factors—appear to better

explain physical activity than the built environment; and 5) while a supportive built environment encourages physical activity, it does not ensure it.

Dill (2006) examined how well a Portland, OR area new urban neighborhood, Fairview Village, achieved diversity, travel behavior, and sense of community outcomes anticipated by proponents of New Urbanism. Dill compared Fairview Village with two conventional suburban neighborhoods, all within three miles of each other and approximately 15 miles east of downtown Portland. Findings indicated that Fairview Village was achieving some, but not all, objectives of new urban neighborhoods, and that results congruent with expected new urban outcomes could be a result of compounding factors rather than neighborhood design. There was not a significant degree of economic, racial, or other socio-demographic diversity among any of the study groups, although Fairview Village households tended to be older and consist of fewer children. While new urban residents were found to walk more, own fewer cars, and drive fewer miles per week than conventional suburban residents, the author attributes these differences to the lack of children in new urban households (linear regression results indicated a significant, positive relationship between the number of children under the age of five and the number of miles driven per week). Further, there was no significant difference in sense of community between new urban and conventional suburban neighborhoods.

Cao, Handy, and Mokhtarian (2006) sought to determine how the built environment impacted walking trip purpose—utilitarian or strolling—and if residential self-selection into specific neighborhoods yielded a greater impact on travel choice than the built environment itself. Data obtained from a 1995 study of six, middle-income neighborhoods in Austin, Texas was utilized. Like Leyden (2003) and Lund (2003), the authors categorized neighborhoods into

groups: 1) traditional, pre-WWII neighborhoods; 2) early-modern neighborhoods, with homes built between 1950 and 1970; and 3) late modern neighborhoods, with homes built after 1970. Results indicated that both self-selection and factors attributed to the built environment contributed to walking trip frequency. Physical characteristics, such as attractiveness and ease of access of retail areas impacted utilitarian walking trips made to these areas, while owning a pet was the largest contributor to strolling trip frequency. As did Lamont (2001), the authors found that distance had the greatest influence on utilitarian trip frequency, where residents living closest to these destinations were more likely to walk to them.

In a review of literature on the impact of land use factors on travel behavior, Litman (2008) made a number of transportation-related conclusions that are applicable to this research. Focusing specifically on factors impacting per capita automobile travel, Litman found that this variable was negatively correlated with population, employment, and commercial densities; mixed land use; street connectivity; street attractiveness and safety; pedestrian and bicycle accommodation; short building setbacks (or buildings that are immediately adjacent to sidewalks or streets rather than separated by parking lots); and transit access.

The Role of Neighborhood Self-Selection

Identifying and controlling for the sources and impacts of self-selection—pre-existing preferences for design, pedestrianism, and social interaction that contribute to associated behaviors—is necessary to isolate relationships between the built environment and resulting

social and transportation social behaviors. This study built on findings from prior research about the impact of self-selection, including the studies discussed below. Methods utilized to control for self-selection are detailed in the next chapter.

Litman (2008) proposed that there are three perspectives from which self-selection, or “sorting” occurs. From an individual perspective, residents select neighborhoods that minimize social and economic disparities, and thus select neighborhoods that contain households with similar social and economic characteristics as themselves. From a neighborhood perspective, the exclusion of economically disadvantaged households resulting from individual-level selection shifts the costs of plight to other areas. Thus, the costs of crime and use of public services required to address crime are transferred to economically disadvantaged areas. Finally, from a society perspective, the isolation and concentration of disadvantaged households resulting from individual- and neighborhood-level self-selection results in an exacerbation of social problems and reduces the economic opportunities of households in these areas.

While there is merit to the self-selection schema proposed by Litman (2008), much research on the impact of the built environment focuses not on the social and economic reasons for self-selection but on attitudes and behaviors associated with social and transportation factors. Lamont (2001) polled new urban residents to gain insight about why they selected their current neighborhood. Findings indicated that some residents based their decision on their perception that the neighborhood facilitated non-automobile modes of transportation such as walking, bicycling, and transit. However, results of this study revealed that these same residents were not necessarily more likely to exhibit greater walking activity, indicating that self-selection alone is not predictive of attitudes and behaviors associated travel choices in new urban neighborhoods.

Lund (2003) found that self-selection impacted pedestrian travel behaviors but not neighboring (social) behaviors, when comparing neighborhoods with different levels of access to retail areas and parks. Cao et al. (2006) found that self-selection played a significant role in utilitarian and recreational trip frequency, with it being the most important of all factors considered in influencing utilitarian trips. One-fourth of respondents in this study reported that being able to walk to a store was a factor in their decision to move to their neighborhood. Like Lamont (2001), Dill (2006) found that preferences for walking do not always translate to travel behaviors. Results of this study indicated that, while new urban residents ranked having destinations within walking distance as being more important than conventional suburban residents did, they did not consistently walk more frequently. Dill also found that both new urban and conventional suburban residents indicated sense of community as an important factor in residential location choice.

Choocharukal, Tan Van, and Fujii (2008) examined the impact of travel behaviors on residential location choice. Studying 176 residents of two cities in Thailand, the authors concluded that automobile use preferences impacted neighborhood choice, with individuals preferring to drive more living in more automobile-centric neighborhoods and individuals preferring other means of transportation—including walking and transit—living in neighborhoods that facilitated these preferences. The authors astutely point out that such research is integral to local and regional planning policies that emphasize compact development patterns, as neighborhoods that embrace such patterns must attract residents with preferences for walking and transit-based travel to demonstrate success.

Schwanen and Mokhtarian (2007) evaluated three neighborhoods in the San Francisco Bay area to assess how predispositions toward travel and land use affect neighborhood choice. One traditional and two conventional suburban neighborhoods, varying in design, income levels, access to public transit, ethnic diversity, and home price and other land use and sociodemographic factors were assessed. Results indicated that residents of the high-density traditional neighborhood selected their location because of concern for the environment (reduced need for automobile travel) and ease of commuting (due to proximity to downtown San Francisco and access to bus routes). In contrast, residents of low-density, suburban neighborhoods selected their neighborhoods because of the flexibility, comfort, and speed of automobile travel in and around the neighborhoods and their perception of automobiles as status symbols.

Critiques of New Urbanism

While the New Urbanist movement has garnered the interest of urban planners, neighborhood developers, and the academic research community, it is not without criticism. Much of this criticism is centered on the type of social and transportation outcome questions posed in the problem statement of this research, while others explore environmental, social equity, physical health, and other related topics. Given that this research focuses solely on social engagement and transportation outcomes of New Urbanism, this section will center on literature targeting these themes.

Fulton (1996) summarizes the criticisms and issues of New Urbanism as falling into scale, transportation, planning and codes, regionalism, and marketing categories. On the issue of scale, spatial, transportation, and economic challenges make it difficult to integrate the “big box” lifestyle, which many Americans have been accustomed to, with New Urbanist ideals. On transportation, it is unclear whether new urban development is capable of relieving traffic congestion, alleviating sprawl, posing alternative (non-automobile) transportation options, and changing transportation behaviors. With respect to planning and codes, there is skepticism of whether historically inflexible local and regional bodies will readily adopt mixed-use development, thus deviating from the single-use zoning that has been utilized since industrialization initiated the first wave of suburbanization. Regarding regionalism, most new urban development to date has been neighborhood centric, and has not had impacts at the regional level. Finally, there are many skeptics of whether the marketing tactics utilized to promote New Urbanism are genuinely motivated by new urban ideals or whether they are intended to maximize capitalistic interests. Summarizing some of the key criticisms of new urban development, Fulton stated:

New Urbanists are often ridiculed as mere nostalgia peddlers by an architectural establishment that has been, in historian Vincent Scully’s words, “marinated in Modernism.” They are frequently derided by real estate developers and free-marketeers as social engineers unwilling to accept the real preferences of the American consumer. Even within the movement, some New Urbanists fear that the focus on reinventing suburban neighborhoods won’t solve broad metropolitan problems but will simply replace “suburban sprawl” with “New Urban sprawl.” (p. 1)

Talen (1999) honed in on capitalistic intent as a primary driver of new urban development, stating that, without further evidence that New Urbanism is capable of creating

sense of community, the paradigm “is nothing more than intellectual profit-making in top-down planning fashion, whereby human subjects are sacrificed on the altar of utopian planning” and that is goals of social cohesion could be “simply an excuse by developers to squeeze more development out of less land” (p. 1362). Talen also noted the tendency for socio-demographic homogeneity within new urban neighborhoods and, through an analysis of studies on human interaction, concluded that, while architectural elements of new urban design may increase frequency of interaction between residents, homogeneity may be a prerequisite for this interaction.

Talen (2002) evaluated the socially-related tenets contained in the Charter of the New Urbanism to frame critiques of the social outcomes of new urban development. Per her assessment, Talen found that the charter spanned social goals related to community, social equity, and the common good. Of 27 principles contained in the charter (Appendix A), eight pertain to equity, 19 are associated with the common good, and none apply directly to community (rather, notions of community are implied).

New Urbanism, like the City Beautiful and Garden City movements, approaches dangerous territory by merely having social objectives. Fulton (1996) and Talen (2002) conveyed that if New Urbanism ekes too far into this territory, the paradigm risks being accused of social engineering. Yet, any urban planning construct that does not consider social outcomes risks criticism for its lack of social cognizance (Talen, 2002); thus, New Urbanism and other planning constructs must find a middle ground that neither attempts to control social behaviors nor ignores social outcomes. Distinguishing between the attempt to address social goals and resolve social problems, Talen (2002) stated, “the ability of physical design to solve social

problems outright is a far more ambitious proposal, and the history of planning has shown repeatedly that this approach has had limited success” (p. 167).

Utilizing a social capital lens, Sander (2002) assessed whether the design principles of New Urbanism were capable of producing stronger communities. Four challenges in evaluating this relationship were identified: 1) outside (external) influencers; 2) the nascence of New Urbanism; 3) selection bias; and the Hawthorne effect. With respect to outside influencers, Sander cited research with findings that new urban residents traveled beyond neighborhood perimeters for employment and for daily needs, indicating that new urban neighborhoods are not necessarily capable of fulfilling their “live, work, and play” doctrine. On New Urbanism’s nascence, Sander questioned whether the excitement about civic engagement and establishment of a strong civic culture among early residents would transcend when properties were resold to new residents. Selection bias is a topic many researchers of New Urbanism (Cao et al., 2006; Choocharukal et al., 2008; Dill, 2006; Handy et al., 2005; Lamont, 2001; Litman, 2008; Lund, 2003; Schwanen and Mokhtarian, 2007) have sought to gain grater insights to. Sander pointed out that part of the challenge in studying selection bias is the generally non-experimental nature of social science research and the tendency of related research to rely on recall of attitudes and behaviors in previous neighborhoods. To effectively evaluate selection bias, Sander recommended conducting longitudinal analysis in which individuals on waiting lists for homes in new urban neighborhoods are queried while they are on the wait list (assuming they are currently living in a conventional suburban neighborhood), and again after they move into the new urban neighborhood. Finally, Sander made the comparison of new urban residents to individuals participating in an experiment. As defined by the Hawthorne and placebo effects, in which

individuals feel an expectation to demonstrate that an intervention or medical treatment is effective, Sander suggested that new urban residents feel an expectation to participate. Sander stated that,

especially in the early years of a New Urbanist community, it is hard to separate out genuine New Urbanist results from residents either wanting to make the experiment succeed or feeling as though they are taking a powerful civic pill. (p. 218)

In addition to these challenges, Sander (2002) brought light to specific cases in the Florida new urban neighborhoods of Seaside and Celebration that indicated, despite the intentions of New Urbanists, “New Urbanism may only be leading a civic horse to water” (p. 216). In Seaside, where all homes were built with front porches designed to facilitate interaction, some residents built rear porches or let their greenery grow to enable privacy (Iovine, 1997), thereby undermining designer intent. Like Frantz and Collins (1999) and Ross (1999), Sander described that the downtown area of Celebration catered more to tourists that ventured over from Disney theme parks rather than to residents, bringing to question whether the shops and service venues in downtown were intended to drive revenue for Walt Disney Company or provide value to residents.

Bartling (2002) questioned the social outcomes of New Urbanism and, specifically, those of Celebration, FL, in his analysis of relationships between community, urban design, and corporate governance. In assessing selection decisions, Bartling found that residents were guided most by a desire for community, the neighborhood’s relationship with Walt Disney Company, and plans for the progressive K-12 school. Demographic data indicated that Celebration residents tended to be relatively affluent and homogenous: household incomes were found to be considerably higher than that of Osceola County, where Celebration is located, and a

majority of residents identifying themselves as being affiliated with the Republican political party. Bartling points out that, while the neighborhood itself is not gated (per the tenets of the Charter of the New Urbanism), income and property value served as non-physical barriers to living in Celebration.

On residents selecting based on a desire for community, Bartling (2002) asserted that provision of “community” in Celebration is driven by capitalistic intent and likens “community” to a theme offered by Walt Disney Company:

Celebration can best be understood as a commodity rather than a city. Redolent of trends in contemporary political economy whereby capitalist enterprises realize profit through the manipulation of symbols to encourage the consumption of their products, Disney’s translation of the dictates of New Urbanism into practice seems to be guided more by marketing than enlightened planning. In Celebration as a marketed commodity, signs and codes manipulated by Disney often refer to abstract concepts not very often “themed.” Disney World, for instance, employs meaningful and prevalent signs from popular culture to connote feelings of fantasy, escape, and adventure. Frontierland employs architecture and rides simulating an idealized version of the Wild West as a theme of adventure. Similarly, Space Mountain connotes the excitement of exploring the last frontier of space travel. In these cases, the signifiers of rocket ships and swinging door saloons are grounded in real and popularly imagined instances of the Wild West or space exploration. In the case of Celebration, much of what is presented as a theme (and a desirable commodity) is the association with certain abstract conditions. Celebration’s themed elements are less concrete than the Wild West, safaris, or space. Because of the inherently subjective nature of Disney’s selling points of “community,” “place,” and “education,” residents’ material interpretation of these marketing tools have ... predicated the spaces of controversy and contestation regarding corporate policies. (p. 54)

In a second study, Bartling (2004) leveraged a utopian construct to further explore the concept of commodification within Celebration and other new urban developments. The author emphasized that utopian elements of New Urbanism were utilized to market Celebration but not effectively delivered, and that New Urbanism is limited in its ability to invoke social change. As to the ability of New Urbanism to invoke social and civic revitalization, Bartling stated, “the

New Urbanist emphasis on building community and place can only be successful within the context of enhancing people's capacity to act politically" (p. 378).

In a cutting assessment of the social motivations and outcomes of Celebration, Sully (2004) questioned the sense of community sought by neighborhood planners through utilization of small town-type architectural and design elements and an implied "myth of an ideal past" (p. 4). Like Bartling (2002, 2004), Sully describes the social goals of Celebration as a marketed commodity. Further, the author alleges that residents are conditioned to embrace their new lives in their new neighborhood and establishes a conceptual linkage between the control exerted by the neighborhood's governing bodies to that employed in George Orwell's classic novel *Nineteen Eighty-Four*.

Saab (2007) scrutinized the nostalgia of new urban development from a perspective similar to Sully (2004). Describing her experience in the new urban development of Baxter Village outside of Charlotte, NC, as being in an episode of *The X Files* or an extra in *The Truman Show*, Sully related New Urbanism to two exhibits at the 1939 New York Fair, *Democracy* and *Futurama*. *Democracy* represented a utopian vision of the American city in the year 2039 and contained a series of class- and vocation-assigned towns. *Futurama* was an exhibit by General Motors Corporation that portrayed the company's automobile-based vision for living in the year 1960 and beyond. Both visions of the future were wrought with innate dissonant outcomes (social segregation, auto-centricity), and Sully argued that New Urbanism represents a historical amnesia that overlooks the fallacies of these prior visions.

The Social Atmosphere in Central Florida

As the proposed study seeks to assess community participation in central Florida, it helps to first provide an overview of attitudes and behaviors with respect to social interaction in the study area. Wright and Jasinski (2005) utilized a slight-modified version of the Kennedy School Social Capital Benchmark Survey to survey the social attitudes and behaviors of residents of seven central Florida counties, Brevard, Lake, Orange, Osceola, Polk, Seminole, and Volusia. Via phone survey of 1467 residents in the region, the authors were able to draw a number of conclusions about the level of social capital and sense of place among central Florida residents. Key among these findings were: 1) most respondents reported a high level of social capital and that they could place trust in church members, police officers, co-workers, and neighbors; 2) Seminole County residents had the highest level of trust in their county government, while Osceola County residents had the lowest; 3) acts of neighboring and neighbor interaction were above the national average, with 69% of respondents reporting that they talk or visit with neighbors at least several times per week and 52% reporting that they had worked with neighbors “to fix or improve something” (p. 6); 4) social and political participation in the region parallels the national average, with (in the last 12 months) 34% of respondents reporting that they had signed a petition, 27% that they had taken action on local social or political reform, and 20% reporting that they had attended a political meeting or rally; 5) 80% reported involvement in voluntary associations; 6) 79% felt a sense of place or belonging in their town, 70% in their county, and 71% in central Florida; 7) 59% attended a celebration, parade, sports, or art event in

their community at least once in the last 12 months; and 8) 36% had attended at least one public meeting for town or school affairs in the last 12 months.

Wright and Jasinski (2005) noted that respondents were not necessarily representative of the average central Florida household, and that established, older (median age = 52) individuals were over-sampled. Respondents were also racially homogeneous (85% were white) and only one-third had children living in their households. The authors noted that it is possible that younger households with children opted not to take the survey due to time constraints.

Public Transportation in Central Florida

The Central Florida Regional Transportation Authority (CFRTA), also known as LYNX, was founded in 1972 and serves Orange, Osceola, and Seminole counties. To a lesser extent, LYNX also serves Lake, Polk, and Volusia counties, which are located on the periphery of the central three-county region. Covering an area of approximately 2,500 square-mile within Orange, Osceola, and Seminole counties, LYNX serves a population of roughly 1.8 million residents. With 4,441 stops (626 of which are covered) along 63 routes (called Links), the system's 270 busses stop at an average of every 15 to 30 minutes within urban areas and hourly at stops in less populated areas. LYNX provides approximately 85,000 rides each weekday (CFRTA, 2011). No rail-based public transit systems currently exist in the central Florida region, although a 61-mile commuter rail system that will run on an existing freight line located roughly

parallel to Interstate-4, a major thoroughfare that bisects downtown Orlando, is being planned (Metroplan Orlando, 2010).

As demonstrated by Wright, Jasinski, and Morgan (2011), sentiment toward the capabilities and efficiency of the LYNX system seems to impact ridership. Targeting Orange, Osceola, and Seminole counties, the authors conducted a mixed mode study that yielded 830 telephone interviews and 112 online survey respondents in an assessment of public opinion on transportation issues in central Florida. Fifty-eight percent of interviewees and 66% of online survey respondents conveyed that they would be more likely to utilize LYNX if it went more places. Similarly, 56% of interviewees and 71% of survey respondents relayed that they would be more likely to utilize LYNX if bus wait times were shorter.

Despite perceived reach and efficiency challenges in utilizing the LYNX system, Wright et al. (2011) found an overall positive sentiment toward increasing investments in central Florida public transit. The authors found that 64% of queried residents favored investments in public transit systems—namely, passenger rail and improved bus systems— over adding new roadway lane miles as a solution for relieving traffic congestion. Supported by longitudinal data spanning 10 years, this sentiment was demonstrated to increase over time: in a similar study in 2009, Wright, Jasinski, Donley, and Truman found that 47% of queried residents agreed that investment in public transit would be more beneficial than investments in roadway expansion.

Regional Limitations of Similar Research

While existing research provides invaluable insights on the social and transportation outcomes of varying neighborhood types, it must be considered that associated conclusions, particularly with respect to attitudinal and behavioral facets of transportation, may not have cross-regional applicability. Regional characteristics, including pedestrian-centricity, availability of public transit systems, attitudes toward non-automobile modes of travel, and climate could play an important role in the applicability of prior studies' findings. For example, Lund (2003) found that the presence of retail centers and parks in eight Portland, OR neighborhoods was positively correlated with utilitarian and recreational walking trip frequency, and that residents of these neighborhoods were more likely to engage in regular interactions with neighbors. However, it is well known in the urban planning community that Portland is extremely pedestrian-centric, a factor that may impact both attitudes and behaviors associated with non-automobile travel. Further, both Portland and San Francisco—studied by Lamont (2001), Podobnik (2002), Lund (2003), Dill (2006), and Schwanen and Mokhtarian (2007), among others—have widely utilized public transit systems. Residents of regions with less-utilized public transit systems may exhibit a lesser likelihood to incorporate public transit into daily routines, whether a result of attitudes toward transit, access to transit, or other factors that make transit travel undesirable. As demonstrated by resident sentiment toward LYNX transit utilization (Wright et al., 2009; Wright et al., 2011), it is possible that such factors contribute to attitudinal and behavioral facets of utilitarian physical activity in central Florida.

In addition to inherent pedestrian- and transit-centricity, regional climate may be a limiting factor in utilitarian physical activity and utilization of public transit. As illustrated in Table 1, Orlando experiences an average of 105 days per year of maximum temperatures of 90 degrees Fahrenheit or higher, while Portland and San Francisco experience averages of 11 and three days per year, respectively, of temperatures of 90 degrees or higher. Portland's average precipitation frequency (147 days per year with at least .01 inches of rain) is greater than Orlando's (110 days per year), but Orlando receives more total precipitation (48.35 inches) than Portland (37.07 inches). These values indicate that Orlando receives a higher volume of rain on each day with precipitation.

Between Orlando, Portland, and San Francisco, Portland yields the coldest climate with 39 days per year of temperatures of 32 degrees Fahrenheit or lower and an average of 6.5 inches of snow per year. However, with an average daily minimum temperature of 44.8 degrees Fahrenheit, Portland's climate is mild in comparison with other US cities (NOAA National Data Centers, n.d.).

Table 1: Climate Comparisons of Portland, San Francisco, and Orlando

	Portland	San Francisco	Orlando
Mean number of days maximum temperature 90 degrees F or higher	11	3	105
Mean number of days minimum temperature 32 degrees F or lower	39	1	2
Mean number of days with precipitation of 0.01 inch or more	147	61	110
Normal precipitation (inches)	37.1	20.1	48.4
Snowfall (including ice pellets and sleet) average total in inches	6.5	0	0
Average relative humidity morning	85	84	89
afternoon	59	63	55
Normal daily maximum temperature (degrees F)	62.1	65.1	83.2
Normal daily minimum temperature (degrees F)	44.8	49.6	62.4
Normal daily mean temperature (degrees F)	53.5	57.3	72.8

Source: National Oceanic and Atmospheric Administration (NOAA) National Data Centers (2011)

Table 2 illustrates the number of “heating degree days” and “cooling degree days” of Portland, San Francisco, and Orlando in the context of other geographically-dispersed and climate-diverse US cities. A heating or cooling degree day represents the amount of energy required to maintain a comfortable temperature, where each degree the daily mean temperature is above or below 65 degrees Fahrenheit equates to one heating or cooling degree day. Portland reflects a moderate number of heating degree days (7,318) and few cooling degree days (347) when compared to other, geographically-dispersed cities. San Francisco has fewer heating degree days (2,597) and cooling degree days (142) than Portland. In contrast, Orlando has many

fewer heating degree days (580) yet significantly more cooling degree days (3,428) than Portland, San Francisco, and most other cities detailed in Table 2 (NOAA National Data Centers, n.d.).

Table 2: Heating and Cooling Degree Days of Select US Cities

City	Normal heating degree days*	Normal cooling degree days*
Albany, NY	6,860	544
Anchorage, AK	10,470	3
Boston, MA**	5,630	777
Chicago, IL**	6,498	830
Denver, CO	6,128	696
Honolulu, HI	0	4,561
New York, NY**	4,754	1,151
Orlando, FL	580	3,428
Philadelphia, PA**	4,759	1,235
Phoenix, AZ	1,027	4,364
Portland, ME	7,318	347
Portland, OR	4,400	390
San Francisco, CA**	2,597	142
San Juan, PR	0	5,426
Santa Barbara, CA	2,121	482
Washington, DC**	4,055	1,531

* Degree data represent energy required to maintain a comfortable indoor temperature. Each degree a day's mean temperature is above or below 65 degrees Fahrenheit is counted as one heating or cooling degree day.

** Major metropolitan areas with highly utilized public transit systems

Source: National Oceanic and Atmospheric Administration (NOAA) National Data Centers (2011)

As illustrated in Table 2, US cities with highly-utilized public transportation systems, including Boston, Chicago, New York, Philadelphia, and Washington, DC, exhibit more extreme climate conditions than Portland and San Francisco, which also have established public transit

systems. Boston, Chicago, New York, and Philadelphia experience colder temperatures than Portland and San Francisco, as indicated by their respective number of heating degree days. Likewise, Boston, Chicago, New York, Philadelphia, and Washington, DC experience warmer temperatures Portland and San Francisco, as reflected by their respective number of cooling degree days per year (NOAA National Data Centers, n.d.).

Given this data, Portland and San Francisco have neither significantly cold nor significantly warm temperatures when compared with other US cities, and both cities exhibit fairly comfortable climates that, arguably, support utilitarian physical activity. These metropolitan areas have climates that are less extreme than other US cities with established public transit systems, indicating that it may be easier, from a climate standpoint, to access public transit in Portland and San Francisco than in other cities. Further, with a considerably warmer, more precipitous climate, it is arguably less practical to walk or ride a bicycle, whether as a means of accessing public transit or as a point-to-point mode of transportation, than Portland, San Francisco, and other cities depicted in Table 2 with established public transit systems. Through interviews with residents of studied neighborhoods, this research explored implications of regional climate on utilitarian physical activity and transit utilization.

Anticipated Contributions

It is anticipated that this research will lend further insight into the impact of build environment characteristics and self-selection on social and transportation outcomes associated

with varying neighborhood types. Through direct comparison of new urban and conventional suburban neighborhoods will add to the greater knowledgebase of the ability of new urban neighborhoods to achieve anticipated outcomes. Further, by targeting two neighborhoods in central Florida, an area where this type of research has not yet been conducted, it is anticipated that this research will support establishment of a regionally-focused body of research intended to better understand the impacts of the built environment within the context of regional characteristics. In this regard, this research may enable researchers to validate or invalidate the cross-regional generalizability of findings from existing and future research.

CHAPTER 3: METHODS

Study Design

Gliner and Morgan (2000) describe the dichotomy of selecting quantitative versus qualitative research as involving three inter-related dimensions: philosophical (positivist versus constructivist) differences in how research should be approached, data and data collection, and data analysis. The authors assert that, in distinguishing between the quantitative and qualitative research, the differentiation of positivist and constructivist paradigms is most important. At a high level, the positivist approach, which typically adheres to the scientific method, can be viewed as rigid, while the constructivist approach is more flexible and does not establish specific hypotheses before research begins. Although quantitative methods are usually associated with the scientific method, and, thus, frequently linked with the positivist approach, neither quantitative nor qualitative research neatly fits into either of these paradigms.

The difficulty in aligning quantitative and qualitative methods with positivist and constructivist paradigms is evidence of the multi-faceted nature of each methodological approach, and that each approach fulfills an important role in the field of research. Many studies, particularly in social science research, harness the insights provided by both quantitative to holistically evaluate a research topic (Gliner and Morgan, 2000; Yin, 2009). The pairing of quantitative and qualitative methods is often referred to as mixed-methods research, which seeks to support a well-rounded understanding of intrinsic and extrinsic factors impacting study variables (Scholz and Tietje, 2002; Yin, 2009). A concurrent, mixed-methods approach applies

two or more methods in parallel to validate one form of data with another and address different types of research questions. For example, a concurrent mixed-methods design might leverage random sample survey research and interviews in parallel to pair quantitative findings with qualitative, personal insights. In contrast, sequential mixed-methods designs collect data iteratively, with data from one phase or method contributing to the next to establish a progressively comprehensive data set. One example of a sequential mixed-methods design is conducting quantitative data analysis on a secondary data set followed by the completion of case studies that provide current, in-depth insights to the research topic (Creswell and Plano Clark, 2006; Gliner and Morgan, 2000; Yin, 2009).

This research employed a single-case mixed-methods design in which some methods were invoked in parallel and others were conducted sequentially. High-level cases studies of new urban and conventional suburban neighborhoods identified as experimental and control group candidates were prepared to gain general insights into neighborhood characteristics and serve as a basis for neighborhood selection. Utilizing the tenets defined in the Charter of the New Urbanism as a means of comparison, the new urban neighborhood that best achieved these tenets was selected as the experimental neighborhood. In turn, property sales data was utilized to select a socio-economically comparable conventional suburban neighborhood as the control neighborhood. Following selection of study neighborhoods, a household survey was issued and case studies of each neighborhood were conducted to gain quantitative and qualitative insights into relationships between studied variables and to provide an historical and environmental context for evaluating these variables. Subsequently, resident interviews were conducted to gain a deeper understanding of human factors influencing neighborhood selection and observed

attitudes and behaviors, and to establish a baseline understanding of regional factors contributing to transportation choice.

Limitations and Applications of the Single-Case Design

The case study method is often criticized for its lack of rigor, for lacking substantial basis for scientific generalization, for being time-consuming, and for being incapable of establishing causal relationships. Single-case designs, or designs that target only one of each type of case evaluated, are further criticized for only being capable of providing descriptive or exploratory insights. Yin (2009) countered these arguments by explaining the strengths of case study research, while also recognizing its weaknesses. Yin asserted that, while case study approaches may lack the systematic rigor of scientific approaches, they *are* capable of producing generalizable results. This position is well-founded in the presentation of two classic single-case studies that have yielded long-lasting policy-shaping and theoretical outputs. First, Yin cited the well-known case *Essence of Decision: The Cuban Missile Crisis* (Allison, 1971) as a model of how single-case designs can provide explanatory insights that yield outputs that are generalizable to complex scenarios. Second, Yin noted that the findings of William F. Whyte's *Street Corner Society* (1943), a descriptive case study on the career advancement of low-income youths, remain generalizable to individual performance, sociological group structure, and neighborhood social structure paradigms of present-day issues. In a more contemporary work, Knox (2008) leveraged the Allison framework with a multi-model review of Florida Senate Bill 392, also

known as the Northern Everglades and Estuary Protection Program Bill. After evaluating inputs to this legislation from the perspectives of four theoretical models, Knox found that social construction and consensus mechanisms were a driving force in the legislation's creation.

As detailed in Chapter 2, a number of studies evaluating the impact of the built environment on social and transportation outcomes have leveraged single-case designs similar to that employed in this research. In her dissertation research, Lamont (2001) conducted mixed-method case studies of four neighborhoods representing different points on a walkability spectrum. Podobnik (2002) utilized a single-case design to evaluate and compare one new urban, one conventional suburban, and one traditional neighborhood. Like the research at hand, Khattak and Rodriguez (2005) studied one new urban and one conventional suburban neighborhood. Finally, Choocharukul et al. (2008) evaluated two cities—one “motorized” and one “yet-to-be-motorized”—in Thailand.

The classic studies cited by Yin (2009), Knox' (2008) contemporary application of the Allison (1971) framework, and single-case research that has queried relationships between the built environment and social and transportation variables each contributed valuable insights to respective research fields. While this research did not seek to evaluate policy, with the growing body of research on the outcomes of New Urbanism, it has the potential to influence policy. Further, the examples described above demonstrate that single-case designs such as the study at hand are capable of yielding results that influence the direction of future research.

Case Selection

This research evaluated one new urban and one conventional suburban within the central Florida region. Three central Florida counties (Orange, Osceola, and Seminole) counties were targeted for identification of candidate neighborhoods. Methods for candidate neighborhood identification and comparison, and subsequent case selection, are described below.

New Urban Neighborhood Selection

New urban neighborhoods in Orange, Osceola, and Seminole counties were initially identified through online research. All known new urban developments were subjectively assessed by their ratio of residential to commercial areas and level of completion. To be considered as a viable candidate for research, developments needed to be primarily residential with one or more “pockets” of commercial or mixed-use areas and be far enough along in the development process to enable inter-resident interaction. Solely commercial complexes that leveraged new urban-type design features but contained no residential quarters were not considered.

Five central Florida new urban neighborhoods were selected as experimental group candidates. Four of these neighborhoods, Avalon Park, Baldwin Park, Horizon West, and Lake Nona, were located in Orange County, while the remaining neighborhood, Celebration, was located in Osceola County.

Candidate neighborhoods were assessed using principles defined in the Charter of the New Urbanism as criteria for group selection. Charter concepts applicable to the neighborhood, the block, the street, and the building were retained, while those applicable to the regional were omitted. Through windshield surveys and walking tours, a score ranging from 0 to 3 was assigned for each of the 10 criteria evaluated, where 0 indicated a criterion was not met, 1 indicated a criterion was partially met, 2 indicated a criterion was met, and 3 indicated that a criterion was exceeded. The sum total of these scores was utilized to quantify adherence to select Charter of the New Urbanism principles and select the neighborhood most suitable for analysis in this research. New urban neighborhood selection criteria are detailed in Table 3.

Table 3: New Urban Neighborhood Rating Criteria

Criteria	Rating scale
Pedestrian-centric ¹	3: Exceeds requirement
Shared use streets ²	2: Meets requirement
Activities of daily living within walking distance ³	1: Partially meets requirement
Schools within walking or bicycling distance ³	0: Does not meet requirement
Presence of mixed-use structures	
Heterogeneity facilitated through broad range of housing types and prices	
Presence of strong urban design codes that serve as predictable guide for change	
Architecture and landscaping appropriate for local surroundings	
Parks and green areas embedded and distributed throughout	
Embedded civic and public gathering places	

¹Pedestrian-centric: Features include sidewalks, bicycle lanes, crosswalks, high levels of interconnectivity and proximity, and other elements that deter focus from the automobile.
² Shared use streets: Pedestrians, bicycles, and automobiles safely intermingle on streets
³ Walking distance: < 15 minute walk or < .75 miles

Criteria adapted from: Congress of the New Urbanism (CNU), Charter of the New Urbanism. Available: <http://www.cnu.org/charter>.

To evaluate the housing price heterogeneity criterion, home sales data for a defined period was retrieved for new urban neighborhood candidates from respective county property appraiser resources. Minimum, maximum, and median home values were derived from this data set to evaluate price heterogeneity. Home sales data was also utilized to support selection of a socioeconomically comparable conventional suburban neighborhood, with sales values treated as a proxy for household income.

As detailed in Table 4, Baldwin Park and Celebration each met or exceeded eight of 10 criteria and scored 20 out of a possible 30 points. In contrast, Avalon Park, Horizon West, and Lake Nona met four or fewer criteria and scored between 11 and 14 points. Given their lower

scores, the latter neighborhoods were removed from consideration as experimental group candidates. Baldwin Park and Celebration were evaluated further to determine which neighborhood was most appropriate for this research.

Table 4: Compliance of Central Florida NU Neighborhoods with Established Principles of New Urbanism

Characteristic	Avalon Park	Baldwin Park	Celebration	Horizon West	Lake Nona
Pedestrian-centric ¹	1	2	2	1	1
Shared use streets ²	2	2	2	1	1
Activities of daily living within walking distance ³	2	2	1	0	0
Schools within walking or bicycling distance ³	1	1	1	0	0
Mixed-use structures	1	2	2	1	1
Heterogeneity facilitated through broad range of housing types and prices	1	1	1	1	1
Presence of strong urban design codes that serve as predictable guide for change	2	3	3	2	2
Architecture and landscaping appropriate for local surroundings	2	2	2	2	2
Parks and green areas embedded and distributed throughout	1	3	3	2	2
Embedded civic and public gathering places	1	2	3	1	1
Total	14	20	20	11	11

Rating values:

3: Exceeds requirement; 2: Meets requirement; 1: Partially meets requirement; 0: Does not meet requirement.

¹Pedestrian-centric: Features include sidewalks, bicycle lanes, crosswalks, high levels of interconnectivity and proximity, and other elements that deter focus from the automobile.

² Shared use streets: Pedestrians, bicycles, and automobiles safely intermingle on streets

³ Walking distance: < 15 minute walk or < .75 miles

Criteria adapted from: Congress of the New Urbanism (CNU), Charter of the New Urbanism. Available: <http://www.cnu.org/charter>.

Baldwin Park is a brownfield neighborhood that was developed on the site of the former Orlando Naval Training Center (City of Orlando, 2005). Located within Orlando city limits, the neighborhood is positioned approximately three miles from the downtown Orlando central business district. With this location, Baldwin Park is centrally-located within the greater Orlando area.

Celebration is a greenfield development located in unincorporated Osceola County, 22 miles south of downtown Orlando and adjacent to peripheral areas of the City of Kissimmee. The neighborhood is located in a tourism-focused sub-region on the southern perimeter of the greater central Florida area.

In evaluating their adherence to CNU principles, Baldwin Park and Celebration were found to exhibit varying degrees of internal and external pedestrian-centricity. With its central location of integration with adjacent grid and semi-grid street networks, Baldwin Park supports inbound and outbound pedestrianism fairly well. In contrast, Celebration is flanked by multiple highways and traffic-burdened roadways, making inbound and outbound pedestrianism unfeasible.

While they varied in external pedestrian-centricity, both Baldwin Park and Celebration were found to offer design features that enabled pedestrian travel within their boundaries. Both neighborhoods offer abundant sidewalks and include bicycle lanes on primary streets to enable safe non-automobile travel, semi-grid street networks that provide more interconnectivity than conventional suburban neighborhoods, and traffic calming features such as frequent intersections and one-way streets. While each neighborhood could have enhanced pedestrianism through full-grid street networks, placement of additional mixed-use complexes in areas that are more distal

to their central town centers, and, in Celebration's case, taken measures to enable utilitarian physical activity outside the neighborhood, both were found to sufficiently meet criteria for pedestrian-centricity and provision of shared-use streets.

In evaluating the walkability of daily activities, Baldwin Park was found to provide more walkable options to its residents than Celebration. Baldwin Park's Village Center mixed-use complex is accessible on foot from a larger portion of neighborhood homes than Celebration's Town Center, although bicycling to these complexes from peripheral areas of each neighborhood was deemed feasible. Baldwin Park also offers a grocery store within its Village Center, a feature not currently offered in Celebration. Given its greater walkable accessibility and its inclusion of a grocery store, Baldwin Park was found to meet the criterion for walkability. In contrast, Celebration was found to only partially meet this criterion.

Baldwin Park's Audubon Elementary School (serving kindergarten through fifth grades) and Glenridge Middle School (serving sixth through eighth grades) are both located within neighborhood boundaries and provide walkable access for some residents. Winter Park High School (serving ninth through twelfth grades) is located approximately one mile north of Baldwin Park and, utilizing the three-quarter mile threshold for walkability defined by the CNU, is not walkable from the neighborhood. Celebration School (serving kindergarten through eighth grades) is centrally-located within the neighborhood and supports walkable access for some residents. Celebration High School (serving ninth through twelfth grades) is located within neighborhood boundaries but is nearly two miles from the closest residential areas, and thus does not fall within walkability parameters. Accordingly, Baldwin Park and Celebration were each found only to partially meet the criterion for offering schools within walking distance.

The mixed-use offerings of Baldwin Park Village Center and Celebration Town Center were each found to sufficiently meet the corresponding criterion. Each contains a variety of retail and service venues that have the potential to meet at least some commercial needs of respective residents and encourage utilitarian physical activity. As mentioned above, inclusion of multiple mixed-use areas rather than a single, centrally-located complex would have enhanced walkability within each neighborhood.

Baldwin Park and Celebration each offer a variety of residential structure types, including single-family, semi-detached, and multi-family dwellings, and thereby support a moderate degree of housing type heterogeneity. However, as depicted in Table 5, both neighborhoods reflect mean home values that are roughly twice that of corresponding counties¹, and thus do not support economic heterogeneity. Accordingly, Baldwin Park and Celebration were each found only to partially meet the corresponding criterion.

¹ The mean Celebration home sales value was \$680,241 for the evaluated period (2004—2007), while the median home value in Osceola County was \$205,000 for Osceola County for the period between 2007 and 2009. The mean home value of queried Baldwin Park sales was \$505,651, compared to a median home value of \$237,200 for Orange County (American Community Survey, 2011; Osceola County

Table 5: Comparison of New Urban Single-Family Home Sales

Location	Minimum home value (\$)	Maximum home value (\$)	Mean home value (\$)	Mean home age (years)	Mean home size (square feet)	Mean home price per sq. ft. (\$)	Sales evaluated (N)
Avalon Park (1)	101,800	671,700	299,335	1.86	2,308.97	129.64	4880
Baldwin Park (1)	106,100	2,550,000	505,651	2.08	2,562.51	197.33	1096
Celebration (2)	150,000	2,650,000	680,241	5.17	2,856.23	238.16	756
Horizon West (1)	104,000	1,515,000	346,058	1.95	2,451.79	141.15	1535
Lake Nona (1)	192,500	5,350,000	507,651	2.61	2,544.84	199.48	336

(1): Single-family home sales 08/2004-08/2007, Orange County Property Appraiser

(2): Single-family home sales, 08/2004-08/2007, Osceola County Property Appraiser

With strong urban design codes and many design features that are representative of CNU principles, both Baldwin Park and Celebration exceeded the criterion for urban design code adherence. While there is a noticeable distinction between the overall aesthetics of Baldwin Park and Celebration and other central Florida neighborhoods, the architectural styles utilized within each neighborhood were found to sufficiently comply with the criterion for architectural appropriateness. With an abundance of parks, nature areas, pools, and other recreational amenities, each neighborhood exceeded the criterion for inclusion of parks and green areas.

Central to this research was the ability of evaluated neighborhoods to provide opportunities for social gathering, and thus support community participation. Both Baldwin Park and Celebration were found to offer multiple locations for civic and public events, including civic-specific buildings and contained schools, parks, and recreation halls. In subjectively comparing the two neighborhoods to CNU principles, Baldwin Park was found to meet the corresponding criterion. Celebration, however, was found to offer more public spaces than Baldwin Park and, upon observation, residents of the former neighborhood seemed to utilize these facilities more readily than residents of the latter. For this reason, Celebration was found to surpass Baldwin Park on this criterion.

In multiple visits to mixed-use areas in each neighborhood, much more activity was observed in Celebration Town Center than in Baldwin Park Village Center. In Celebration, restaurant patios were readily-utilized, people were walking between retail and service venues, children were playing on sidewalks and other public spaces, and bars and coffee shops were bustling. In comparison, many fewer patrons were observed in Baldwin Park Village Center and sidewalks were relatively vacant of pedestrians, even when observed at different times of day.

In addition to mixed-use area patronage, Celebration was observed as containing a more socially-engaged resident base. Celebration residents were readily observed involved in activities (such as children playing) outside their homes and utilizing parks and recreational amenities. Celebration residents also appeared to be very involved in elections of homeowner association (HOA), local, and regional officials. Election signs demonstrating support of HOA and other candidates were observed in front yards throughout Celebration during tours spaced approximately six months apart. Over the course of several tours, this abundance of gathering in social spaces, interest in civic activities, and outdoor activity was not observed in Baldwin Park.

When comparing the overall adherence of each neighborhood to CNU principles, Baldwin Park was found to offer slightly lower-priced housing options, to be more walkable, and to be fairly equivalent in its definition of strong urban design codes and provision of parks and green areas. However, Baldwin Park appeared to lack the social fabric exhibited by Celebration. Further, while found to be more walkable than Celebration, tours of Baldwin Park did not indicate that its walkability was actually leveraged—few residents were observed in the neighborhood’s mixed-use area or seemed to be walking or bicycling for purposes other than recreation. Given these observations and the intent of this research to evaluate both social and transportation outcomes of New Urbanism, Celebration was selected as the experimental group for this research.

Conventional Suburban Neighborhood Selection

With the experimental group selected, five conventional suburban neighborhoods were selected as candidate control groups. Candidate control neighborhoods were selected based on their socioeconomic comparability to Celebration (using home sales values as a proxy for household income), with neighborhood size and maturity also taken into consideration. Neighborhoods selected as control group candidates included Errol Estates and Waterford Lakes in Orange County, and Heathrow, Sweetwater, and Tuskawilla in Seminole County.

To further support comparative equality, neighborhood size, degree of maturity, and concentration of “high end” homes were also considered in candidate selection. Small neighborhoods, neighborhoods that were still largely under development, and strictly affluent neighborhoods were not considered as viable study candidates. Not unexpected, the mean home sale values of evaluated control group candidates were each lower than that of the selected experimental neighborhood. Thus, it was accepted that the control group might not be an exact socioeconomic match to the experimental group.

Home sales data for selected conventional suburban candidates was retrieved from respective county property appraiser resources for the same period represented by new urban home sales data. This data was utilized to determine median home values and to select the conventional suburban neighborhood to be evaluated in this research.

With a mean sales value of \$586,819, Heathrow represented the closest economic match to Celebration, which had a mean sales value of \$680,241. Initially, Heathrow was selected as the control group for this research. However, upon inquiry, Heathrow HOA representatives

expressed concern about its residents being solicited for surveys or interviews. This in mind, Sweetwater HOA representatives were approached to request authorization to query its residents. Following HOA approval, Sweetwater, which had the second-highest mean sales value (\$495,702) among evaluated conventional suburban neighborhoods, was selected as the control neighborhood. Sales data of evaluated conventional suburban candidates are detailed in Table 6.

Table 6: Comparison of Conventional Suburban Single-Family Home Sales

Location	Minimum home value (\$)	Maximum home value (\$)	Mean home value (\$)	Mean home age (years)	Mean home size (square feet)	Mean home price per square foot	Sales evaluated (N)
Errol Estates (1)	105,500	715,000	308,975	5.78	2,319.03	133.23	637
Heathrow (2)	111,300	3,200,000	586,819	10.24	2,948.55	199.02	627
Sweetwater (2)	130,000	4,000,000	495,702	27.94	2,874.06	172.47	303
Tuskawilla (3)	104,100	1,525,000	354,877	19.16	2,218.91	159.93	406
Waterford Lakes (1)	100,000	546,000	314,494	5.62	2,330.21	134.96	810

(1): Single-family sales 08/2004—08/2007, Orange County Property Appraiser

(2): Single-family sales 08/2004—08/2007, Seminole County Property Appraiser

(3): Single-family sales 09/2004—09/2007, Seminole County Property Appraiser

Potential for Researcher Bias

Having contributed to Celebration's 2007 municipal incorporation feasibility study and having lived approximately five miles from the Sweetwater neighborhood for much of the 16 years I have lived in the central Florida region, there was significant opportunity for researcher bias in this study. Through participation in the Celebration incorporation feasibility study, where my role included facilitating definition of the to-be municipal charter, assessing the fiscal viability of municipal incorporation, and researching and documenting historical factors contributing to the desire to incorporate, I gained insights about the neighborhood that strengthened my ability to assess its candidacy as the experimental group of this research. I was able to spend time with residents during the incorporation study gathering information about social and transportation aspects of the neighborhood that may bias my perception of Celebration being the best candidate for study within the central Florida region. Further, I maintained social contact with some residents that participated in this research; in particular, snowball methods utilized for interview recruitment were driven by these existing relationships. In an attempt to overcome any potential bias, significant time was spent in other new urban candidate neighborhoods—especially Baldwin Park, as it competed toe-to-toe with Celebration in evaluating the adherence of new urban neighborhoods to Charter of the New Urbanism tenets—to understand which neighborhood was the best choice for evaluating the research questions posed in this study. Further, many resources, including both historical and critical, were evaluated to weave in other perspectives of the neighborhood and its ability to achieve tenets of New Urbanism. It is certainly possible that existing bias toward Celebration was not overcome

through these methods, but every effort was made to remove any attachment to the neighborhood in evaluating it as a candidate for, and, later, a subject of, this research.

With respect to existing knowledge of Sweetwater, its vicinity to my home and the act of driving through the neighborhood on a nearly-daily basis resulted in having an established familiarity with its transportation-related characteristics. And, like Celebration, existing relationships with residents living in Sweetwater formed the foundation of snowball interview recruitment methods. Prior to this research, little was known about Sweetwater's history or social atmosphere, but I was aware of the desirability of the schools for which the neighborhood is zoned. As a parent of private-schooled children, I am acutely familiar with public school reputations and, in fact, have considered moving to Sweetwater to leverage affiliated schools. This in mind, it was not surprising to find that access to these schools was the predominant factor in neighborhood selection among surveyed and interviewed Sweetwater residents, as described in Chapter 4. As with Celebration, historical and critical resources were evaluated to aid in eliminating any potential biases resulting from pre-existing knowledge of Sweetwater.

Unit of Analysis

The "resident," defined as an adult household member responsible for making key household decisions, was utilized as the unit of analysis for this research (Handy et al., 2005). The resident is the standard unit of analysis for research evaluating the impact of the built environment on social and transportation outcomes (Cao et al., 2006; Choocharukul et al., 2008;

Dill, 2006; Handy et al., 2005; Khattak and Rodriguez, 2005; Lamont, 2001; Leyden, 2003; Litman, 2008; Lund, 2003; Podobnik, 2002; Wright and Jasinski, 2005). Utilization of the resident as the unit of analysis lends well to the framework guiding this research, social ecological theory (SET), which seeks to identify and evaluate environment factors contributing to individual behavior (McLeroy, Bibeau, Steckler, and Glanz, 1988).

Quantitative Methods

Study Variables

Selection of Study Variables

A medley of existing research was utilized to select variables for this study. Practices and findings from Leyden (2003); Handy et al. (2005); Cao et al. (2006); Schwanen and Mokhtarian (2007); Litman (2008); and Choocharukal et al. (2008) were leveraged to establish variables representing facets of neighborhood self-selection. Many transportation variables were derived from Handy et al. (2005) and Cao et al. (2006); these variables were also similar to those evaluated in other studies (Dill, 2006; Khattak and Rodriguez, 2005; Lamont, 2001; Leyden, 2003; Lund, 2003; Podobnik, 2002). Variables measuring community participation were based

in part on similar recent neighborhood studies (Dill, 2006; Leyden, 2003; Lund, 2003; Podobnik, 2002; Wright and Jasinski, 2005). Control variables, especially socio-demographic variables, are consistent with comparable studies on social and transportation differences across neighborhood types.

A certain level of subjectivity was added to the inclusion or exclusion of variables from similar research based on the goals of this research and differentiating factors of the central Florida region. For example, variables related to walking or bicycling to public transportation nodes and public transportation usage rates were excluded as it was not anticipated that public transportation was utilized by queried residents. Variables utilized in the investigations of Wright and Jasinski (2005) and Litman (2008) were weighted with this subjective knowledge to identify regional factors that may contribute to dependent variables.

Variable Definition

Hypotheses sought to determine whether attitudinal and behavioral aspects of community participation, automobile usage, and utilitarian physical activity varied across neighborhood type, and whether attitudes impacted corresponding behaviors. Accordingly, dependent variables evaluated using quantitative methods included attitude toward community participation (COMM_ATT); community participation frequency (COMM_FREQ); attitude toward automobile travel (DRIVE_ATT); vehicle miles driven per week (AUTO_MILES); attitude toward utilitarian physical activity (WB_DIFF); and utilitarian physical activity frequency

(UTIL_FREQ). With the exception of AUTO_MILES, which was measured as a straight count, dependent variables were index variables each comprised of a series of Likert-type items.

Hypotheses 1—6 evaluated the impact of neighborhood type on corresponding outcome variables, while Hypotheses 7—9 evaluated the impact of attitudes on corresponding behaviors. Accordingly, attitudinal variables (COMM_ATT, DRIVE_ATT, WB_DIFF) served as dependent variables in Hypotheses 1, 3, and 5, respectively, and as independent variables of interest in Hypotheses 7, 8, and 9, respectively. Behavioral variables (COMM_FREQ, AUTO_MILES, UTIL_FREQ) served as dependent variables in Hypotheses 2, 4, and 6, respectively, and in Hypotheses 7, 8, and 9, respectively. Dependent variables are defined in Table 7, and independent variables of interest are defined in Table 8.

Table 7: Dependent Variables

Variable	Description	Type	Values	Units
COMM_ATT	Attitude toward participation (H1*; SQ1**)	Interval	1-5 (Agreement scale)	N/A
COMM_FREQ	Community participation frequency (H2, H7; SQ1)	Ordinal	1-6 (Frequency scale)	N/A
DRIVE_ATT	Attitude toward automobile travel (H3; SQ8)	Interval	1-5 (Agreement scale)	N/A
AUTO_MILES	Vehicle miles driven per week (H4, H8; SQ6)	Scale	Straight count	Miles per week
WB_DIFF	Attitude toward utilitarian physical activity (H5; SQ9)	Interval	1-5 (Difficulty scale)	N/A
UTIL_FREQ	Utilitarian physical activity frequency (H6, H9; SQ5)	Ordinal	1-6 (Frequency scale)	N/A

* H denotes hypotheses for which variable served as dependent variable

** SQ denotes corresponding survey questions utilized to populate variable

Agreement scale: 1 = Strongly disagree; 2 = Disagree; 3 = Not sure; 4 = Agree; 5 = Strongly agree

Frequency scale: 1 = Never; 2 = Less than once; 3 = Once or twice; 4 = 3-4 times; 5 = 5-6 times; 6 = 7+ times

Difficulty scale: 1 = Very easy; 2 = Easy; 3 = Not sure; 4 = Hard; 5 = Very hard

Table 8: Independent Variables

Variable	Description	Type	Values	Units
NH_TYPE	Neighborhood type (H1-H6*)	Dichotomous	0 = CS; 1 = NU	N/A
COMM_ATT	Attitude toward participation (H7; SQ1**)	Interval	1-5 (Agreement scale)	N/A
DRIVE_ATT	Attitude toward automobile travel (H8; SQ8)	Interval	1-5 (Agreement scale)	N/A
WB_DIFF	Attitude toward utilitarian physical activity (H9; SQ9)	Interval	1-5 (Difficulty scale)	N/A

* H denotes hypotheses for which variable served as dependent variable

** SQ denotes corresponding survey questions utilized to populate variable

Agreement scale: 1 = Strongly disagree; 2 = Disagree; 3 = Not sure; 4 = Agree; 5 = Strongly agree

Frequency scale: 1 = Never; 2 = Less than once; 3 = Once or twice; 4 = 3-4 times; 5 = 5-6 times; 6 = 7+ times

Difficulty scale: 1 = Very easy; 2 = Easy; 3 = Not sure; 4 = Hard; 5 = Very hard

A number of control variables utilized in previous research (Podobnik, 2002; Handy, Cao, and Mokhtarian, 2005) and several defined specifically for purposes of this research were evaluated to identify other predictors of attitudinal and behavioral outcome variables. These variables were grouped into the following categories: neighborhood history, neighborhood selection, neighborhood investment, participation factors, travel needs and ability, and socio-demographic factors.

Neighborhood history variables were used to determine the characteristics of residents' previous place of residence, or previous neighborhood type (P_NH_TYPE), immediately before

moving to the studied neighborhood. In part, previous neighborhood type was used to determine which new urban neighborhood residents lived in conventional suburban neighborhoods immediately prior to moving to their current neighborhood (CS_NU_MOVER). Handy et al. (2005) used a similar method to determine if a change in neighborhood type resulted in changes in transportation mode attitudes and behaviors. In this research, CS_NU_MOVER was used to determine if a change in neighborhood type was a significant predictor of both social and transportation-related outcome variables for new urban residents. Neighborhood history variables are defined in Table 9.

Table 9: Control Variables Measuring Neighborhood History

Variable	Description	Type	Values	Units
P_NH_TYPE	Previous neighborhood type (SQ35*)	Nominal	0 = CS; 1 = NU; 2 = Traditional; 3 = Rural/non-neighborhood; 4 = Apartment	N/A
CS_NU_MOVER**	New urban resident that lived in a conventional suburban neighborhood immediately prior to current neighborhood	Dichotomous	0 = No; 1 = Yes	N/A

** SQ denotes corresponding survey questions utilized to populate variable
 **Value calculated/derived from responses (not on survey)

Prior research (Cao et al., 2006; Handy et al., 2005) has demonstrated that neighborhood self-selection can be a predictor of attitudinal and behavioral outcomes linked to neighborhood type. This research sought to control for various aspects of self-selection, including selection

based on social factors (SEL_SOCIAL), selection based on accessibility characteristics (SEL_ACCESS), selection based on quality characteristics (SEL_QUAL), and selection based on neighborhood safety (SEL_SAFETY). SEL_SOCIAL, SEL_ACCESS, and SEL_QUAL were index variables comprised of a series of Likert-type items; SEL_SAFETY was a single Likert-type item. Other selection characteristics (SEL_OTHER) and the most important selection factor (SEL_MOST) were assessed via open-ended survey and interview questions. Selection variables are defined in Table 10.

Table 10: Control Variables Measuring Neighborhood Selection

Variable	Description	Type	Values	Units
SEL_SOCIAL	Selection based on social or community-related characteristics (SQ12*)	Interval	1-5 (Importance scale)	N/A
SEL_ACCESS	Selection based on accessibility characteristics (SQ12)	Interval	1-5 (Importance scale)	N/A
SEL_QUALITY	Selection based on neighborhood/ home quality (SQ12)	Interval	1-5 (Importance scale)	N/A
SEL_SAFETY	Selection based on neighborhood safety (SQ12)	Interval	1-5 (Importance scale)	N/A
SEL_OTHER	Other selection factors (SQ13)	Interval	N/A	N/A
SEL_MOST**	Most important factor considered in neighborhood selection (SQ14)	Open-ended	N/A	N/A

* SQ denotes corresponding survey questions utilized to populate variable

** Utilized for qualitative analysis only

Importance scale: 1 = Not at all important; 2 = Somewhat important; 3 = Not sure; 4 = Important; 5 = Extremely important

Control variables measuring “neighborhood investment” were assessed to determine if stronger neighborhood or regional ties were linked to outcome variables (Putnam, 2000). For example, if a resident owns their home and has lived in central Florida for a number of years, it may be said that they are more inclined to participate in activities such as homeowner association events. This research explored the impacts of time lived in residents’ current home (TIME_HOME), whether the resident is considering moving in the next year (MOVING), the number of years the resident has lived in central Florida (TIME_CFL), whether the resident is a legal resident of Florida (LEGAL_RES), whether the resident lives in Florida year-round (YEAR_ROUND), and whether the resident owns their home (OWN). Neighborhood investment variables are defined in Table 11.

Table 11: Control Variables Measuring Neighborhood Investment

Variable	Description	Type	Values	Units
TIME_HOME	Years respondent has lived in current home (SQ17*)	Scale	Straight count	Years
MOVING	Respondent is considering moving in the next year (SQ18)	Dichotomous	0 = No; 1 = Yes	N/A
TIME_CFL	Years respondent has lived in central Florida (SQ19)	Scale	Straight count	Years
LEGAL_RES	Respondent is a legal Florida resident (SQ20)	Dichotomous	0 = No; 1 = Yes	N/A
YEAR_ROUND	Respondent lives in Florida year-round (SQ21)	Dichotomous	0 = No; 1 = Yes	N/A
OWN	Respondent home ownership status (SQ22)	Dichotomous	0 = No; 1 = Yes	N/A

* SQ denotes corresponding survey questions utilized to populate variable

To better understand participation in community activities, variables representing factors that most influenced residents’ decision to participate were included. Control variables representing factors influencing participation are defined in Table 12.

Table 12: Factors Influencing Participation

Variable	Description	Type	Values	Units
PARTIC_FIRST**	Most influential factor in decision to participate (SQ3*)	Open-ended	Open-ended	N/A
PARTIC_SECOND**	Second most influential factor in decision to participate (SQ3)	Open-ended	Open-ended	N/A
PARTIC_THIRD**	Third most influential factor in decision to participate (SQ3)	Open-ended	Open-ended	N/A

* SQ denotes corresponding survey questions utilized to populate variable
 ** Utilized for qualitative analysis only

Residents’ travel needs and ability were assessed to evaluate commute and general transportation limitations that may influence attitudes and behaviors with respect to automobile travel or utilitarian physical activity. Putnam (2000) cited greater commute needs can influence the extent to which individuals are involved in their communities, as time spent traveling to and from work detracts from time available for community participation. It was anticipated that greater commute demands—increased number of driving round trips to/from work (DRIVEWORK_FREQ), increased distance to work (DIST_WORK), increased time to drive to work (TIME_WORK), and the number of times per month residents traveled overnight for work (TRAV_FREQ)—would decrease residents’ ability to be involved in community activities. In

contrast, it was anticipated that an increased frequency in working from home (WFH_FREQ) would be positively correlated with community participation frequency. Also assessed was the frequency of driving to common destinations (DRIVE_FREQ), the number of times per week the resident walked or rode a bicycle to work (WB_WORK_FREQ), the number of vehicles (NUM_VEH) and bicycles (NUM_BIKE) in the household, and the number of times per week residents exercised (EXER_FREQ). Given that the ability to exercise implies the ability to partake in utilitarian physical activity, it was anticipated that the exercise frequency variable would be positively correlated with attitudinal and behavioral components of utilitarian physical activity.

DRIVE_FREQ was measured as an index variable with values that represented frequency ranges. Because there were varying ranges between variables, this variable was treated as ordinal. DRIVEWORK_FREQ, WFH_FREQ, and WB_WORK_FREQ were formatted in the survey to obtain a straight count response, but because these variables represent a limited scale (ranging from one to seven days per week), they were treated as interval variables. Likewise, because TRAV_FREQ represent a limited scale (ranging from one to 31 days per month), this variable was also treated as an interval variable. Unlike other frequency variables in the set of control variables, EXER_FREQ was treated as a scale variable because it was possible residents exercised multiple times per day, and thus the range of values for the variable was unlimited. Variables controlling for travel needs and ability are defined in Table 13.

Table 13: Control Variables Measuring Travel Needs and Ability

Variable	Description	Type	Values	Units
DRIVE_FREQ	Times per week resident drives to common destinations (SQ4*)	Ordinal	1-6 (Frequency scale)	N/A
WFH_FREQ	Days per week respondent works from home (SQ10)	Interval	1-7	Days per week
DRIVEWORK_FREQ	Days per week respondent drives to work (SQ10)	Interval	1-7	Days per week
TIME_WORK	One-way driving time to work (SQ10)	Scale	Straight count	Minutes
DIST_WORK	One-way distance to work (SQ10)	Scale	Straight count	Miles
WB_WORK_FREQ	Days per week respondent walks or rides a bicycle to work (SQ10)	Interval	1-7	Days per week
TRAV_FREQ	Days per month respondent travels overnight for work (SQ10)	Interval	1-31	Days per month
NUM_VEH	Number of vehicles owned or leased by household (SQ7)	Scale	Straight count	Vehicles
NUM_BIKE	Number of bicycles in household (SQ7)	Scale	Straight count	Bicycles
EXER_FREQ	Weekly exercise frequency (SQ11)	Scale	Straight count	Times per week

* SQ denotes corresponding survey questions utilized to populate variable

Frequency scale: 1 = Never; 2 = Less than once; 3 = Once or twice; 4 = 3–4 times; 5 = 5–6 times; 6 = 7+ times

Standard socio-demographic variables were utilized to control for economic and demographic characteristics and compare neighborhood samples with populations of

corresponding central Florida counties. Generally, it was anticipated that households with children under the age of 18 would be focused more on children's activities than other types of activities and be more inclined to drive to various destinations than to walk or ride a bicycle due to safety concerns and/or time constraints. Likewise, it was anticipated that households with more than one working parent would be less inclined to participate in non-child-related activities due to time constraints. Socio-demographic control variables are defined in Table 14.

Table 14: Control Variables Measuring Socio-demographic Factors

Variable	Description	Type	Values	Units
GENDER	Respondent gender (SQ36*)	Dichotomous	0 = Male; 1 = Female	N/A
MARRIED	Respondent marital status (SQ37)	Dichotomous	0 = Not married; 1 = Married	N/A
EDUCATION	Level of education completed (SQ38)	Dichotomous	0 = High school; 1 = College or more	N/A
RACE	Respondent race (SQ39)	Nominal	1 = White; 2 = Black; 3 = American Indian; 4 = Asian; 5 = Native Hawaiian/Pacific Islander 6 = Other	N/A
INCOME	Annual household income (SQ40)	Ordinal	1-8 (Income scale)	N/A
AGE	Respondent age (SQ41)	Scale	Straight count	Years
EMPLOYED	Respondent is currently employed (SQ41)	Dichotomous	0 = No; 1 = Yes	N/A
HH_SIZE*	Household size (number people in household)	Scale	Straight count	People
CHILDREN**	Children present in household	Dichotomous	0 = No; 1 = Yes	N/A
TOT_CHILDREN* *	Total number of children present in household	Scale	Straight count	Children
CHILDREN_18**	Children 18 or under present in household	Dichotomous	0 = No; 1 = Yes	N/A

Variable	Description	Type	Values	Units
TOT_CHILDREN_18**	Total number of children age 18 or under present in household	Scale	Straight count	Children
SPOUSE_EMP**	Resident's spouse is employed	Dichotomous	0 = No; 1 = Yes	N/A
BOTH_EMP**	Both resident and resident's spouse are employed	Dichotomous	0 = No; 1 = Yes	N/A

* SQ denotes corresponding survey questions utilized to populate variable

** Value calculated/derived from responses (not on survey)

Income scale: 1 = Less than \$25K; 2 = \$25K–\$49,999; 3 = \$50K–\$74,999;
4 = \$75K–\$99,999; 5 = \$100K–\$149,999; 6 = \$150K–\$199,999; 7 = \$200K–\$299,999;
8 = \$300K or more

A number of dependent and independent variables were index variables comprised of a series of Likert-type items. The composition and rating scales utilized for these variables are defined in Table 15, Table 16, Table 17, Table 18, and Table 19.

Table 15: Community Participation Index Items

COMM_ATT (Agreement scale)	
Index Item	Statement/Activity
COMM_ATT_HOA	I enjoy participating in HOA and/or neighborhood activities
COMM_ATT_SCHOOL	I enjoy participating in children's school activities
COMM_ATT_SPORTS	I enjoy participating in youth sporting activities
COMM_ATT_FAITH	I enjoy participating in faith-based activities
COMM_ATT_CIVIC	I enjoy participating in civic activities
COMM_ATT_OTHER	I enjoy participating in other activities
COMM_FREQ (Frequency scale)	
Index Item	Statement/Activity
COMM_FREQ_HOA	HOA and/or neighborhood activities
COMM_FREQ_SCHOOL	Children's school activities
COMM_FREQ_SPORTS	Youth sporting activities
COMM_FREQ_FAITH	Faith-based activities
COMM_FREQ_CIVIC	Civic activities
COMM_FREQ_OTHER	Other activities
Agreement scale: 1 = Strongly disagree; 2 = Disagree; 3 = Not sure; 4 = Agree; 5 = Strongly agree	
Frequency scale: 1 = Never; 2 = Less than once; 3 = Once or twice; 4 = 3–4 times; 5 = 5–6 times; 6 = 7+ times	

Table 16: Automobile Preference Index Items

DRIVE_ATT (Agreement scale)

Index Item	Statement/Activity
DRIVE_ATT_WALKBIKE	I prefer to walk or ride a bicycle rather than drive whenever possible
DRIVE_ATT_CARSAFER	Traveling by car is overall safer than walking or bicycling
DRIVE_ATT_FEWTIPS	I prefer to organize my errands so that I make as few trips as possible
DRIVE_ATT_FEWCARS	My household could manage with one fewer car (or with no car)

Agreement scale: 1 = Strongly disagree; 2 = Disagree; 3 = Not sure; 4 = Agree; 5 = Strongly agree

Table 17: Utilitarian Physical Activity Index Items

WB_DIFF (Difficulty scale)	
Index item	Statement/Activity
WB_DIFF_GROCERY	Grocery store
WB_DIFF_SCHOOL	Children's school
WB_DIFF_ACTIVITY	Children's activities
WB_DIFF_WORSHIP	Place of worship
WB_DIFF_RESTAURANT	Restaurant/coffee shop
WB_DIFF_EXERCISE	A place to exercise
WB_DIFF_OTHER	Other destination
UTIL_FREQ (Frequency scale)	
Index item	Statement/Activity
UTIL_FREQ_GROCERY	Grocery store
UTIL_FREQ_SCHOOL	Children's school
UTIL_FREQ_ACTIVITY	Children's activities
UTIL_FREQ_WORSHIP	Place of worship
UTIL_FREQ_RESTAURANT	Restaurant/coffee shop
UTIL_FREQ_EXERCISE	A place to exercise
UTIL_FREQ_OTHER	Other destination
Difficulty scale: 1 = Very easy; 2 = Easy; 3 = Not sure; 4 = Hard; 5 = Very hard	
Frequency scale: 1 = Never; 2 = Less than once; 3 = Once or twice; 4 = 3–4 times; 5 = 5–6 times; 6 = 7+ times	

Table 18: Selection Characteristics Index Items

SEL_SOCIAL (Importance scale)	
Index item	Statement/Activity
SEL_FAMILY	Living near family and/or friends
SEL_NEIGHBORS	Friendliness of neighbors
SEL_CHILDREN	Presence of children in the neighborhood
SEL_ACCESS (Importance scale)	
Index item	Statement/Activity
SEL_WORK	Living near place of employment
SEL_SHOP	Easy access to shopping and/or services
SEL_SIDEWALK	Abundant sidewalks and/or bike lanes/paths
SEL_QUALITY (Importance scale)	
Index item	Statement/Activity
SEL_SCHOOLS	Quality schools nearby
SEL_HOME	Home quality and overall neighborhood appearance
SEL_YARD	Front/back yards large enough for outdoor activities
Importance scale: 1 = Not at all important; 2 = Somewhat important; 3 = Not sure; 4 = Important; 5 = Extremely important	

Table 19: Other Index Items

DRIVE_FREQ (Frequency scale)	
Index item	Statement/Activity
DRIVE_GROCERY	Grocery store
DRIVE_SCHOOL	Children's school
DRIVE_ACTIVITY	Children's activities
DRIVE_WORSHIP	Place of worship
DRIVE_RESTAURANT	Restaurant/coffee shop
DRIVE_EXERCISE	A place to exercise
DRIVE_OTHER	Other destination

Frequency scale: 1 = Never; 2 = Less than once; 3 = Once or twice; 4 = 3–4 times; 5 = 5–6 times; 6 = 7+ times

Scale Variable Measurement

When constructing closed-ended survey questions that utilize a rating system, the researcher must determine how many categories should be included and whether the variable being measured is best defined numerically or with adjectives such as “Extremely important,” “Important,” and so on (Bickman and Rog, 1998). At the simplest end of the spectrum are two-point dichotomous questions. Five- and seven-point scales, which are frequently used in social science research, increase flexibility and provide measures of intensity, extremity, and direction as compared to the two-point scale (de Vaus, 2002; Dillman, 2000). Longer scales enhance the level of measurement precision and the detection of fine differences, with the construct validity increasing as the number of categories increases (Alwin, 1997; Andrews, 1984).

Even though longer scales are more precise, there is question about how many categories respondents can actually find meaningful (Bickman and Rog, 1998). de Vaus (2002) held that additional categories are meaningful if they help to discern real differences across cases, but that additional categories should not be added if they will be condensed when evaluating data (for example, condensing a nine-point scale to three points for coding purposes). Many researchers consider five-point scales to be sufficient, although research has indicated that seven-point scales are slightly more accurate than five-point scales (Dillman, 2000; Finstad, 2010).

Although seven-point scales may be ideal for their accuracy of measurement, certain types of scales seem to be a better fit for the five-point scale. For example, a typical “agreement” scale includes categories of “strongly disagree,” “disagree,” “not sure/neutral,” “agree,” and “strongly agree.” Whether adding additional categories, such as “mildly disagree,” provides added value is subjective. Further, if a question has frequency-based response categories, such as “never,” “less than once per month,” “once or twice per month,” “once every two weeks,” etc., where the researcher seeks only to measure specific frequency ranges, a seven-point scale may not adhere to the desired frequency-range model.

These factors in mind, this research used scales determined to be the best fit for the variable being measured. A number of variables, specifically attitudinal variables, leveraged a five-point agreement scale as defined above with a “not applicable” option. The same model was used for an “importance” scale (“not at all important,” “somewhat important,” “not sure,” “important,” “very important”) and a “difficulty” scale (“very easy,” “easy,” “not sure,” “hard,” “very hard”), and a “trueness” scale (“not at all true,” “somewhat true,” “not sure,” “true,” “entirely true”). A number of behavioral variables were measured utilizing a six-point frequency

scale with categories of “never,” “less than once,” “once or twice,” “three or four,” “five or six,” and “seven or more.” The application of these scales is defined in preceding variable definition tables.

Other studies assessing the impact of the built environment on social and transportation variables have used similar scales. Handy et al. (2005) used a survey instrument containing a large number of Likert-type questions on four-, five-, and six-point scales. As described later in this chapter, the survey instrument implemented by Handy et al. heavily influenced neighborhood selection and transportation-oriented portions of the survey developed for research. Along with a number of open-ended questions, Podobnik (2002) posed Likert-type questions in his survey instrument that used a four-point scale. As with Handy et al., Podobnik’s survey instrument was also leveraged to construct the survey for this research. In addition to these studies, Wright and Jasinski (2005), Wright, Jasinski, Donley, and Truman (2009), and Wright et al. (2011) leveraged four- and five-point scales in surveys on social capital and transportation public opinion surveys targeting the central Florida region.

Survey Methods

Survey Development, Pretesting, and Approval

With permission of primary authors, survey instruments implemented in prior research (Handy et al., 2005; Podobnik, 2002) were acquired and leveraged to develop much of the household survey used in this research. The Handy et al. (2005) instrument was utilized for many neighborhood selection and transportation-related survey questions, while the Podobnik (2002) instrument was utilized to develop some of the community participation-related survey questions. Other survey items were developed specifically for purposes of this research.

Following initial survey construction, the survey was pretested by a number of academic and professional peers. Several issues with question interpretation and lack of adherence to research goals were identified through pretesting; the survey was adjusted accordingly before distribution.

The finalized survey and cover letter were submitted to the University Institutional Review Board (IRB) for approval prior to survey packet distribution. The IRB approval letter is provided in Appendix B.

Survey Composition

The final survey packet contained a two-page cover letter and an 11-page questionnaire (Appendix C). The cover letter explained the purpose of the research and addressed confidentiality and consent expectations established by the IRB. The survey consisted of three sections: Section A, Participation, Travel, and Preferences in Your Current Neighborhood; Section B, Participation, Travel, and Preferences in Your Previous Neighborhood; and Section C, Demographic Information. Sections A, B, and C consisted of 22, 13, and six questions, respectively, many with multi-part answers.

Section A of the survey queried respondents about their current neighborhood, including attitudes and behaviors with respect to community participation and transportation mode, neighborhood selection factors, neighborhood characteristics, commute characteristics, and neighborhood investment variables. Section B mirrored Section A to query residents about their previous neighborhood. Section C contained standard demographic questions including the respondent gender, marital status, level of education, race, and household income, and the age, relationship to respondent, and employment status of all other members of the household.

Section B was included in the survey to enable quasi-longitudinal analysis of resident attitudes and behaviors over time and across neighborhood types. Following data collection and evaluation, the decision was made to exclude this data from this research.

Neighborhood Sampling

Probability (random) sampling techniques are desirable when conducting quantitative research as they increase the likelihood that a sample will be representative of the target population and minimize sampling bias. These factors, in turn, enhance the potential for accurately assessing the topic being explored. While ideal, random sampling methods are not always possible due to time, cost, or data access constraints; in these cases, non-probability (non-random) sampling techniques can be applied (Gliner and Morgan, 2000).

Quota, purposive, convenience, and snowball sampling represent four major classes of nonprobability sampling. Quota sampling seeks to gather a specific number of subjects within a set of parameters defined by the researcher. Purposive sampling involves selection of subjects that are subjectively assessed as being appropriate for the research at hand. Convenience sampling utilizes subjects that are readily-accessible by the researcher. Finally, snowball sampling, a subset of convenience sampling, entails making contact with one or more convenience subjects, then leveraging the relationships of these subjects to recruit additional subjects. This method can be repeated as needed until snowball methods are exhausted or until a sufficient sample is achieved (Gliner and Morgan, 2000).

A combination of random and convenience sampling was utilized for the household survey component of this research. Sampling was initiated through evaluation of property sales data utilized for neighborhood selection. Property sales data for the period from 2004 to 2007 was retrieved from county property appraiser websites for each neighborhood. There were

exactly 250 viable (non-duplicate, outliers² removed) property sales for Sweetwater during for time period. All 250 of the corresponding addresses were selected for the conventional suburban sample. In turn, a random sample of 250 addresses from the larger list of sales within Celebration was selected. Systematic random sampling, where every nth address was selected until a total of 250 addresses were accumulated, was applied to identify the new urban survey sample.

Survey Distribution

Dillman (2000) advocated a five-contact protocol that includes a pre-survey letter, a survey packet, a reminder postcard, a second survey packet, and a final reminder postcard. While this protocol is comprehensive, other research (Kaplowitz, Hadlock, and Levine, 2004) suggests that additional mailings such as a final reminder postcard do not necessarily yield additional responses. Further, the five-point method is more time- and cost-intensive than more streamlined distribution protocols. These factors in mind, this research utilized a three-contact survey protocol that included an initial survey packet, a reminder postcard, and a replacement survey packet.

² There were a number of sales in both Sweetwater and Celebration data sets where non-standard transactions, i.e., sale of a property for one dollar, were observed. These sales may have been the result of within-family property transfers. Because these sales skewed mean property values, they were not included in mean value analyses or the accessible populations utilized to identify neighborhood samples.

In addition to the mailed household survey, prospective respondents were presented with a Web-based survey option. Couper (2000) and Fricker and Schonlau (2002) asserted that online surveying offers advantages over mail-back surveying including decreased cost per response, accommodation of preferences for online surveying, and easier assembly of data. These factors make online surveying appealing to the researcher, but online surveying alone has been demonstrated to produce lower response rates than paper mail-back surveys (Dillman, 2000; Kaplowitz et al., 2004). Further, the use of solely online surveying can attach an impersonal stigma to the research (Deutskens, De Ruyter, Wetzels, and Oosterveld, 2004). Given these considerations, a mixed paper-based and online mode was selected to take advantages of the benefits of each mode individually while accounting for the challenges of each.

The first round of survey packets was mailed in May 2009, with 250 packets sent to randomly selected households in each study neighborhood. Of the initial 500 packets sent, 101 from the selected new urban neighborhood and five from the selected conventional suburban neighborhood were returned due to insufficient postage³. These packets were subsequently re-packaged and re-mailed.

In the initial mailing, 26 new urban and nine conventional suburban addresses were identified as “vacant” by the post office and the associated packets were returned. In an effort to facilitate as many responses as possible, the 26 vacant new urban addresses were replaced with other randomly selected addresses from the master address list and packets were subsequently

³ It was unclear why most conventional suburban packets were delivered successfully while roughly 40% of new urban packets were deemed as having insufficient postage. Packets sent to both groups were identical in content and applied postage, and both neighborhoods are within the same metropolitan area from which the packets were mailed.

mailed to these reassigned addresses. This method was not reciprocated with vacant conventional suburban addresses because all conventional suburban addresses from the master home sales list were exhausted in the initial mailing.

Reminder postcards were mailed to valid, non-responding addresses 20 days after the initial packet mailing. Where initial packets were returned due to insufficient postage and where addresses were reassigned due to original address vacancy, reminder postcards were mailed on a staggered timeline to account for the delay in initial packet receipt. The second round of packets was dispersed to valid, non-responding addresses three to four weeks after reminder postcards were mailed, again on a staggered timeline for addresses with returned first round packets.

For each mailing, addresses associated with survey packets and postcards marked by the post office as “undeliverable” were classified as invalid. Likewise, after the first mailing, addresses associated with packets and postcards marked by the post office as “vacant” were classified as invalid ^{4,5}

Amidst the survey and postcard mailing process, the primary researcher attended a homeowner association (HOA) meeting for each neighborhood to recruit participants for interviews and additional survey participants. Paper survey packets were distributed to 10 new urban and 19 conventional residents at these meetings. These packets were differentiated with

⁴ It became evident that, after a number of reassigned packets were also returned due to being marked “vacant,” that it would take an exorbitant level of effort to continue to reassign vacant address packet numbers to new addresses with each new mailing and that this could hyper-extend the surveying process.

⁵ While it was not fully explored, the large number of vacant or otherwise invalid new urban addresses may have been due to very recent home sales where residents had not yet moved in and/or to the downturn in the housing market accompanying the querying period.

unique packet numbers to distinguish them from packets sent to addresses selected from county property appraiser resources.

Data Entry and Coding

Data from mail-back surveys was entered by hand into Microsoft Excel. This data was merged with data from online surveys into a master Excel file. Response mode (paper or online) was recorded in the master data file. Following data entry, each raw data point was crosschecked with paper surveys to verify entry accuracy. Where entry errors were identified, corresponding Excel cells were highlighted and data was corrected. All verified data raw data was retained in case additional verification was necessary.

After data entry verification, variables were coded as detailed in Table 7–Table 14. For many survey questions, a “not applicable” option was provided. Instances of “not applicable” were removed and treated as missing data. Index variables were created from raw data by calculating the mean of contained index items. Indexes were calculated using only items for which there were responses—for example, if five out of six items were answered, the mean was calculated based on five, not six, items.

The index variable DRIVE_ATT contained items with opposite scales. The items “I prefer to walk/bike whenever possible,” “I prefer to organize my errands so that I make as few trips as possible,” and “my household could manage with one fewer car than we have (or with no car,” indicate attitudes that are “drive-minimizing.” In contrast, the statement, “traveling by car

is overall safer than walking or bicycling” is “drive-maximizing.” These responses for these statements were adjusted so that the scale, ranging from “strongly disagree” to strongly agree,” was consistent with drive minimizing attitudes represented at one end of the attitudinal spectrum and drive maximizing attitudes at the other. To accommodate this change, the values for drive-minimizing statements were inverted.

Responses to open-ended survey questions were subjectively categorized to support quantitative evaluation. Responses to the question that queried residents about the factors that influenced their decision to participate (PARTIC_FIRST, PARTIC_SECOND, PARTIC_THIRD) were categorized as “distance,” “time/schedule,” “transportation,” “interest,” “lack of activities,” “money/cost,” or “other.” Responses to the question that queried residents about the most important selection characteristic (SEL_MOST) when choosing their home/neighborhood were more diverse, and were categorized in two levels—the first denoting the general category of responses, and the second denoting the sub-category of responses. General categories included “schools,” “sense of community/community activities,” “accessibility,” “quality/value/reputation,” “safety,” and “location.”

Treatment of Missing Data

The presence of missing data reduces the number of cases available for analysis. As the number of cases impacts hypothesis testing and generalizability beyond studied samples, the

method selected for handling missing data should seek to minimize the loss of cases (de Vaus, 2002).

In this research missing data was managed using pairwise deletion, a method that evaluates only cases in which all variables being assessed have non-missing values. Pairwise deletion does result in a loss of some cases, but it is desirable for multivariate analysis as it provides more flexibility than listwise or variable deletion approaches and is not subject to the correlation reduction or inflation concerns associated with sample or group mean substitution. The listwise approach can, depending on the number of missing cases, result in a large amount of deleted data. Likewise, variable deletion can remove a variable that plays an important role in the research from further analysis. Replacing missing data with a sample mean reduces both sample variability and correlation between variables being evaluated. In contrast, the group mean replacement approach, where the mean of the group for a given variable is utilized to replace missing values, increases the homogeneity of a group and can exaggerate the correlations between variables (de Vaus, 2002).

Quantitative Analysis

As described in the next chapter, the response rate, or the ratio of the actual sample to the selected sample, for the household survey portion of this research was below optimal, especially for the experimental neighborhood. Achieving a sufficient response rate is critical in survey research, as it impacts the explanatory power of a model (de Vaus, 2002). Further, response

rate is often utilized as a proxy for nonresponse error, which decreases as response rate increases (Dillman, 1991). Although it is accepted in the social research community that mail surveys yield lower response rates than face-to-face interviews and telephone surveys, which have the highest (70%) and second-highest (67%) average response rates, respectively, among the methods compared (de Vaus, 2002; Dillman, 2000), response rate must be considered when selecting methods for utilizing survey data to evaluate study models.

The models depicted in Figure 2: , which represented relationships between neighborhood type and control variables on attitudinal and behavioral outcome variables, contained not only the independent variable of interest (neighborhood type) and dependent variables, but also a large number of control variables. The selection of control variables for the quantitative portion of this research was based largely on the methods and survey instrument employed by Handy et al. (2005), which included a strong collection of neighborhood selection and demographic variables that were anticipated to be influential on outcome variables of the research at hand. Although it is ideal to leverage existing theory, such as the relationships demonstrated by Handy et al. in their research, as the basis for model evaluation, the low survey response rate of this research required scrutiny of whether or not all control variables should be included in analyses.

To understand how to approach analysis when survey response rate is low, it is helpful to understand what type of research is being conducted. As this research utilized a combination of random and convenience sampling techniques for the household survey and because the survey is not considered to be a “treatment” per se, it is safe to classify this study as comparative. Lijphart (1975) described the comparative method of research as “one of the basic methods—the

others being the experimental, the statistical, and certain forms of the case study methods—of discovering and establishing general empirical propositions” (p. 159). When posed with the challenge of “many variables, small N” in comparative studies, Lijphart suggested employing one or more strategies for rectification, including expanding the number of cases by broadening the geographical and historical context of the research, combining variables, evaluating cases over time (conducting longitudinal analysis), increasing the number of groups evaluated, and “restricting the analysis to the key variables and omitting those of only marginal importance” (p. 159). Expanding geographical and historical context, conducting longitudinal analysis, and increasing the number of groups evaluated are methods that help to strengthen nearly any study, but these methods are difficult to employ once a design has been established and are also time- and cost-prohibitive. Combining variables and evaluating only variables that are key to the research is more practical on both fronts. Further, reducing the number of variables supports the parsimony principle: “given two different models with similar explanatory power for the same data, the simpler model is to be preferred” (Kline, 2005, p. 137). The parsimony principle is founded in statistical reason: as the number of variables included in a model increase, the degrees of freedom decrease, as does the model’s explanatory power (Kline, 2005).

To help address the challenge posed by sub-optimal response rates, quantitative analysis methods applied in this research sought to minimize the number of control variables evaluated in each model, and thus, enhance the parsimony of each model. As described in the sections that follow and in Chapter 4, control variables were eliminated through evaluation of index variable reliability (applied to both control and dependent index variables), correlation testing, and multicollinearity assessment. The output of the application of these methods were much

simplified models, which, depending on the number of remaining independent variables, were then tested using multiple or simple linear regression.

Reliability of Index Variables

The reliability of dependent and independent index variables was evaluated using corrected-item total correlation and Cronbach's alpha. Corrected-item total correlation represents the correlation between a given index item and the sum score of other items being evaluated. On a scale of zero to one, values of less than .3 are considered to be weak correlations. Cronbach's alpha, a coefficient of inter-item reliability, also ranges from zero to one. A Cronbach's alpha of .7 or higher is considered to be sufficiently reliable (de Vaus, 2002).

Given these parameters, index items with corrected-item total correlations of less than .3 were removed from respective index variables. Where warranted, additional index items were removed to increase Cronbach's alpha. Reliability analyses were completed iteratively for each index variable until the set of items producing the highest Cronbach's alpha value was identified. Index variables with insufficient reliability were excluded from further analysis.

Evaluation of Correlation between Variables

Bivariate correlation coefficients illustrate the degree of relationship between two variables. Correlation coefficient (r) values range from -1 to 1, with strong positive correlations close to 1 and strong negative correlations close -1. Variables that are perfectly positively or negatively correlated have correlation coefficients equal to 1 or -1, respectively (Calkins, 2005; Spatz, 2005).

After removing index variables with insufficient reliabilities, bivariate correlation coefficients were utilized to assess the relationships between remaining dependent and independent variables. Pairings including scale variables were assessed with the Pearson product-moment coefficient (PPMC), while pairings containing only interval, ordinal, or dichotomous pairings were evaluated using Spearman's rho. PPMC is a parametric statistic that assumes normal distribution and linearity of relationships between study variables and is most often utilized to assess the relationship between two scale (continuous) variables (UCLA ATS, 2011). As scale variables embrace a higher degree of "precision" than other levels of measurement, it was concluded that defaulting to PPMC for any pairing including a scale variable was appropriate. Spearman's rho, a rank-order correlation coefficient that measures bivariate correlations at the interval and ordinal levels, is a non-parametric statistic that is not confined by the constraints of normality and linearity (Norusis, 2004). Spearman's rho is frequently utilized to evaluate correlations between interval-interval, interval-ordinal, and ordinal-ordinal variables (Calkins, 2005; UCLA ATS, 2011) and was deemed appropriate for such pairings in this research. Spearman's rho was also utilized to evaluate correlations of

dichotomous-interval pairings. This decision was supported by the argument that dichotomous variables are nominal, ordinal, or even interval in nature and can thus be evaluated with corresponding non-parametric methods.

The strength of correlation coefficients was utilized to determine which control variables should be retained for further analysis. As correlation coefficients can be positive or negative, it is the absolute value of the coefficient that determines its strength (Calkins, 2005). Thresholds distinguishing weak, moderate, and strong correlations can vary by researcher, but a conservative estimate of these thresholds is that values less than .3 indicate weak correlations, values between .3 and .7 indicate moderate correlations, and values of .7 or higher indicate strong correlations (Gerstman, 2011). These parameters were utilized to assess PPMC and Spearman's rho statistics. Control variables exhibiting weak correlations with all dependent variables were excluded from further analysis.

Detection of Multicollinearity

Multicollinearity represents the presence of strong correlations between independent variables. When multicollinearity is present, the statistical significance of a regression model can be artificially inflated, resulting in drawing incorrect conclusions about the relationships between dependent and independent variables (UK SSTARs, 2011).

Multicollinearity is often detected using tolerance and variance inflation factor (VIF), both collinearity diagnostic statistics generated from multiple linear regression. Tolerance refers

to the percent of variance of a model that cannot be attributed to other predictor variables.

Tolerance is equal to $1 - R^2$, where R^2 is the proportion of variance in the dependent variable that can be predicted from the independent variables included in the regression model (UCLA ATS, 2011; UK SSTARs, 2011). If an independent variable reflects a tolerance of less than .10, it is likely the variable is redundant with another independent variable. As VIF is equal to $1/\text{tolerance}$, a VIF of 10 or greater indicates redundancy (multicollinearity). When multicollinearity is detected, redundant variables should be eliminated from the model (UCLA ATS, 2011).

Tolerance and VIF were utilized to detect multicollinearity in models contained in this research. Where appropriate, models were adjusted to remove the presence of multicollinearity.

Evaluation of Normality and Linearity

Normality and linearity should be considered in selecting an appropriate method for hypothesis testing. Normality is often assessed using skewness and kurtosis statistics, while linearity is often assessed using scatterplots (UCLA ATS, 2011).

Skewness is a measure of the magnitude and direction of distribution asymmetry, where perfectly normal distributions reflect a skewness of zero. A positive skewness (skewness greater than zero) indicates a distribution is skewed to the right (tail to the right), and a negative skewness indicates a distribution is skewed to the left (tail to the left). Kurtosis is a measure of the heaviness of skewness tails, where perfectly normal distributions reflect a kurtosis of zero.

“Heavy” tails are denoted by positive kurtosis values, and “light” tails are denoted by negative kurtosis values (DeCarlo, 1997; UCLA ATS, 2011;).

To determine if skewness and kurtosis were acceptable, skewness and kurtosis statistics were divided by their corresponding standard errors. Where the resulting quotient was less than two, skewness or kurtosis was considered to be within normal parameters. Both skewness and kurtosis should be within normal parameters to classify a variable as normally distributed (DeCarlo, 1997; UCLA ATS, 2011).

When a perfectly linear relationship exists, a one-unit change in the independent variable yields a one-unit change in the dependent variable. Linearity can be subjectively assessed by on a scatterplot determining if the slope of “best fit” line representing the relationships between variables maintains a constant positive or negative slope. This subjective assessment method was applied to evaluate the linearity of relationships between dependent and independent variables in this research. The results of this assessment were paired with the results of distribution normality analysis to select an appropriate method for hypothesis testing.

Hypothesis Testing Methods

Linear regression is typically applied when variable sets contain normal distributions and linear relationships. Congruently, multiple linear regression is applied when multiple, normally-distributed predictor variables reflect linear relationships with a single outcome variable and all variables are measured at an interval or scale level (UCLA ATS, 2011; UNT CITC, 2011).

In contrast, logistic regression is suitable when variable sets contain non-normal distributions, non-linear relationships, and when heteroskedasticity is a factor (Pallant, 2005). Multiple logistic regression is appropriate for models containing a single ordinal outcome variable and multiple ordinal predictor variables, including outcome and predictor variables based on Likert-type rating scales (UNT CITC, 2011).

The set of outcome variables evaluated in this research contained a composite of scale, interval, and ordinal variables. Additionally, as detailed in the next chapter, variable distributions within a given model were not consistently normally distributed and dependent-independent relationships were not consistently linear. The lack of consistent parametric compliance would typically indicate that logistic or multiple logistic regression were most appropriate for evaluating study hypotheses, but in this research, there were too few cases to support logistic regression.

These factors in mind, neither linear nor logistic regression parameters could be perfectly met by the variables and data set utilized for the quantitative portion of this research. However, given the number of valid cases, it was determined that linear regression would be more suitable than logistic methods, and thus linear regression was utilized to evaluate study hypotheses.

Post-Hoc Power Analysis

Statistical power represents the probability of minimizing Type II errors, or falsely rejecting null hypotheses. With a range of 0 to 1, the higher the statistical power, the less likely

are Type II errors. In order to confidently reject null hypotheses, power should be .8 or greater (Norusis, 2004; Spatz, 2005).

Post-hoc power analysis was conducted utilizing an online post hoc statistical power calculator for multiple regression (Soper, 2011). For each evaluated model, a p-value of .05 was assumed and the number of predictors was limited to those retained following reliability, correlation, and multicollinearity analyses.

Qualitative Methods

As described at the beginning of this chapter, mixed-method designs produce complimentary objective and subjective outputs that provide a broadened scope of understanding as compared to quantitative or qualitative methods alone. Where the last section detailed quantitative methods employed in this research, this section details qualitative methods, including interview and case study techniques, utilized to provide a point of comparison for quantitative findings and to set the context for holistic evaluation of research questions. This section begins with a discussion of interview techniques and questions, and then details interview recruitment methods, informed consent proceedings, the interview questionnaire, and interview format and conduct. Following, common interview data recording and coding methods are discussed, as are recording and coding methods utilized in this research. Finally, case study methods are defined to provide insights into how case studies, which are presented at the end of this chapter, were prepared.

Interview Methods

Interviews offer the potential to achieve deeper insights than standard survey methods by posing open-ended questions and, subsequently, probing into corresponding responses. The richness of content enabled by interviews is also supported through a heightened level of interactivity between the researcher and studied subjects (de Vaus, 2002). The interview is “in essence is a method of language. Although quantitative researchers attempt to reduce a phenomenon to a measureable quantity, qualitative interviews attempt to expand on any given experience seeking complexity and depth of thought” (Hamilton and Bowers, 2006, pp. 821–822). In this research, tapping into the “language” of interviews validated, brought question to, and expanded upon data obtained from quantitative methods.

Interview Participant Recruitment

As with surveying, random sampling is ideal for interview participant recruitment but not always achievable due to various constraints (Gliner and Morgan, 2000). Arguably, random sampling is more difficult to achieve when assembling interview participants due to the personal nature of the interview process. Accordingly, convenience and snowball techniques served as the primary means of interview participant recruitment in this research.

Interview participants were recruited using a three-phased approach. The first phase entailed identification of convenience samples at neighborhood homeowner associations (HOA)

meetings. To initiate this process, leaders of Celebration and Sweetwater HOAs were identified through online research and subsequently emailed a letter (Appendix D) that described research objectives and requested permission to attend an upcoming HOA meeting. The letter explained that household surveys had already been mailed to a subset of neighborhood residents and that information obtained from residents would be treated confidentially. Authoritative representatives of each neighborhood HOA consented to this emailed request, and arrangements were made to attend an upcoming meeting for each neighborhood.

At both Celebration and Sweetwater HOA meetings, the researcher was provided the opportunity to describe the research to meeting attendees and invite them to participate in interviews. At the request of HOA representatives, willing participants identified themselves after the conclusion of each meeting. While this process yielded four interview participants from Celebration and additional survey participants from each neighborhood, Sweetwater residents approached at the HOA meeting declined to participate in an interview.

The second phase of recruitment entailed snowball methods beginning with existing contacts from each neighborhood. Existing contacts were emailed an introductory letter (Appendix E) to describe the purpose of the research, provide an overview of the interview format, identify key interview topics, and invite these individuals to participate in either a phone or in-person interview. Willing participants were interviewed, and then asked to make contact with or identify to the researcher other neighborhood residents that might be interested in participating in an interview. In some cases, existing contacts emailed the introductory letter to other interview candidates, and in others, existing contacts provided the email address of other interview candidates to the researcher, who then emailed the introductory letter directly to these

individuals. Snowball methods were repeated iteratively until the desired number of interviews was achieved.

In parallel with snowball methods, the third phase of recruitment entailed recruitment through chance encounters. These encounters, while atypical in formal research, proved to identify interview participants that presented valuable insights and helped to perpetuate snowball methods. The first chance encounter occurred when the researcher and her family were at a nearby beach and met a family that lived in Sweetwater. The mother in the family expressed interest in the research and agreed to participate in an interview. Subsequently, this individual was able to identify other Sweetwater residents who were also willing to participate. The second chance encounter occurred when the researcher was on a commercial flight en route to a business meeting and met a Celebration resident who agreed to participate. Due to the impromptu nature of the subsequent interview, which took place at the destination airport, the nature of the research and interview were described verbally and verbal consent to interview was provided. Following this interview, the resident was emailed the introductory letter and informed consent agreement.

Informed Consent

An interview instruction letter and informed consent form (Appendix F) was distributed to and returned signed by all interviewed residents. As described above, one chance encounter resulted in informed consent being provided verbally before the interview was conducted, and was followed up with written informed consent following the interview. Consent form

distribution and return was conducted either in-person or electronically, depending, in most cases, on interview mode. Hard copies of consent forms were collected from residents with whom in-person interviews were conducted. Consent forms from most residents interviewed by phone were distributed and collected via email or fax. Consent forms of two phone-interview participants were distributed electronically and collected in person.

Interview Questionnaire

The social science interview consists a series of prepared, orally-presented questions—referred to as the interview questionnaire—that are posed by the researcher or interviewer to participants who, in turn, provide oral responses. Open-ended questions, which require interview subjects to self-formulate responses, and partially open-ended questions, which provide a limited set of choices and the opportunity to elaborate on these choices, are most readily-utilized in interview questionnaires. Closed-ended questions can also be used but offer less opportunity to gain rich insights into studied topics (Gliner and Morgan, 2000).

The interviews conducted in this research consisted primarily of open-ended questions presented in a semi-structured format that encouraged participants to offer free-flowing information. This conversational format allowed participants to expand upon topics broached in interview questions, and thus enabled conveyance of historical background information and personal preferences that influenced responses to interview questions.

The interview questionnaire (Appendix G) consisted of four topic areas: demographic information, neighborhood selection, participation, and transportation. The demographic section was comprised of short-answer and closed ended questions such as “what year did you move to this neighborhood?” and “are you employed?” Remaining sections consisted entirely of open-ended questions that probed into respective topic areas.

The questionnaire provided the structural framework for interviews, but participants were not limited to discussing only specific questions on the questionnaire. The questionnaire was followed largely sequentially, although, if participant responses were such that they answered multiple questions on the questionnaire, deviation from this sequence was supported. For example, questions such as “what factors contribute to you choosing to walk/bike rather than drive?” often yielded feedback on both facilitators and inhibitors of utilitarian physical activity, as well as related attitudinal constructs that shaped corresponding behaviors. This flexible approach enabled interviews to follow a conversational, semi-structured format.

Many interviews begin with a grand tour question to “elicit a broad picture of the participant or native’s world, to map the cultural terrain” (Bickman and Rog, 1998, p. 481). Grand tour questions, sometimes referred to by ethnographers as survey questions, shape the scope of the interview and are utilized to encourage interview participants to elaborate on the issue being discussed (Bickman and Rog, 1998; Spradley, 1979). Through careful phrasing, grand tour questions can also minimize responses with socially desirable biases (Goffman, 1959).

This research did not leverage grand tour questions, but the structure of the interview process provided a framework that achieved similar goals. At the beginning of the interview,

participants were briefed on the purpose of the research and the topics that would be covered. Subsequently, each section was introduced in a manner that defined their scope and established a context for the interview conversation. For example, a statement such as “now we are going to talk about the kind of things that influenced your decision to move to this neighborhood” was posed to set the parameters for the neighborhood selection section. Further, at the end of neighborhood selection, participation, and transportation sections, participants were asked if they had any additional feedback on topics covered in the section. In these respects, a grand tour framework was applied without posing grand tour questions.

Interview Format and Conduct

This research utilized face-to-face and telephone interview formats to facilitate the preferences of interview participants. Face-to-face interviews provide opportunity to build a rapport with subjects and assess human factors such as facial expressions while interviews are being conducted. Telephone interviews also allow the interviewer to build rapport but offer a lesser ability to assess human factors as they allow only insight into audible cues such as voice inflection or response hesitation. While face-to-face interviews provide a greater opportunity for human factor assessment, they can be time-intensive and require logistical considerations. In contrast, telephone interviews offer greater convenience and are a lower-cost alternative (de Vaus, 2002).

Small group interviews, or focus groups, have the potential to stimulate thinking through conversational engagement with the interviewer and other subjects (Gliner and Morgan, 2000). Through the synergistic effects of conversation, focus groups can yield responses that build upon those of other group members and ideas that might not have been discovered in an individual interview scenario. While focus groups present inherent benefits, the lack of independence of responses limits the generalizability of findings. Further, the results of focus groups may be biased by group members with strong opinions (Bickman and Rog, 1998).

While this research initially sought only to conduct individual interviews to minimize the bias potential of small group settings, in some cases, it was found to be more convenient for interviewees to participate in a small group setting. The first group consisted of four individuals recruited at a Celebration HOA meeting. These residents offered to conduct a group interview onsite at the meeting facility immediately after the meeting. The second small group interview, which consisted of three Celebration residents identified through existing personal contacts and snowball methods, suggested meeting at a restaurant in downtown Celebration. Of the four remaining new urban resident interviews, three were conducted as individual phone interviews and one was conducted in an individual face-to-face format. All 10 conventional suburban resident interviews were conducted in individual phone formats.

Small group and individual interviews were treated as similarly as possible to individual interviews to enable consistency across the interview process. In small group interviews, questions were posed to participants one at a time, with each participant answering the question before moving on. Synergistic conversations arose in each small group, as did cases where a participant would simply agree with one or more participants that had already responded to the

question being posed. When synergistic responses evolved, the researcher attempted to segregate responses from each participant. “Agreeing” participants were probed to provide self-formulated responses.

Interview Recording and Coding Methods

The field of qualitative research offers a broad toolset for recording and coding data obtained from interviews. In this section, common techniques are described first, followed by a discussion of techniques applied in this research.

Paper and Computer-Assisted Techniques

Interview data recording and coding can be achieved through both manual and computer-aided methods. The Paper and Pencil Interview (PAPI) method, which involves the interviewer capturing data on paper questionnaires, is applicable in both face-to-face and telephone interview settings. The Computer-Assisted Personal Interview (CAPI) is an alternative to the PAPI method in face-to-face settings and involves an electronic questionnaire where responses are entered by the interviewer into a software application that then automatically codes responses. The Computer-Assisted Telephone Interview (CATI) applies the CAPI model in a

telephone interview setting. Through automatic coding and filtering, CAPI and CATI methods provide a greater level of efficiency than the PAPI method (De Vaus, 2002).

Open and Axial Coding

Open and axial coding methods represent destructive and constructive approaches to deriving value from qualitative data. Open coding involves analysis and extraction of concepts from raw data. Open coding can be applied at macro and micro levels, with macro analyses identifying broad-level concepts, such as "promoting social capital", and microanalyses identifying finite concepts, such as the notion of "promoting neighborliness" implied by greeting a new neighbor with homemade cookies (Corbin and Strauss, 2008).

Where open coding represents extraction of concepts, axial coding entails identification of relationships between concepts. Leveraging the example at hand, "promoting social capital" could be defined as a hierarchically-superior concept as compared to "promoting neighborliness". Axial relationships need not be hierarchical; for example, an individual that seeks both to "promote social capital" and "engage in non-automobile modes of travel" could be said to "desire social, physical, and environmental health" (Corbin and Strauss, 2008).

Corbin and Strauss (2008) acknowledged that their perception of the relationship between open and axial coding evolved since earlier editions of their text. Earlier works distinguished between open and axial coding, while their most recent publication asserts an interdependence of the methods, stating,

the distinctions made between the two types of coding are “artificial,” and for explanatory purposes only, to indicate to readers that though we break data apart, and identify concepts to stand for the data, we also have to put it back together again by relating those concepts. (p. 198)

This breakdown and subsequent buildup is demonstrated by the hierarchical "promoting social capital"/"promoting neighborliness" example described above.

Inductive and Deductive Coding

Much like open and axial coding, a relationship exists between inductive and deductive coding methods. A parallel can be drawn between inductive methods, which seek to derive findings from data, and open coding, where concepts are extracted at a macro or micro level from data. Likewise, a parallel can be drawn between deductive methods, which involve interpretation or linking of concepts constructed from data (Corbin and Strauss, 2008).

With inductive coding, raw data is taken at face value and reported for what it is. Inductive coding could be applied to responses to the question, "how far do you live from your place of employment?" to assess the ability of an individual to participate in community activities. For example, if an individual reported that he lived one-half mile from work, the researcher could conclude that, since this person has such a short commute time, they have more time available for participation in community activities. Looking at another example, the question "what factors influence your decision to participate in community activities?" may produce inductively-coded responses such as "lack of time," "too many activities to choose from," or "my commute is too long for me to get there in time." If simply tallied and reported as-

is, inductive coding would be applied. However, if a concept or theme such as "scheduling" was applied to group these responses, deductive coding would be in play.

Specific Coding Techniques

Corbin and Strauss (2008) identified a number of analytic tools that can be used for coding qualitative data. Among these (and applicable to this research) are asking questions of research data, constant and analytical comparisons, drawing upon personal experience, waving the red flag, and looking for the negative case.

When researchers ask questions of research data, they may be doing so to initiate analysis, to identify constructs and/or contexts that shape responses, to assess the who, what, when, where, why, and how of responses, or to achieve a combination of these outcomes. There are four standard categories of questions that are utilized: sensitizing, theoretical, practical, and guiding. Sensitizing questions enable the researcher to assess issues and concerns, involved actors and their roles, and consequences of the actors' participation. Theoretical questions generally identify process, concepts, and their relationship to each other. Practical questions guide theoretical sampling and theory development. Finally, guiding questions provide the framework for interviews, observations, documentation, and corresponding analyses (Corbin and Strauss, 2008).

Corbin and Strauss (2008) described constant and analytical comparisons as "staple features of qualitative analysis" (p. 73). Constant comparisons entail identification of similarities

or differences between observations, and are often utilized to identify themes among observations. Theoretical comparisons are a more indirect means of comparison that seek to explain the properties and dimensions of observation through alignment with familiar entities, events, or environments. In this respect, theoretical comparisons utilize metaphors and similes to make observations more understandable, and, in doing so, allow the researcher to consider the broader-level meaning of the observation (Corbin and Strauss, 2008).

Drawing upon personal experience does just that—it references the researcher's personal life experiences to provide some sort of framework for analysis. This technique can be applied to establish a connection with an interviewee by relating with an experience that is similar to theirs. Relating through personal experience has the potential to insert bias into the interview process or data evaluation, a risk that should be managed by limiting personal experience comparisons to the conceptual level (Corbin and Strauss, 2008).

Waving the red flag is a method utilized to identify and probe responses conveyed in "extremes" such as "always" and "never." When these extremes are expressed, they should be probed to identify whether there are circumstances when the statement is not true, and what circumstances support the extreme (Corbin and Strauss, 2008). For example, an interviewee that conveyed "I always walk my kids to school" might be asked whether they still did so if it was raining outside or if they were running late, circumstances that might warrant driving rather than walking.

Many qualitative methods look for commonalities across responses, while looking for negative cases is a technique that seeks to identify cases that differ from the majority. Negative cases do not fit into the pattern established by other cases and thus present alternative dimensions

to be considered (Corbin and Strauss, 2008). While, in quantitative analyses, negative cases may be treated as outliers and eliminated from analyses, in qualitative analysis they expand upon the researcher's understanding of the concept being explored.

Methods Applied in This Research

This research used a modified PAPI method for interview data collection and coding. While a traditional PAPI method involves paper and pencil, the method applied in this research entailed a spreadsheet-based interview questionnaire and raw response entry system. To ensure respondents were comfortable in the interview setting, audio recording methods were not utilized.

Interview responses were transcribed real-time into the interview questionnaire spreadsheet. Where possible, verbatim responses were captured. When verbatim transcription was not possible due to the interviewee providing a wealth of information quickly, summary information with key points conveyed was captured.

The coding process began was initiated through macro-level open coding to identify key themes across demographic, neighborhood selection, participation, and transportation areas. With macro-level themes established, micro-level themes, which enabled a more finite level of classification, were identified. This open-coding process was not carried out by the use of theoretical memos or the aid of further software. Rather, raw responses were evaluated in the interview questionnaire spreadsheet, and then macro- and micro-level themes were captured in a secondary spreadsheet.

Both inductive and deductive methods were applied to identify and evaluate themes. First, inductive methods were utilized to simply recognize that a theme existed. For example, if a Celebration resident conveyed that attachment to the Walt Disney Company brand was part of their selection decision, this occurrence was noted. Second, the way a response was conveyed by

the interviewee—voice inflections, excitement about a given concept, body language, and the amount of emphasis placed on each element of a response—were noted and leveraged to deduce which components of their response were most significant to them. Following the same example, if a Celebration resident elaborated significantly on the importance of the Walt Disney Company brand in their selection decision, and casually mentioned other factors such as weather, neighborhood appearance, and safety, it was concluded that the point that the Walt Disney Company brand was the most important factor in their decision. These items were then highlighted in the interview questionnaire spreadsheet.

This jointly inductive and deductive strategy for predominant theme identification is demonstrated in Table 20.

Table 20: Sample Summarized Interview Response Utilized for Theme Identification

Group: Experimental (Celebration)	
Topic area: Neighborhood selection	
Question: Why did you choose this neighborhood?	
R_ID	Summarized response
C1	Social atmosphere , spouse influence, love of Disney
C2	Weather, family, living the marketing concept
C3	Weather, desire to live in new place, bragging rights for living in Celebration
C4	Retiring, weather, family, trust of Disney, concept of what Celebration was to be (brand promise), sense of community
C5	Moved to central Florida for job transfer and to be closer to kids; subsequently, moved to Celebration because girlfriend (now wife) lived here
C6	Liked small town atmosphere, participatory attitude among residents . First home in neighborhood was two blocks away from downtown, loved having downtown amenities in walkable distance.
C7	Friends in neighborhood , business opportunities available through living in neighborhood
C8	Disney connection, schools
C9	Acquired company in central Florida and needed office space in region . Had heard great things about Celebration and rented apartment in downtown area to serve as part-time residence and office. After a year, enjoyed Celebration so much that built a home and moved to neighborhood full-time.
C10	Fiancé lived here . Other selection factors: liked neighborhood cleanliness, orderliness, and safety. Having lived in Europe for 20 years, used to very clean public areas, which Celebration also provided.
Note: Identifying factors replaced with summary information where appropriate to maintain respondent anonymity.	
R_ID = Respondent ID. Emphasized selection factors in bold print .	
Macro-level themes (micro-level themes in parenthesis):	
<ul style="list-style-type: none"> • Walt Disney Company brand promise (attachment to/trust of WDC, opportunity to live the marketing concept) • Preference for social atmosphere (perceived social nature of neighborhood, perceived small town atmosphere) • Being near family/friends • Being near retail/service venues in downtown • Business opportunities • Schools • Regional weather • Neighborhood appearance and safety 	

Following theme identification for each interview question, deductive methods were applied to link themes across questions. Building on the neighborhood selection example and the macro-level theme of ‘preference for social atmosphere’, Celebration interviewees were also asked in neighborhood selection portion of the interview whether the social environment and/or the opportunity to engage in utilitarian physical activity were part of their selection decision, what (currently) their favorite aspects of living in the neighborhood were, whether they like participating in community activities. In the participation portion of the interview, residents were asked whether they liked participating in community activities, what factors contributed to/prevented participation, and whether the neighborhood social atmosphere influenced their participation. Each of these questions were assessed first for macro- and micro-level themes, and then themes were evaluated across questions to deduce which factors were persistent, whether the neighborhood itself could be isolated as a factor influencing attitudinal and/or behavioral change, and to add validity to themes identified. For example, in evaluating the macro-level theme ‘preference for social atmosphere’ (Table 21), it was noted that most residents identified this theme as a primary factor influencing neighborhood selection, that social factors were their favorite characteristic of the neighborhood, that they enjoyed participating in community activities and participated frequently, and that the social characteristics of the neighborhood influenced them to participate. Further, some residents indicated that interest in established social circles was a primary factor in their decision to participate.

Table 21: Sample Cross-Question Theme Evaluation

Group: Experimental (Celebration)						
Topic areas: Neighborhood selection, participation						
Theme assessed: Preference for social atmosphere						
R_ID	Why did you choose this NH?	Was social environment or ability to walk/bike to NH destinations a factor in your selection?	Currently, favorite things about NH?	Do you like participating in NH/community activities?	What factors contribute to your participation?	Does NH social atmosphere influence you to participate?
C1	Social, WDC	Social: primary factor	Social, WDC	Yes, very involved	N/A	N/A
C2	WDC	Social: primary factor	Social, WDC	Yes, very involved	N/A	N/A
C3	WDC	Social: primary factor	Social, WDC	Yes, very involved	N/A	N/A
C4	WDC, social	Social: primary factor	Social, WDC	Yes, very involved	N/A	N/A
C5	Family/friends	Social: secondary factor	Social, access	Yes, very involved	Interest among social circle	Yes
C6	Social	Social: primary factor	Social, access	Yes, very involved	Interest among social circle	Yes
C7	Family/friends	Social: primary factor	Social, business	Yes, but hasn't participated yet (just moved to NH)	Activity purpose (associated charities/causes)	Yes
C8	WDC, schools	Social: secondary factor	Access	Yes, very involved	Interest among social circle, children's interest/participation	Yes
C9	Business opportunities	Neither—downtown location most imp.	Social (small town atmosphere)	Yes, but used to be more involved	Desire to give back to community	Yes
C10	Family/friends	Social: tertiary factor	Family/friends	Yes, moderately involved	Personal interest in activity	Yes

General abbreviations/definitions: R_ID = Respondent ID; NH = Neighborhood; N/A = Not applicable because question added later in interview process

Theme abbreviations: Social = Preference for social atmosphere; WDC = Walt Disney Company brand promise; Family/friends = Being near family/friends; Access = Access to NH retail/service/other amenities; Business = Business opportunities

Interview findings are detailed in Chapter 4, but the purpose of this discussion is to demonstrate how raw interview transcripts were first summarized, evaluated through inductive methods to identify themes, and then evaluated through deductive methods to interpret the greater implications of themes that were consistent across related interview questions. The product of the latter were conclusions, such as “sense of community was ‘very strong’ among new urban residents”, derived from derived from axial coding techniques.

Within the parameters of inductive and deductive methods, specific methods discussed earlier in this chapter were also employed. For example, in identifying themes for neighborhood selection, practical and theoretical questions such as “what are the primary motivators of new urban residents in their neighborhood selection decision?” were asked. Negative cases, such as the lone interviewed Celebration resident that identified schools as a primary selection factor, were called out and evaluated. Identification of extremes, or waving the red flag, were qualified by asking further probing questions that determined whether “always” or “never” really held true with respect to the question asked. Constant comparisons across responses and across groups were innately a component of coding methods, while theoretical comparisons were leveraged to attach simplified meaning to some responses. Finally, the researcher’s personal experience was injected as a frame of reference for responses.

As described earlier in this chapter, while some bias may have been introduced through the researcher’s pre-existing knowledge of neighborhoods evaluated, the described coding techniques further reduced the likelihood of this bias impacting study conclusions. Further, interview data coding techniques enabled construction of themes that could be systematically compared with quantitative findings, thus supporting the mixed-methods design of this research.

Case Study Methods

Case study research enables investigation of complex social phenomena while retaining the holistic elements of real-life events that might be lost in solely quantitative research (Yin, 2009). Detailed case studies of Celebration and Sweetwater were conducted to provide historical and environmental context for quantitative findings, to establish a holistic understanding of factors that may contribute to measured outcome variables, and to provide greater insights into neighborhood selection and regional factors that may contribute to these outcomes. Each neighborhood case study details development history and vision, governance structures, design and amenities, school zoning and accessibility, commercial accessibility, public transit accessibility, social opportunities, characteristics of resident life, and demographic data. This information was utilized for comparison of quantitative and qualitative findings later in this chapter and in discussing the implications of this research in Chapter 5.

A variety of primary and secondary methods were employed to develop case studies of studied neighborhoods. Census data for corresponding counties and census-designated places (CDP) were obtained from the American Community Survey (2011). Social, economic, housing, and demographic data from the American Community Survey was collected at the county and CDP levels to provide two levels of population comparison for study samples. Online and print resources were utilized to define neighborhood histories; governance structures; contained and nearby schools; accessibility of frequented destinations, including retail and service venues, schools, and commercial centers; and accessibility of public transit access points. Direct observation of neighborhoods, via wind-shield surveys, walking tours, and spending time at

neighborhood venues, was utilized to gain insights on resident interaction, transportation patterns, availability of sidewalks and bicycle lanes, location and characteristics of public transit access points, and various day-to-day life characteristics. Because Celebration offered an abundance of within-neighborhood venues from which activity could be observed, several trips to a coffee shop and popular restaurant/pub contained in the neighborhood's "downtown" area were made. Collectively, these methods created a vibrant context for assessing survey and resident interview data.

Neighborhood Case Studies

Celebration

Neighborhood History

A product of Walt Disney Company (WDC), Celebration is probably one of the most ambitious and highly-scrutinized attempts at new urban neighborhood development to date. Celebration was spearheaded by Peter Rummel, who was president of Disney Development Company (DDC), a WDC subsidiary responsible for land development, from 1985 to 1997 (CEC, 2009; Frantz and Collins, 1999; Fulton, 1996; Lassell, 2004; Urban Land Institute, n.d.).

To some extent, Rummel resurrected the vision of Walt Disney himself in developing a residential community. In the mid-1960s, Disney was working diligently on plans for a utopian community, deemed the Experimental Prototype Community of Tomorrow (EPCOT), which he anticipated would alleviate social and transportation issues resulting from mid-twentieth-century urban development. Inspired by Howard's garden city model, Disney predicted the community would become a model for future urban planning and development. Disney's vision was lost, however, during the years between his death in 1966 and what materialized as the EPCOT theme park, which opened in central Florida in 1982 (Frantz and Collins, 1999; Lassell, 2004).

The notion of building a planned community was revisited by Rummel in 1985 when Michael Eisner (who was, at that time, CEO of WDC) tasked him with evaluating development strategies for 30,000 acres of unused land around its central Florida theme parks. The land was part of the buffer zone that protected the theme parks from the type of peripheral, tourist-centric development that sprang up around Disneyland in Anaheim, California (Frantz and Collins, 1999; Lassell, 2004). A 10,000-acre segment of this buffer property was comprised of low-lying wetlands that had historically been utilized to relocate alligators found within WDC theme parks and golf courses. Given its makeup, and its location across Interstate 4 from already-developed portions of the greater WDC property, the land was considered unsuitable for future theme park development (Frantz and Collins, 1999; Lassell, 2004).

After evaluating development options, Rummell proposed to WDC decision-makers that the 10,000 acres in Osceola County be developed as a planned community. Leveraging Walt Disney's initial vision for EPCOT as a hinge, Rummell was eventually able to convince Eisner and WDC stakeholders that the concept could be profitable. With approval to move forward,

Rummell consulted with mentor, former employer, and successful real estate developer Charles Fraser to define a vision for the community. Fraser's Sea Pines Company developed and marketed multiple large-scale communities including Hilton Head Island, South Carolina, and Amelia Island Plantation, just east of Jacksonville, Florida, with great success (Frantz and Collins, 1999). In a conversation that would prove to have significant impact on what Walt Disney Company's community would ultimately be, Rummell and Fraser identified Five Cornerstones that served as the foundation and vision for the project: 1) individual and community health; 2) creating a fertile educational environment that fostered life-long learning; 3) development and maintenance of state-of-the-art communication systems to enable the community to be at the forefront of technology; 4) sense of community; and 5) a sense of place that made residents feel as if they were separated from the external environment. While Rummell and Fraser did not directly set out to build a new urban community, they recognized over the course of their visioning process that the Five Cornerstones were aligned with New Urbanist principles and, that touting the community as new urban could be a successful marketing strategy (Frantz and Collins, 1999; Lassell, 2004).

Rummell initially solicited master plans for the community from three renowned architectural firms, including that of Andres Duany and Elizabeth Plater-Zyberk, the husband-wife team that built Seaside. Also included were New York architects Robert A.M. Stern and Charles Gwathmey, the latter a principle in the firm Gwathmey Siegel and Associates. Collectively, Rummell believed he had selected firms with differentiated talents that would provide a strong variety in visions for what was known at the time as "Disney's New Town". However, unsatisfied with resulting plans, Rummell added three additional firms, including those

of Charles Moore, Jacquelin Robertson, and Skidmore, Owings, and Merrill, to the mix. Ultimately, Stern and Robertson were selected and asked to work jointly to lead the project (Frantz and Collins, 1999; Lassell, 2004).

After researching regions and municipalities in the United States identified as having distinctive style (including Savannah, Georgia; Charleston, South Carolina; New Orleans' Garden District; Key West, Florida; New England, and the Mid-Atlantic), the team defined the mid-1940s as the architectural cut-off date for the community's design. Six architectural styles (Classical, Colonial, French, Coastal, Mediterranean, and Victorian) identified as representing older homes in the southeastern US region were selected as the styles for Celebration's residential structures. Five different home types, each with different price points, were defined to establish a heterogeneous socio-economic profile within the community (Frantz and Collins, 1999; Lassell, 2004). These home types included Apartments, available for rent only, starting at \$737 per month and located over shops in the town center; Townhomes, ranging from \$120,000 to \$180,000; Garden homes, with prices up to \$200,000; Cottage homes, starting at \$220,000; Village homes, starting at \$300,000; and Estate Homes, slated to range from \$600,000 to \$1 million. Garden homes were introduced after other home types to provide a single-family home option that was less expensive than other home types (Frantz and Collins, 1999).

More finite design decisions made by the jointly-led Robertson and Stern team included building true alleys with rear-facing, detached garages; preventing any two homes from being identical to prevent the community from resembling cookie-cutter suburban-type neighborhoods; inclusion of front porches on most homes; height, mass, and setback specifications; and a broad mix of lot sizes, ranging from 2600 square feet to one-third acre (Lassell, 2004). To cement

these parameters, the design team published specifications in the *Celebration Pattern Book*, which would serve as the standards reference for both builders and residents (Frantz and Collins, 1999; Lassell, 2004).

As “Disney’s New Town” was to be a self-contained community, multiple commercial centers were also planned. Highly-acclaimed architects were hired to design several of the 16 multi-story buildings that would house commercial and residential spaces in the mixed-use town center: Phillip Johnson, renown for designing glass houses, was selected to design the town hall; Walt Disney World Swan and Dolphin hotel designer Michael Graves was selected to design the post office; Cesar Pelli, the designer of Kuala Lumpur’s Petronas Tower, was selected to design the movie theater; Charles Moore was selected to design the preview center, which would serve as the home sales office; and Robert Venturi and Denise Scott Brown were selected to design the bank. To facilitate variety, the architects were asked to reflect both modern and classic styles in their design of the background buildings in the town center, and Stern and Robertson agreed that they themselves would not design any two adjacent buildings (Frantz and Collins, 1999; Lassell, 2004).

To satisfy the education cornerstone defined by Rummell and Fraser, the community was initially set to be the site of Disney Institute, an adult-oriented educational and entertainment facility that reinforced the WDC brand among adult audiences. Building Disney Institute in the planned community appealed to Eisner, but the vision for the facility would ultimately outgrow its slated property footprint, just across from the town center. From Rummell and Fraser’s initial vision of a learning-centered community, plans for the Disney Institute grew to include a performing arts center, a fitness spa, and hotels. As plans grew, Eisner made the decision to

build Disney Institute closer to existing hotels and theme parks. This decision was initially perceived as detrimental to the planned community, but it prompted an evolution of the educational cornerstone that would make the community more attractive to families: a kindergarten through twelfth-grade school which would offer a progressive learning style and starkly different public educational option that was anticipated to appeal to families with school-age children (Frantz and Collins, 1999). With a centrally-located K-12 school, a post office, bank, town hall, movie theater, and a variety of commercial outlets in the town center, this decision also moved the vision for the project closer to the self-sustainable principles outlined by Howard, Perry, and the Congress of the New Urbanism.

As the project grew, DDC realized that a dedicated leadership team and corresponding governing body were needed to oversee Celebration's development. To satisfy this need, Celebration Company, which would oversee all residential and commercial development in the community, was established in the early 1990s (Frantz and Collins, 1999). As discussed in the next section, Celebration Company would remain involved in community interests throughout the majority of development (Community of Celebration, 2011d).

Key decision-makers held firmly that Celebration home sales would be largely dependent on the prior existence of the proposed Celebration Town Center, the community's central mixed-use hub. In a bold move with inherent financial risk, development of the town center, which would become known as "downtown", was begun well before ground was broken on any homes (Frantz and Collins, 1999; Lassell, 2004).

Equally bold was Celebration Company's decision not to oversee the building of homes. Viewed by some as a strategic error, it instead selected well-known home builders for this task.

Several highly-reputable Orlando-area firms were selected to build custom Estate homes. Production (Village and Cottage) homes would be built by Houston-based David Weekley homes, and townhomes by Chicago-based Town and Country (Frantz and Collins, 1999; Lassell, 2004). Both David Weekley and Town and Country would later find that a shortage of qualified resources resulting from a central Florida building boom and the hurried timeline set by Celebration Company would lend to plethora challenges in the building process (Frantz and Collins, 1999; Ross, 1999).

To gauge interest in the project and to populate the first phase of residential construction, a series of lotteries—one for each category of property initially made available (Estate, Village, Cottage, Townhomes, and Apartments)—was held on November 18, 1995. Prospective residents submitted a deposit for one or more home categories with hopes of being selected for one of the available 474 properties. The lottery was extremely successful, demonstrating a demand that exceeded expectations (including a six-month waiting list for apartments), and initiated what would be a rushed development of the first-phase residential areas (Frantz and Collins, 1999; Ross, 1999).

These initial Celebration residents were pioneers of sorts, as, except for the semi-completed Celebration Town Center, nothing else existed in the neighborhood at the time of the lottery. The nearly 5,000 lottery participants gathered in an empty field containing nothing other than tables, tents, and decorations and did not have model homes to preview before financially and emotionally committing to the neighborhood (Frantz and Collins, 1999). As documented by Frantz and Collins (1999) and Ross (1999), who each researched the neighborhood by means of living in it (Frantz and Collins and their two children for roughly two years, Ross by himself for

roughly one year), it seemed that prospective residents put their faith in what they believed the Celebration would be, whether due to its association with WDC, the anticipated sense of community, or, for many families with children, the progressive educational program to be offered by the K-12 school.

The first residents moved into Celebration on June 18, 1996, seven months to the day after the lottery was held (Lassell, 2004). These residents moved into Celebration Village, the first of several villages that the neighborhood would eventually consist of. Populated through the November 1995 lottery, Celebration Village contained a total of 351 resident-owned properties, including single-family homes and townhomes, and 123 apartments located downtown. The rapid sell-out of Celebration Village prompted Celebration Company to schedule development of the next two villages, West Village and Lake Evalyn. Collectively, these three villages comprised the first phase of development and would contain approximately 500 resident-owned homes, including 76 townhomes, and nearly 700 apartments and condominiums (Frantz and Collins, 1999; Community of Celebration, 2011c). The second phase, North Village, would include roughly 300 resident-owned homes and 300 condominiums, while the third phase, South Village, would include approximately 600 resident-owned homes (including townhomes) and 500 condominiums. East Village and Acquila Reserve were established in the fourth phase, with a combined 500 single-family homes and townhomes and some 70 condominiums. The fifth and final phase, Artisan Park, was begun in 2003 and would include over 600 single- and multi-family dwellings at completion⁶. In total, Celebration would

⁶ While the Community of Celebration (2011c) website refers to “condominiums” in its description of dwellings produced in each residential development phase, earlier resources (Frantz and Collins, 1999

ultimately contain 4,060 single- and multi-family residences (Community of Celebration, 2011c).

Development of non-residential structures continued in tandem with residential development. Celebration Town Center opened in November 1996, five months after the first residents moved in to the neighborhood (Frantz and Collins, 1999; Community of Celebration, 2011c). For its first year, the K-12 Celebration School occupied a building intended for community and civic activities and ad hoc outdoor classrooms (Frantz and Collins, 1999). Celebration School was completed and opened its doors in fall 1997. Ground was broken for Celebration Health, a joint hospital and fitness center complex, in November 1995 and was opened two years later in November 1997. Celebration Health is run by Florida Hospital, a private hospital owned by the Seventh-Day Adventist Church. While its hospitals are non-denominational, the health-centric principles of Adventism well-support the health cornerstone envisioned for Celebration by Rummel and Fraser (Lassell, 2004). Further fulfilling the education milestone, Stetson University, a private university based in Deland, Florida (approximately 60 miles northeast of Celebration), opened a branch campus across from Celebration School in August 2001 (Lassell, 2004). In part to address hurdles in its progressive K-12 curriculum and in part to accommodate the greater educational needs of Osceola County,

and Lassell, 2004) identify “apartments” in their descriptions of non-townhome, multi-family dwellings. Apartments were one of the five types of dwellings offered in the first phase of construction. Downtown apartments were converted to individually-owned condominiums beginning in 2004. It is not clear whether any non-townhome multi-family dwellings outside of downtown were initially rented apartments, but all such dwellings are now individually-owned condominiums (Community of Celebration, 2011c).

Celebration School would ultimately transition to a K-8 school and a separate high school accommodating ninth through twelfth grades would be built. Celebration High School, which opened in August 2003, became the destination school for students living in Celebration and for those in other areas of Osceola County. The Water Tower Place shopping center, located directly on SR 192 on the north side of the neighborhood, opened in fall 2005. This plaza would offer additional retail and service outlets for residents within the confines of the community, including, for a time, a full-sized supermarket (Community of Celebration, 2011c; Lassell, 2004).

Figure 5 illustrates the layout of residential and commercial areas, schools, and roadways within and around Celebration.



Figure 5: Celebration Site Map

Governance

Soon after acquiring its 25,000-acre central Florida property in 1965, WDC collaborated with the Florida legislature to create a special district that would provide local government-type control over its land. The result was Reedy Creek Improvement District (RCID), established in 1967, which enabled WDC to directly manage infrastructural systems within the property spanning southern Orange and northern Osceola counties (GCCC, 2011; RCID, 2011b). The special district allowed WDC to route tax revenue generated within the property to its infrastructure, thus allowing it to fund and operate water drainage, utilities, roadways, fire and emergency, land use regulation and planning, environmental, and similar systems independently of Orange and Osceola counties and surrounding local governments (Frantz and Collins, 1999; RCID, 2011a).

This independence also left WDC with the responsibility of enabling residents living within RCID to vote on issues concerning the district. While a handful of employees lived on-premise, WDC was not prepared to have 20,000 Celebration residents (the population anticipated at final build out) involved in RCID governance. To avoid this potential voting power, RCID de-annexed the 4,900 acres slated for Celebration⁷, although it maintained control of peripheral wetlands that would be part of the community's water drainage infrastructure (Frantz and Collins, 1999). The property currently under RCID jurisdiction is illustrated in Figure 6. This figure also depicts the location of RCID in the greater central Florida region and the void of

⁷ The de-annexation was approved in December 1993 when presented as part of the greater planning documentation submitted to the Osceola County commission (Frantz and Collins, 1999).

property under its domain resulting from the de-annexation of the land that would become Celebration.

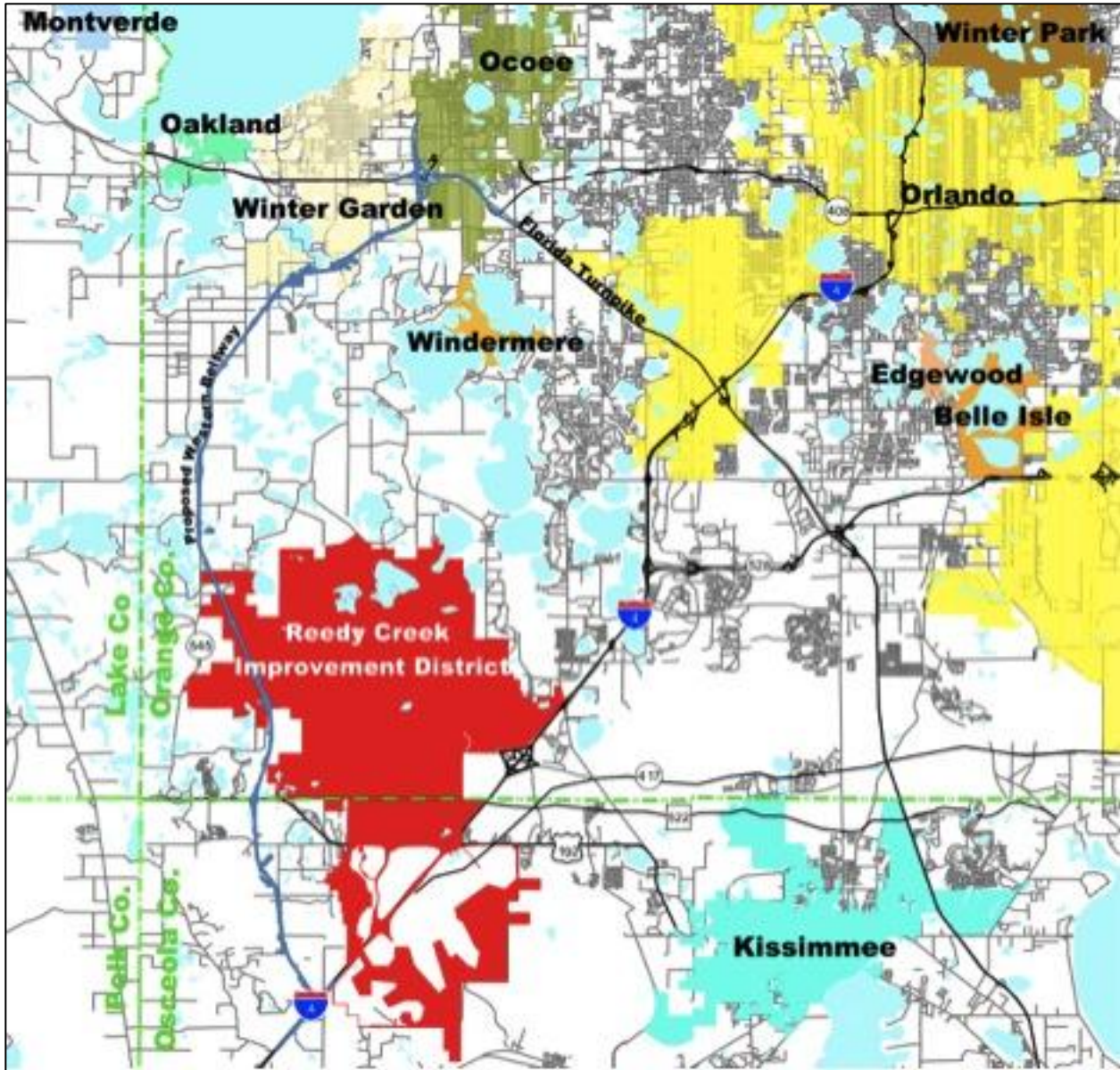


Figure 6: Reedy Creek Improvement District, Post Celebration De-Annexation

Although the de-annexation of Celebration decreased the extent to which WDC was involved in community governance, Celebration Company remained involved in community matters throughout the development process. Before residential property management was handed off entirely to residential owners, Celebration Company held positions on the Celebration Residential Owners Association board. Currently, Celebration Company retains board positions with the Celebration Non-Residential Owners Association, but will relinquish these positions when 90% of commercial property within Celebration is developed and control is passed entirely to commercial landowners (Community of Celebration, 2011d).

Like many master-planned communities, Celebration leverages the community development district, a local special purpose government intended to support infrastructure development and maintenance (Community of Celebration, 2011d). Enabled by the State of Florida's Uniform Community Development District Act of 1980, a CDD is empowered to leverage its contained tax base to provide basic services for residents within the district (Florida Legislature, 2011). Celebration's governance structure contains two CDDs, Celebration CDD (CCDD), and Enterprise CDD (ECDD), that collaborate to provide infrastructural support for residential and commercial areas within the community (Celebration Community Development District (CCDD), n.d.-b; Community of Celebration, 2011d). CCDD is generally responsible for residential areas of Celebration and provides services including aquatic weed control; maintenance of common areas, including street and alley lights, sidewalks, shade structures, fountains, and drainage systems; landscaping and landscaping irrigation; mosquito control; management of stormwater issues; street sweeping, and monthly reporting of activities to district residents (Celebration Community Development District (CCDD), n.d.-a). ECDD is generally

responsible for commercial and mixed-use areas of the community and is responsible for maintaining services similar to that provided by the CCDD within these areas, as well as the greater Celebration potable water system (Enterprise Community Development District, n.d.). CCDD and ECDD were established in 1994⁸ and are governed by five-member boards (Celebration Community Development District (CCDD), n.d.-b; Enterprise Community Development District, n.d.). Figure 7 illustrates areas for which CCDD, ECDD, and other Celebration governance entities are responsible.

⁸ In an atypical environment favoring the revenue generation potential resulting from the development of Celebration, these entities were approved in a non-public vote by the Osceola County commission. The decision resulted in the commission agreeing not to approve further community development districts without them being presented for public discussion (Frantz and Collins, 1999).

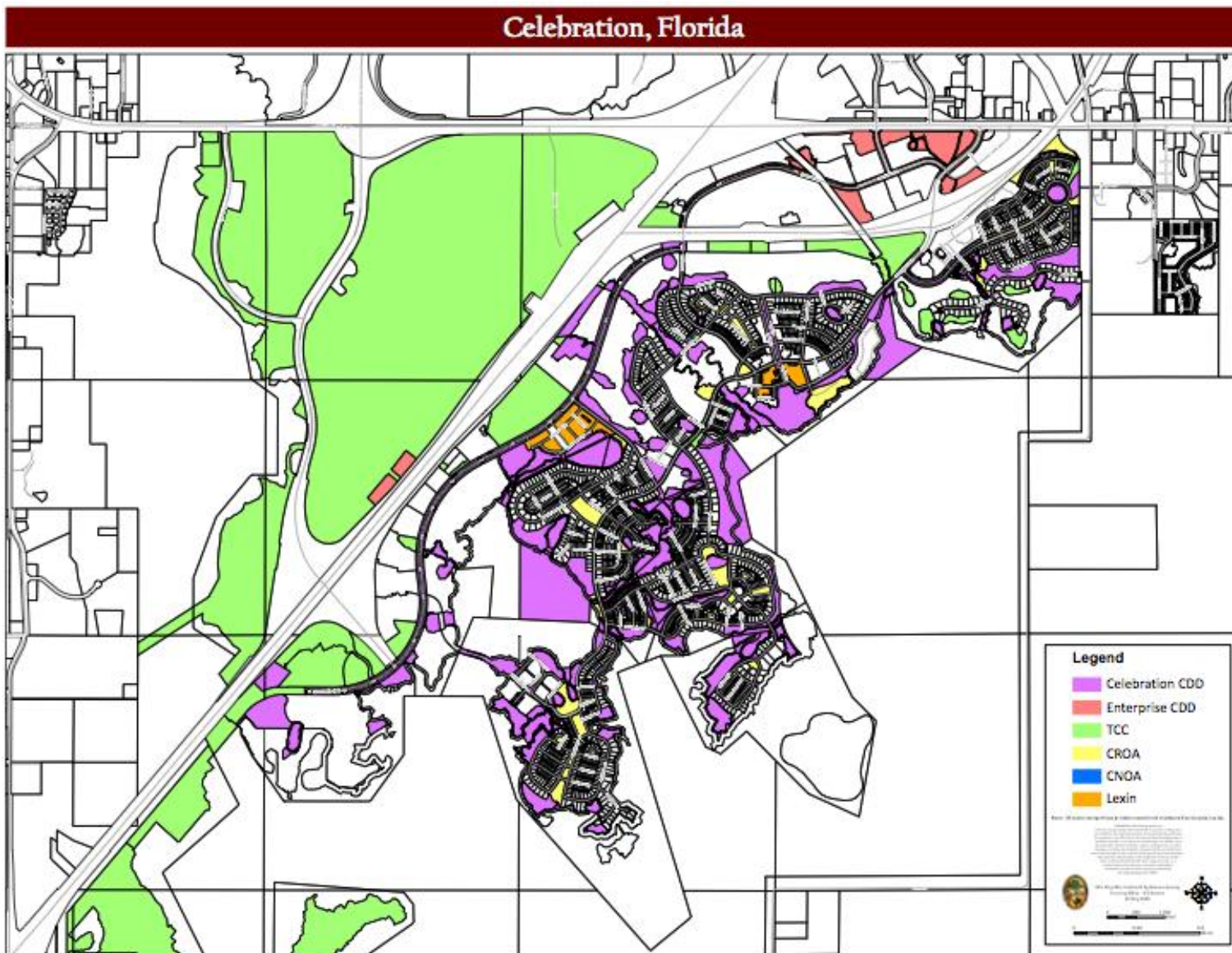


Figure 7: Celebration Governance Entity Ownership Map

In addition to special districts, Celebration is also governed several private and non-profit entities. Celebration Residential Owners Association (CROA) provides standard homeowner association-type oversight for resident-owned areas, as well as preserving and maintaining common areas. All Celebration residential owners, including those of single- and multi-family dwellings, are CROA members. The entity is governed by a seven-member board elected by residential owners on staggered, two-year terms. A second owner-composed entity, Celebration Non-Residential Owners Association (CNOA) provides similar governance for non-residential public areas—namely, the outdoor areas within the downtown commercial district (Community of Celebration, 2011d). CNOA consists of a five-member board comprised of three builder-appointed members and two elected commercial landowners. Control of CNOA will be transferred to commercial landowners when 90% of commercial property within Celebration has been sold by the Celebration Company (Community of Celebration, 2011d).

Lexin Capital, a property investment and management firm, purchased commercial properties in downtown Celebration from the Celebration Company in January 2004. In April 2004, Lexin began conversion of the 105 apartments that were formerly rental units in the downtown areas to individually-owned condominiums (Lexin Capital, 2011). As depicted by the orange areas in Figure 5, Lexin also owns condominium properties near the intersection of Celebration Boulevard and Waterside Drive (Community of Celebration, 2011a).

As illustrated in Figure 7, several discontinuous properties south of SR 417 and east of Interstate 4 remain owned by the Celebration Company (Celebration Community Development District, 2010). As non-residential landowners, both the Celebration Company and Lexin are members of CNOA. A parent administrative body, the Celebration Joint Committee (CJC),

oversees management, communications, accounting, and security for services that are jointly leveraged by CROA and CNOA. The CJC is governed by a five-member board consisting of two CROA board members, one CNOA board member, and two representatives of the Celebration Company (Community of Celebration, 2011d).

In addition to these entities, Celebration leverages Capital Consultants Management Corporation (CCMC) for its association management capacities and also as an umbrella structure for employing Celebration staff. Celebration also yields a private waste collection provider, Celebration Sanitation; a non-profit organization, The Celebration Foundation, which seeks to enable community-building and citizen-involvement; a history center dedicated to collecting, preserving, and distributing documentation about Celebration; and a number of condominium associations, which govern condominium properties within Celebration (Community of Celebration, 2011d).

Illustrating the neighborhood's evolution from being "Disney's town" to being a self-governing community, a group of Celebration residents took efforts to establish legal municipal incorporation in 2006. The Celebration Incorporation Task Force (CITF) was established by a handful of residents to drive the incorporation initiative, which was motivated largely by the desire to improve upon services within the community. An incorporation feasibility study was conducted to assess adherence to municipal incorporation requirements and, subsequently, a proposal for incorporation was presented to Osceola County and state legislature. While the proposal was passed by Osceola County, it was rejected by Florida legislature. An effort that had polarizing effects on Celebration residents, further attempts at incorporation have not been sought (Celebration Incorporation Task Force, 2006).

Design and Amenities

Adherence to New Urban Standards

As detailed in Table 4, Celebration was found to meet some, but not all, tenets of New Urbanism as associated with the neighborhood, block, street, or building. CNU principles defined in Table 3 can be grouped into three categories: pedestrian and non-automobile travel, social and civic engagement, and land use and design standards. With respect to pedestrian and non-automobile travel characteristics, Celebration was found to be fairly pedestrian-centric, although only residents in villages located close to its downtown area could feasibly walk to and from contained venues. Despite distance between downtown and peripheral villages, sidewalks and crosswalks supported pedestrianism throughout the neighborhood. Similarly, activities of daily living and the Celebration School were found to be walkable (less than 15 minutes or .75 miles) only for centrally-located residents. The geographic dispersion of many homes from neighborhood amenities and schools (particularly Celebration High School), and the lack of a grocery store within the neighborhood, contributed to Celebration's partial adherence to the corresponding CNU-based criteria. Finally, with sidewalks throughout the neighborhood, bike lanes along some roadways, traffic calming characteristics such as one-way streets and frequent stop signs, Celebration was found to meet the criterion for shared-use streets.

With respect to social and civic engagement criteria, Celebration exceeded CNU-based requirements with its abundance of civic and outdoor gathering spaces throughout the

neighborhood. At the neighborhood's inception, the primary civic space was Town Hall, located in downtown Celebration. However, as the neighborhood grew, the official "town hall" was moved to a community center entitled Building 851, located just west of downtown, which provided more space for activities. The original Town Hall structure still exists downtown and is utilized as a neighborhood welcome center, including the Celebration History Center, a store selling Celebration logo merchandise, and a distribution point for neighborhood maps and community information (Community of Celebration, 2011g).

Various civic and other public meeting rooms are available within the new Town Hall (Building 851), and indoor public facilities are also available at Lakeside Park and Heritage Hall at Spring Park. Covered outdoor areas are provided at multiple parks, and recreation and ad-hoc inter-resident engagement are enabled through public swimming pools, tennis and other sport courts, playgrounds, nature trails, a golf course, and restaurants and shops in downtown Celebration and at Water Tower Place. Some parks are reminiscent of those in Savannah, Georgia, with heavy live oak canopies, benches, and fountains, while others reflect modern architectural elements (Community of Celebration, 2011f ; Frantz and Collins, 1999; Lassell, 2004). Care was taken to ensure outdoor public spaces are casual and approachable and that they were family oriented. Notably, the lakefront area in downtown Celebration was outfitted with untethered rocking chairs (a feature fought for by Peter Rummel's mentor, Charles Fraser) to enable residents to arrange and rearrange the chairs as needed, and a pop-up water fountain area adjacent to the downtown waterfront provides a place for children to play and keep cool throughout the year (Frantz and Collins, 1999; Lassell, 2004).

Celebration's adherence to land use and design standards defined by the Charter of the New Urbanism was found to be strong in some areas and weak in others. The neighborhood is governed by very strict design codes, many of which are outlined in the *Celebration Pattern Book*. The collective set of design codes enforce short street setback requirements, small lot sizes, narrow roadways, residential architectural styles, exterior residential paint colors, landscaping standards, and many other guidelines that builders and homeowners were required to adhere to (Frantz and Collins, 1999). For the rigidity of these standards, Celebration was found to exceed expectations for this criterion. The appropriateness of the neighborhood's architecture for its surroundings is subjective—it is praised by some and criticized by others. For its inclusion of styles characteristic of the greater southeastern US region and some styles specific to Florida, the neighborhood was found to meet this criterion. Celebration was also found to meet the criterion for inclusion of mixed-use structures, which are abundant throughout the downtown area. However, the neighborhood was found to lack appropriate heterogeneity of residential structures. While it does offer an array of single- and multi-family home types, the cost of homes within Celebration are well above Osceola County averages, and the range of home costs render the neighborhood, like many other new urban neighborhoods, inaccessible for lower-income families.

Specific Design Characteristics

Celebration exhibits a semi-structured street network with semi-grid pockets connected by Celebration Avenue, a winding throughway that runs throughout residential areas of the neighborhood. A second artery, Celebration Boulevard, runs somewhat parallel to and northwest of Celebration Avenue, connecting commercial sites and Celebration High School on the northern and western perimeters of the neighborhood with residential areas. Sidewalks on both sides of roadways throughout the neighborhood facilitate safe pedestrianism. Most major arteries have dedicated bicycle lanes, and thus bicycle travel is well-supported within the neighborhood. General traffic flow is fairly light, and drivers are presented with frequent stop signs at intersections, thus deterring from speeding.

Celebration is accessible from northern and western perimeters. Northern access points are via Celebration Place and Celebration Avenue from SR 192 and via SR 417, a toll road that forms a partial beltway around the greater Orlando area. Celebration Place leads directly to a business complex of the same name, Celebration Health, and Celebration High School, and is also a feeder artery for Celebration Boulevard and Celebration Avenue. On its southwestern corner, Celebration is accessible from World Drive, which interchanges with Interstate 4, provides an alternate route to accessing SR 192 (bypassing much of the tourist-centric area), and provides direct access to Walt Disney World theme parks.

Celebration embraces traffic and parking design features generally associated with traditional neighborhoods, including parallel, on-street parking, alleyways between homes that provide access to rear-facing garages, and comparably narrow roadways. Alleyways appear to be

leveraged by residents for “street play,” as indicated by the presence of basketball hoops, soccer goals, and haphazardly strewn bicycles observed in alleys throughout the neighborhood. With most homes in close proximity of each other, alleyways were observed to present the opportunity for neighbor-to-neighbor interaction and weaken the ability of the garage to isolate neighbors from one another. Alleyways also served as access points for neighborhood services, including garbage collection and, in some areas, mail delivery, thus detracting from street traffic.

Front porches, a design feature that is associated with fostering neighborly behavior (Putnam, 2000), were attached to nearly all Celebration homes. Many front porches contained swings, outdoor furniture sets, and potted plants, thus presenting a welcoming feel to home fronts. However, as found by Frantz and Collins (1999), front porches did not appear to be readily used. Generally, the fronts of homes exhibited less “life” than did alleyways and public spaces.

Accessibility

School Zoning and Accessibility

Celebration contains two public schools within its boundaries, the K-8 Celebration School and Celebration High School. Celebration School is located approximately one-third from the town center within Celebration Village and near West Village and Lake Evalyn areas of

the neighborhood. The K-8 school is easily walkable from homes in these areas, and potentially walkable from eastern portions of South Village. The school is accessible on bicycle from Celebration Village, West Village, Lake Evalyn, and East Village, with the most distal point in the latter village located roughly 1.5 miles away. At 2.3 miles from southernmost homes in Artisan Park and 1.9 miles from northernmost homes in North Village (with access from the North Village requiring travel for some distance down moderately-trafficked Celebration Avenue), Celebration School is arguably not accessible by younger K-8 students from distal areas of these areas (Community of Celebration, 2011a).

Located on the western perimeter of the neighborhood, Celebration High School is nearly two miles southwest of the nearest homes. At 3.5 miles from downtown Celebration, four miles from Artisan Park homes in the most distal southwestern region of the most distal homes, and nearly five miles the most distal homes in the North Village (Community of Celebration, 2011a), Celebration High School is not feasibly walkable for most of the neighborhood. Despite the existence of bike lanes throughout the neighborhood, the high school is only accessible by bicycle by the nearest residents, and is questionably accessible by bicycle from more distant areas.

Commercial Accessibility

With its central location, downtown Celebration exhibits pedestrian accessibility characteristics similar to that of Celebration School. The downtown area is easily walkable from

Celebration Village, West Village, and Lake Evalyn, and is accessible by bicycle from other areas of the neighborhood. Water Tower Place, located at the intersection of SR 192 and Celebration Avenue, on the northwestern perimeter of the neighborhood, is most easily accessible from North Village, with homes ranging from approximately one to 1.5 miles from the plaza. However, given observed traffic in and around Water Tower Place, it is possible that safety concerns may deter residents walking or bicycling to the plaza. With high traffic levels on SR 192, commercial areas outside of Celebration are not feasibly accessible on foot or by bicycle.

Celebration contains a fair mix of retail, service, and professional office space within its boundaries. Retail shops in downtown Celebration tend to be tourist-centric, but the area does contain service outlets such banking venues, coffee and ice cream shops, restaurants, real estate offices, salons, a post office, and small office spaces to support resident needs. Downtown Celebration formerly contained a small market, operated by central Florida-based Gooding's Supermarket, but the store closed when ownership of the downtown area was passed from Celebration Company to Lexin Capital. A full-sized Gooding's Supermarket briefly anchored Water Tower Place from June to October 2005, with the lifespan of the store cut short by the Gooding's chain filing for bankruptcy in December 2005. Gooding's cited their failed investment in the Celebration store as a primary contributor to their bankruptcy (Hatzipanagos, 2006). After the Water Tower Place Gooding's Supermarket closed, a branch of Publix Supermarket located outside the neighborhood boundary (approximately one-half mile east of the main entrance on US 192) became the nearest grocery option for the neighborhood. At 1.7 miles northeast of downtown Celebration and approximately 4.5 miles northeast of the most

distant villages in the neighborhood, and located on highly trafficked SR 192, utilitarian travel to the store is not feasible.

The Celebration Place office complex, other office complexes on Celebration Boulevard, Celebration Health, and a variety of small businesses provide a fair number of opportunities for in-neighborhood employment. The proximity of Celebration to multiple major highways (Interstate 4, SR 417, and SR 192) supports access to downtown Orlando and other commercial areas.

Public Transit Accessibility

A LYNX bus stop (on Link 56) is located on the north side of the Celebration Place roadway, approximately 100 yards north of the Celebration Place office complex and .75 miles north of North Village, the closest of Celebration residential villages to the LYNX stop. A resident living on Grand Magnolia Place (one of the westernmost and closest North Village streets) traveling from their home to Orlando City Hall, which is located in the central business area of downtown Orlando, would need to leave their home at 5:48 AM to arrive at the destination before 8:00 AM on a weekday morning. The one-way trip would entail a total walking distance of 1.04 miles, two route transfers, a total transfer wait time of 22 minutes, and a total trip length of two hours and three minutes (arriving at the destination at 7:52 AM). The same trip taken at midday (roughly 12:00 PM departure from home) decreases total trip duration by three minutes and transfer wait time by two minutes and increases the number of transfers to

three, with the total walking distance remaining constant. The return trip, leaving Orlando City Hall at 5:01 PM, would require a total walking distance of one mile, two route transfers, a total transfer wait time of 17 minutes, getting the resident home at 7:19 PM, or two hours and 18 minutes after the trip began. Selecting the “minimize transfers” custom itinerary option for the return trip reduced the number of transfers to one, increases the total trip duration to two hours and 22 minutes, increased the transfer wait time to 30 minutes, and increased the total walking distance to 1.62 miles. Custom itinerary options “fastest route” and “minimize walking” resulted in no changes from the original trip (LYNX TripPlanner, 2011).

Social Opportunities

Talen (2002) assessed the extent to which principles defined in the Charter of the New Urbanism strive to achieve the social goals of community, social equity, and supporting the “common good.” She concluded that, of the 27 principles, eight are linked to social equity, 19 are related to support of the common good, and none are directly associated with the goal of establishing or supporting community. Some principles exhibit themes of community, including establishment of a social or community identity and the promotion of civic bonds, but none were found to have the sole intent of community-building.

While Talen’s (2002) analysis of the social goals defined in the Charter of the New Urbanism seems on par, many new urban developments are built to achieve, or at least marketed as achieving, a stronger sense of community than one might experience in a conventional

suburban neighborhood. Celebration is no exception—in fact, it might be one of the most successful of new urban endeavors in terms of achieving social goals.

Sense of community is one of the Five Cornerstones defined by Rummell and Fraser. The visualization of this cornerstone was retained in the actualization of Celebration, markedly in the financial risk undertook by Celebration Company in the decision to build much of Celebration Town Center before initiating residential build-out. This decision seemed to be made in large part to attract tourists and drive demand for residential properties; however, it also enabled “plug and play” sense of community. With downtown Celebration and the Building 851 community center completed just months after the first residents moved in, public structures were available nearly at the onset of residential occupancy (Frantz and Collins, 1999; Lassell, 2004).

There also seemed to be a particular desire for neighborly interaction by Celebration’s pioneers (Frantz and Collins, 1999; Ross, 1999). Upon closing on their home, Frantz and Collins’ (1999) family learned that residents on their block (which was not yet built) in West Village were holding a block party at the very time, and were encouraged to join. The family arrived at their lot site, which was nothing but sand with an underlying rudimentary utility infrastructure contained by already-paved streets, to find their future neighbors eating and socializing in the street. As learned later after numerous interviews with Celebration residents, theirs was not the only block to begin its community-building efforts before ground was broken (Frantz and Collins, 1999).

These factors in mind, it is not surprising that Celebration presents an abundant array of social opportunities to its residents. From pancake breakfasts and running races to Oktoberfest

and kids' holiday parties, various entities within Celebration organize an array of annual events. Key among these events is the annual Founder's Day Weekend, which commemorates the lottery for homes held in November 1995 (Community of Celebration, 2011e). A multitude of community groups (40 are listed on the community website) ranging from kids' sports clubs and parent-teacher associations to bridge clubs, Girl Scouts, and a chapter of Alcoholics Anonymous are present within the neighborhood (Community of Celebration, 2011b). Further, numerous academic, student council, and sporting activities, teams, and organizations are available for children at Celebration School and Celebration High School (<http://www.celhs.osceola.k12.fl.us/index.htm>).

Resident Life

A fair amount of pedestrian traffic can be observed in downtown Celebration throughout the day on both weekdays and weekends. Pedestrian traffic seemed to spike in evening hours (when restaurants were busiest) and on weekends. The farmer's market held on Market Street on Sunday mornings was observed to attract a sizable number of patrons and vendors. With products including locally-grown fresh produce, fresh-off-the-food-truck snacks and entrees, crafts, furniture, home decor, and other eclectic goods and services, the market offered a variety of fare similar to that found at other similar markets in the region. On farmer's market mornings, Market Street is closed to automobile traffic to enable vendors to set up tents in the center of the street. It was difficult to distinguish between patrons that were residents and those that were not,

but several individuals and families walking or bicycling with bags from the market appeared to be residents. Paired with a sizable outdoor dining crowd at the same time, the farmer's market made for a vibrant scene with a definitive sense of place and implied sense of community.

Some restaurants downtown seemed to maintain a fairly high level of patron traffic at various times of day. In particular, the Starbucks coffee shop and Celebration Town Tavern, the latter a lunch and dinner dining establishment with a New England flare, were observed to regularly have a sizable number of customers at both indoor and outdoor tables. A steady flow of children, particularly on weekends, was observed running through and around the water fountain located across from the building that was formerly the movie theater designed by Cesar Pelli.

Elsewhere in Celebration, the baseball field adjacent to Celebration School was often found occupied by children's games, with many parents watching from sidelines. Many residents were observed riding bicycles throughout the neighborhood, particularly in the vicinity of downtown. On one trip to the neighborhood, a fairly expensive road bicycle was found leaning, unlocked, against a tree near Starbucks, indicating a perceived sense of safety within the neighborhood. This sense of safety was also experienced by Frantz and Collins (1999), who reported that they did not lock the doors of their home in the daytime, even if they were not home, and that, after a neighborhood theft, they refused to get their daughter a bicycle lock to use at school for fear that doing so would diminish the sense of safety within the neighborhood.

Collectively, Celebration was observed to support a fair number of social activities, such as engagement at restaurants, shops, and the weekly farmer's market, that are not possible in most conventional suburban neighborhoods. The neighborhood also offers many more organized

social activities and groups than most conventional suburban neighborhoods, although this may be attributed to selection based on social characteristics or expectation. However, when compared to conventional suburban neighborhoods, there was not a distinguishable difference in unstructured outdoor social activities, such as children playing, adults gathering, engagement in recreational physical activity, or performing household functions such as yard work.

Socio-Demographic Composition

Celebration exhibited a much more homogenous racial makeup than Osceola County. Among Celebration residents reporting one race, 91.5% were white, as compared to 75.6% in Osceola County. Amidst an Osceola County population in which 41.9% reported being of Hispanic or Latino descent of any race, only 8.8% of Celebration residents reported the same.

Differences in educational attainment, employment status, income, and the value of owner-occupied residential units illustrated the affluence of Celebration in comparison with Osceola County. While 60.74% of Celebration residents aged 25 years or older reported having completed a bachelor's or advance degree program, less than one-third (18.27%) of Osceola County residents attained this level of education. Osceola County reported more than double the unemployment rate of Celebration (9.4% and 3.8%, respectively). Congruently, the median household income in Celebration (\$101,315) was more than twice that of Osceola County households (\$46,129) while the median owner-occupied home value in Celebration (\$534,600) exceed that of Osceola County (\$205,000) by a factor of 2.6.

Celebration households tended to contain fewer residents of retirement age (65 years or older) than Osceola County, with roughly an 8% difference between the two groups. Celebration residents that moved to the neighborhood in the last year were approximately three times more likely (7.4%) to have moved from out-of-state than Osceola County residents (2.6%).

Celebration and Osceola County exhibited similar tendencies to commute to work alone in personal vehicles (78.1% and 79.8%, respectively). Osceola County residents were twice as likely to carpool in personal vehicles (10.9%) than Celebration residents (5.1%). No Celebration residents reported utilizing public transportation for their commute, and only 1.3% of Osceola County residents reported the same. While there was a marked difference in residents that walked to work between Celebration and Osceola County (2.4% and 1.0%, respectively), the percentage of residents that walked to work was so low that this difference may be negligible. A large difference in residents that worked from home was reported between the two groups, with three times more Celebration residents (12.9%) working from home than Osceola County residents (4.3%). While the mean travel time to work for Celebration residents (23.1 minutes) was approximately 14% less than that of Osceola County residents (29.9 minutes), this difference was not large enough to conclude that living in a new urban neighborhood lent to shorter commute times.

Socio-demographic data for Celebration CDP and Osceola County are detailed in Table 22.

Table 22: Celebration CDP, Osceola County Socio-Demographic Profiles

	Celebration CDP		Osceola County	
	Estimate	%	Estimate	%
SEX AND AGE				
Total population	8,947	—	265,170	—
Male	4,479	50.1	132,234	49.9
Female	4,468	49.9	132,936	50.1
Median age (years)	38.3	(X)	34.9	(X)
18 years and over	6,722	75.1	192,318	72.5
RACE				
Total population	8,947	—	265,170	—
One race	8,820	98.6	255,003	96.2
White	8,187	91.5	200,369	75.6
Black or African American	152	1.7	28,366	10.7
American Indian and Alaska Native	0	0.0	575	0.2
Asian	348	3.9	7,708	2.9
Native Hawaiian and Other Pacific Islander	8	0.1	52	0.0
Some other race	125	1.4	17,933	6.8
Hispanic or Latino (of any race)	788	8.8	111,088	41.9
Not Hispanic or Latino	8,159	91.2	154,082	58.1
EDUCATIONAL ATTAINMENT				
Population 25 years and over	5,963	—	167,961	—
Percent bachelor's degree or higher	3,622	60.74	30,685	18.27
HOUSEHOLDS BY TYPE				
Total households	3,509	—	91,047	—
Family households (families)	2,366	67.4	68,289	75.0
With own children under 18 years	1,253	35.7	34,906	38.3
Married-couple family	1,989	56.7	47,073	51.7
With own children under 18 years	1,008	28.7	22,064	24.2
Nonfamily households	1,143	32.6	22,758	25.0
Householder living alone	760	21.7	16,822	18.5
Households w/ one or more people < 18 years	1,322	37.7	38,781	42.6
Households w/ one or more people ≥ 65 years	520	14.8	21,072	23.1
Average household size	2.55	(X)	2.88	(X)
Sources: Celebration CDP: 2005-2009 American Community Survey; Osceola County: 2007-2009 American Community Survey				

	Celebration CDP		Osceola County	
	Estimate	%	Estimate	%
EMPLOYMENT STATUS				
Population 16 years and over	6,864	—	201,015	—
In labor force	5,076	74.0	134,376	66.8
Not in labor force	1,788	26.0	66,639	33.2
Percent Unemployed	3.8	(X)	9.4	(X)
INCOME AND BENEFITS (IN 2009 INFLATION-ADJUSTED DOLLARS)				
Total households	3,509	—	91,047	—
Less than \$10,000	65	1.9	4,650	5.1
\$10,000 to \$14,999	43	1.2	4,562	5.0
\$15,000 to \$24,999	149	4.2	11,493	12.6
\$25,000 to \$34,999	132	3.8	12,176	13.4
\$35,000 to \$49,999	381	10.9	16,829	18.5
\$50,000 to \$74,999	597	17.0	20,174	22.2
\$75,000 to \$99,999	347	9.9	10,210	11.2
\$100,000 to \$149,999	772	22.0	7,170	7.9
\$150,000 to \$199,999	339	9.7	2,109	2.3
\$200,000 or more	684	19.5	1,674	1.8
Median household income (dollars)	101,315	(X)	46,129	(X)
Mean household income (dollars)	128,189	(X)	57,858	(X)
HOUSING OCCUPANCY, TENURE, AND MORTGAGE STATUS				
Total housing units	4,963	—	120,143	—
Occupied housing units	3,509	70.7	91,047	75.8
Owner-occupied	2,518	71.8	60,368	66.3
Housing units with a mortgage	1,989	79.0	44,791	74.2
Housing units without a mortgage	529	21.0	15,577	25.8
Renter-occupied	991	28.2	30,679	33.7
Vacant housing units	1,454	29.3	29,096	24.2
Sources: Celebration CDP: 2005–2009 American Community Survey; Osceola County: 2007–2009 American Community Survey				

	Celebration CDP		Osceola County	
	Estimate	%	Estimate	%
RESIDENCE 1 YEAR AGO				
Population 1 year and over	8,841	—	261,848	—
Same house	6,261	70.8	213,708	81.6
Different house in the U.S.	2,507	28.4	45,272	17.3
Same county	992	11.2	24,012	9.2
Different county	1,515	17.1	21,260	8.1
Same state	859	9.7	14,425	5.5
Different state	656	7.4	6,835	2.6
Abroad	73	0.8	2,868	1.1
VEHICLES AVAILABLE				
Occupied housing units	3,509	—	91,047	—
No vehicles available	51	1.5	4,568	5.0
1 vehicle available	1,099	31.3	31,790	34.9
2 vehicles available	1,540	43.9	37,827	41.5
3 or more vehicles available	819	23.3	16,862	18.5
COMMUTING TO WORK				
Workers 16 years and over	4,818	—	118,641	—
Car, truck, or van — drove alone	3,765	78.1	94,620	79.8
Car, truck, or van — carpooled	245	5.1	12,977	10.9
Public transportation (excluding taxicab)	0	0.0	1,545	1.3
Walked	117	2.4	1,233	1.0
Other means	70	1.5	3,163	2.7
Worked at home	621	12.9	5,103	4.3
Mean travel time to work (minutes)	23.1	(X)	29.9	(X)

Sources: Celebration CDP: 2005–2009 American Community Survey; Osceola County: 2007–2009 American Community Survey

	Celebration CDP		Osceola County	
	Estimate	%	Estimate	%
VALUE OF OWNER-OCCUPIED UNITS				
Owner-occupied units	2,518	—	60,368	—
Less than \$50,000	22	0.9	4,574	7.6
\$50,000 to \$99,999	11	0.4	4,859	8.0
\$100,000 to \$149,999	0	0.0	8,087	13.4
\$150,000 to \$199,999	35	1.4	11,570	19.2
\$200,000 to \$299,999	378	15.0	17,923	29.7
\$300,000 to \$499,999	716	28.4	9,431	15.6
\$500,000 to \$999,999	899	35.7	2,636	4.4
\$1,000,000 or more	457	18.1	1,288	2.1
Median (dollars)	534,600	(X)	205,000	(X)
YEAR STRUCTURE BUILT				
Total housing units	4,963	—	120,143	—
Built 2005 or later	339	6.8	11,799	9.8
Built 2000 to 2004	2,497	50.3	30,431	25.3
Built 1990 to 1999	2,040	41.1	32,814	27.3
Built 1980 to 1989	59	1.2	25,605	21.3
Built 1970 to 1979	28	0.6	10,528	8.8
Built 1960 to 1969	0	0.0	3,372	2.8
Built 1950 to 1959	0	0.0	3,078	2.6
Built 1940 to 1949	0	0.0	1,157	1.0
Built 1939 or earlier	0	0.0	1,359	1.1
YEAR HOUSEHOLDER MOVED INTO UNIT				
Occupied housing units	3,509	—	91,047	—
Moved in 2005 or later	1,730	49.3	43,032	47.3
Moved in 2000 to 2004	1,397	39.8	24,408	26.8
Moved in 1990 to 1999	368	10.5	16,324	17.9
Moved in 1980 to 1989	14	0.4	5,264	5.8
Moved in 1970 to 1979	0	0.0	1,609	1.8
Moved in 1969 or earlier	0	0.0	410	0.5
Sources: Celebration CDP: 2005–2009 American Community Survey; Osceola County: 2007–2009 American Community Survey				

Sweetwater

Neighborhood History

Like Celebration, Sweetwater was developed with a distinctive vision. Sweetwater began “as a dream and a promise” (Sweetwater Oaks Homeowners Association (HOA), 2011) by E. Everette Huskey, a central Florida real-estate entrepreneur responsible for development some 25 communities over the course of his more than 50 year career (Orlando Business Journal, 2007). “The promise was a commitment to quality in the planning, in the homes, in the amenities and the creation of a community with the atmosphere and caring of a small town” (Sweetwater Oaks HOA, 2011). To fulfill this vision, Huskey planned a neighborhood that embraced a village concept, with schools, parks, shopping, and a church in close proximity to residential areas (First Baptist Sweetwater, n.d.). On its surface, this plan might seem similar to new urban concepts, but land use methods utilized to develop Sweetwater reflect conventional suburban ideals, including single-use zoning, large residential plots with deep home setbacks, and winding, unstructured street networks including frequent cul-de-sacs.

Where others may have seen a piece of unusable land located too far from populated portions of the greater Orlando region, Huskey saw opportunity. Huskey set his sights on a 2,000 acre property straddling unincorporated sections of Seminole and Orange counties, roughly 15 miles north of downtown Orlando (Renner, 1987; Sweetwater Oaks HOA, 2011). The property was comprised in part of agricultural land containing a citrus crop that was

devastated by a winter freeze, and in part of woodlands and wetlands with flora and fauna similar to that within adjacent Wekiwa Springs State Park. Huskey purchased the first 22 of acres of the targeted property for \$40,000 (approximately \$1,800 per acre) in 1968, and the next year he and other investors formed The Huskey Company to acquire additional land and begin development (Snyder, 1998).

Given that this land was undeveloped and considerably remote within the greater Orlando area, Huskey had to construct a full utility infrastructure to support the planned neighborhood and amenities. In doing so, he ran into environmental opponents of the development, with primary concerns being potential negative impacts on wildlife within and near Wekiwa Springs State Park and on pollution of the state park and the Wekiva River, a spring-fed tributary to the St. John's River (Florida State Parks, n.d.; Renner, 1987).

Even with this opposition, Huskey's vision prevailed. Construction of Sweetwater Oaks, the largest of three separately-governed neighborhoods that would be developed, began in the early 1970s. Built on the easternmost, Seminole County portion of the property, Sweetwater Oaks would contain 1,396 homes upon completion (Sweetwater Oaks HOA, 2011). Development of the 178 home sites in Sweetwater Club began shortly thereafter, with Huskey's own home completed in 1973 (Snyder, 1991a; Sweetwater Club HOA, 2011). Located just west of Sweetwater Oaks and also in Seminole County, Sweetwater Club would be central Florida's first gated community (Jackson, 2007). The Sweetwater Golf and Country Club, a private facility that would include a 6,400-yard, 18-hole golf course, 11 tennis courts, a swimming pool, and a clubhouse, was constructed by Huskey Company in 1977 and sold in 1980 to a firm that owned and operated golf clubs around the US. Since then, Sweetwater Golf and Country Club

has changed ownership multiple times (Snyder, 1991b; Sweetwater Golf and Country Club, 2006).

Many homes in Sweetwater Club and Sweetwater Country Club would be built around the Sweetwater Golf and Country Club golf course, which was nested between the two neighborhoods. Development of Sweetwater Country Club began in 1978, and the neighborhood would contain 500 homes in 12 sub-divisions at completion (Sweetwater Country Club HOA, 2009b). Unlike Sweetwater Oaks and Sweetwater Club, Sweetwater Golf and Country Club and the Sweetwater Country Club neighborhood were developed in Orange County, on the westernmost portion of the property acquired by The Huskey Company. To date, each of the Sweetwater neighborhoods remain in unincorporated areas, although surrounding properties have been incorporated by Longwood (Seminole County) and Apopka (Orange County) municipalities.

Huskey's development of Sweetwater neighborhoods seemed to initiate other nearby development, including two large residential neighborhoods, Sabal Point and Wekiva, located immediately east and west of Sweetwater properties, respectively (Kilsheimer, 1993). Through Sweetwater and his subsequent involvement in development of other Seminole County residential and commercial projects, Huskey is said to have "turned Seminole County into an upscale suburb with million-dollar homes". In addition to Sweetwater, Huskey was an early driving force in development of the Heathrow area in northwestern Seminole County. Heathrow would ultimately contain an affluent, gated residential neighborhood and successful business corridor that established competition for upscale Orange County neighborhoods, including Windermere and Winter Park (Jackson, 2007).

Governance

Sweetwater neighborhoods are governed by three homeowner entities: the Sweetwater Oaks Homeowners Association, which represents Sweetwater Oaks and Sweetwater Cove neighborhoods; Sweetwater Club Homeowners Association, which represents the upscale, gated Sweetwater Club neighborhood; and Sweetwater Country Club Homeowners Association, which represents for Diamond Hill, Golf Villas, Hamilton Place, Heather Glen, Les Chateaux, Majestic Oak Drive, Orchard Drive, Sweetwater Country Club Place, Sweetwater Greens, Sweetwater Park Village, Tall Pine, and Villa D'Este sub-divisions. Figure 8 illustrates the greater Sweetwater area with approximate locations of residential areas governed by these three homeowner associations.

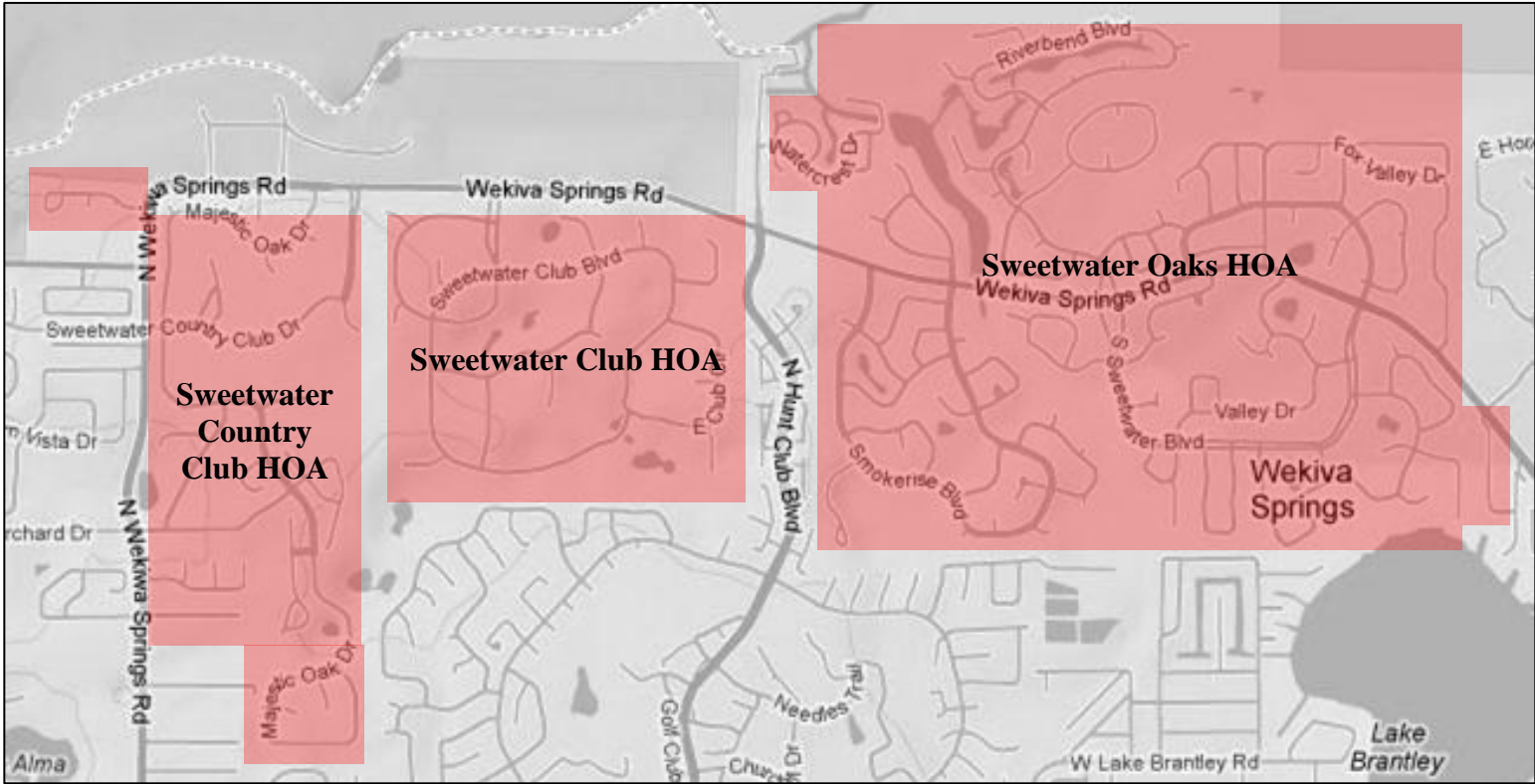
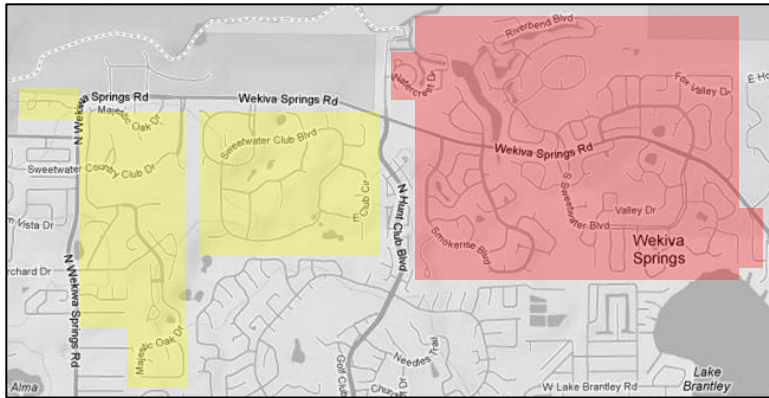


Figure 8: Sweetwater Area Map

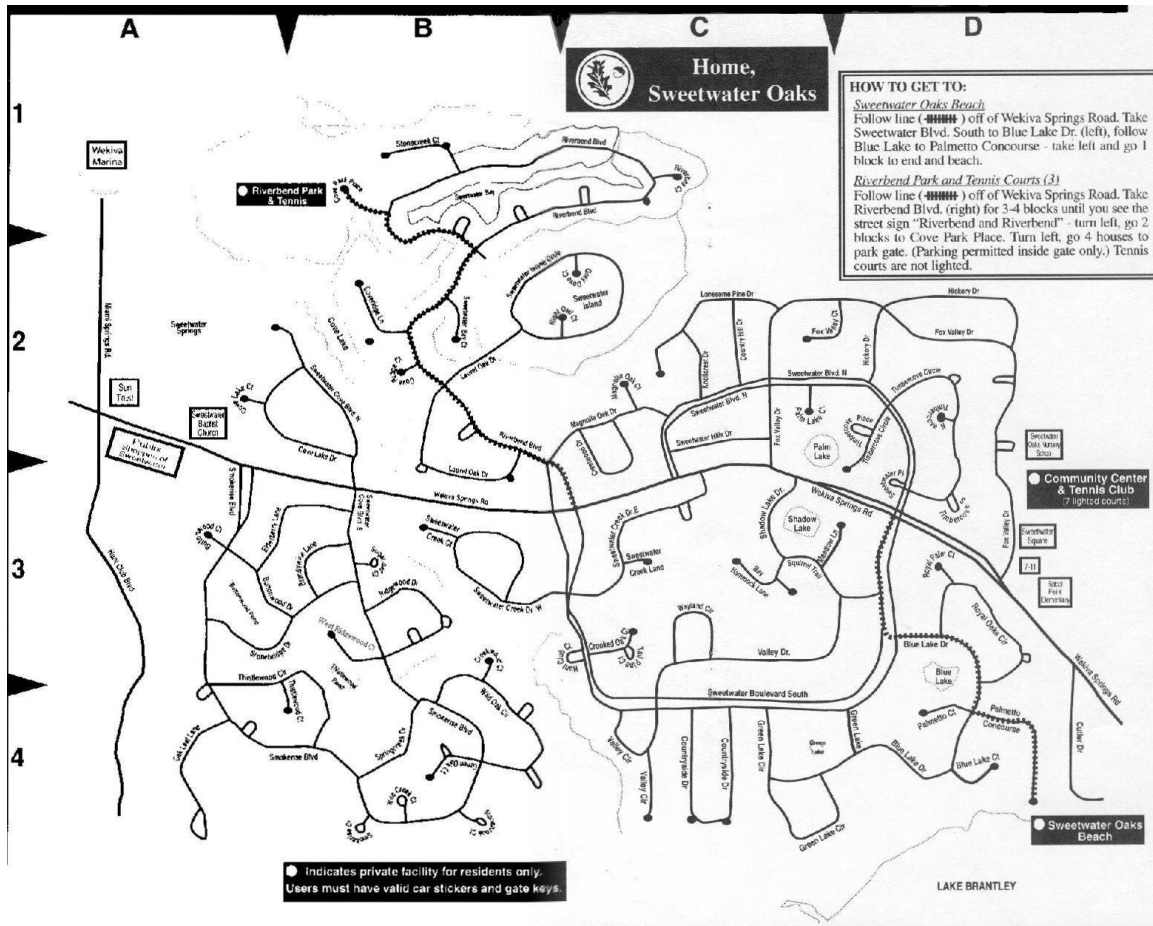
Sweetwater Oaks Homeowners Association

The Sweetwater Oaks Homeowners Association (HOA) represents the largest segment of the Sweetwater residential area and is home to approximately 5,000 residents (Sweetwater Oaks HOA, 2011). All corresponding residences are located within the Wekiva Springs census designated place (CDP) in unincorporated Seminole County. While not within Longwood, Florida city limits, corresponding homes reflect Longwood addresses (Seminole County Property Appraiser, 2006). The Sweetwater Oaks HOA consists of an elected, seven-member board with staggered three-year terms and several purpose-based committees. The board meets monthly in a community facility within Sweetwater Oaks. At least one board member participates in all standing committees, including Nominations, Recreation, Maintenance, Publicity, and Audit Committees, and the Architectural Review Board (Sweetwater Oaks HOA, 2011).

Figure 9 depicts streets contained within the jurisdiction of the Sweetwater Oaks HOA.



Note: Red highlighted region in area map above reflects HOA jurisdiction detailed below.

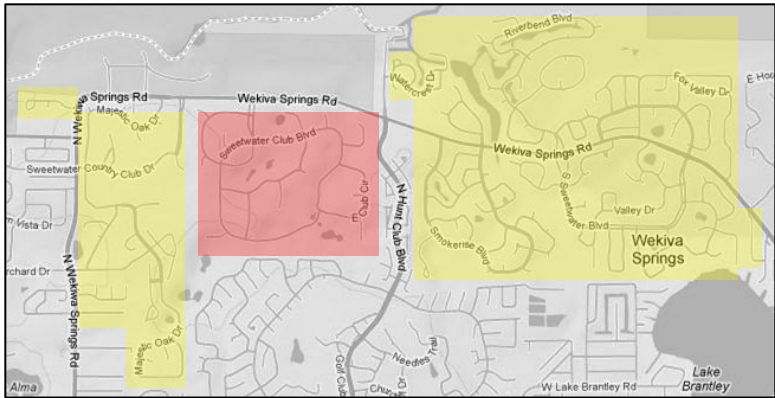


Source: Sweetwater Oaks Homeowners Association (2011).

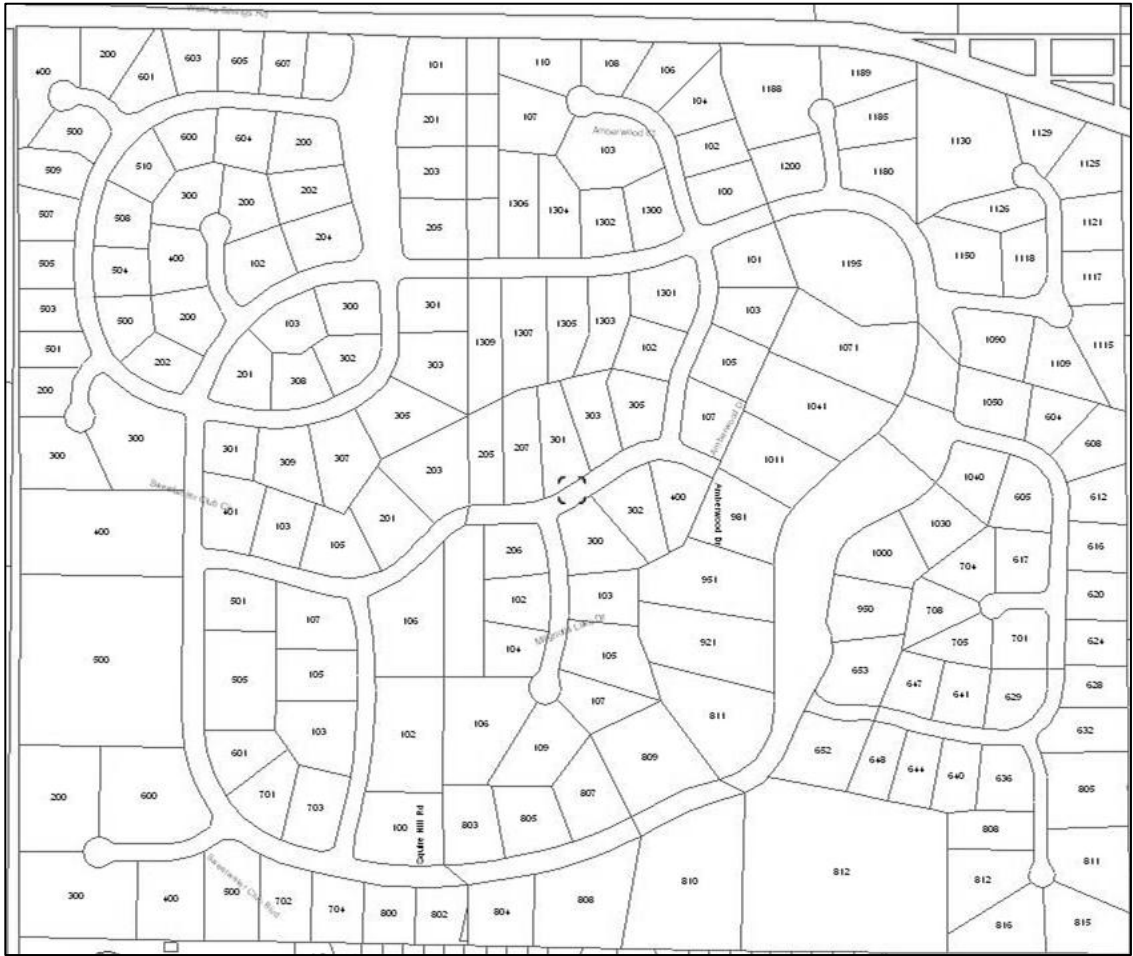
Figure 9: Sweetwater Oaks Homeowners Association—Neighborhood Map

Sweetwater Club Homeowners Association

The Sweetwater Club HOA represents the smallest and most exclusive of the neighborhoods in the greater Sweetwater area. Like sub-divisions represented by the Sweetwater Oaks HOA, residences governed by the Sweetwater Club HOA are located within the Wekiva Springs CDP in unincorporated Seminole County and reflect Longwood addresses (Seminole County Property Appraiser, 2006). An elected seven-member board and several sub-committees, including Security, Maintenance, and Landscaping Committees, an Architectural Review Board, and a Board of Governors oversee neighborhood operations and issues. The Board of Governors is responsible for reviewing and approving prospective buyers and renters, who must make a \$2,000 deposit to apply to live in the neighborhood. Historically, the HOA board has met monthly at the nearby Sweetwater Country Club and at the Sweetwater Baptist Church, both of which are located within the greater Sweetwater community (Sweetwater Club HOA, 2008]; Sweetwater Club HOA, 2010a; Sweetwater Club HOA, 2010b). Figure 10 depicts streets and home sites contained within the Sweetwater Club HOA jurisdiction.



Note: Red highlighted region in area map above reflects HOA jurisdiction detailed below.



Source: Sweetwater Club Homeowners Association (2010a).

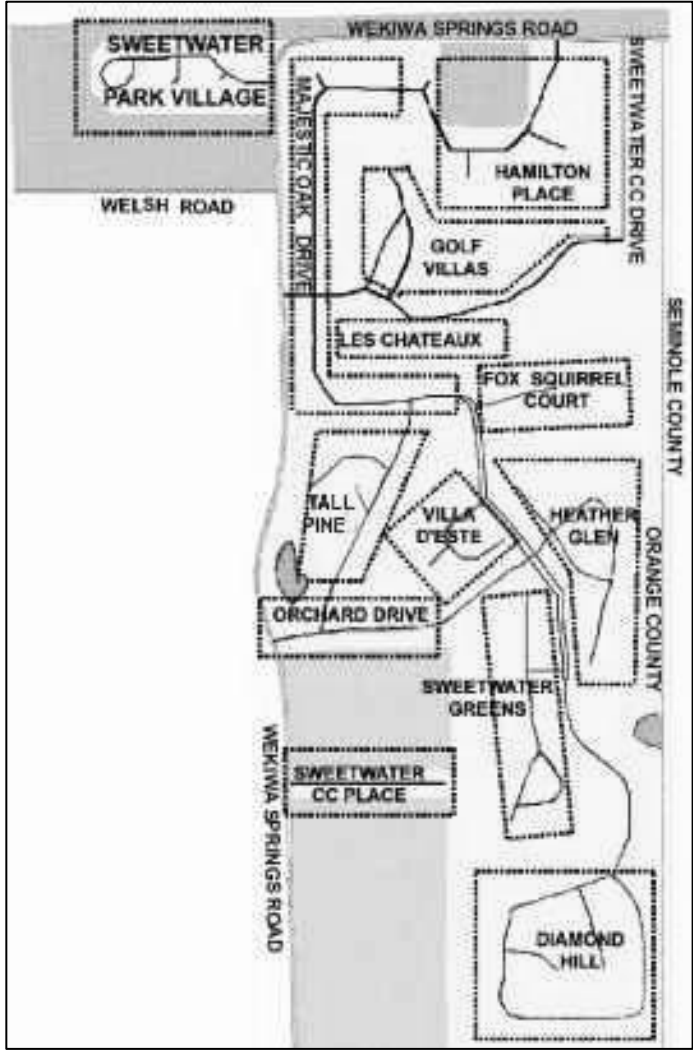
Figure 10: Sweetwater Club Homeowners Association—Neighborhood Map

Sweetwater Country Club Homeowners Association

The Sweetwater Country Club HOA represents homes in all 12 corresponding sub-divisions. Sweetwater Country Club residences, although in unincorporated Orange County, reflect Apopka addresses (Orange County Property Appraiser, 2006). An elected, seven-member board and a number of committees, including Budget, Election, Golf Development and Government, Holiday Decorations, Landscape, Welcoming, Newsletter, Nominations, Security, and Sweetwater Greens Committees and an Architectural Review Board oversee HOA matters. The board meets monthly at the Sweetwater Country Club, while committees meet either at the Sweetwater Country Club or at committee member homes (Sweetwater Country Club HOA, n.d.; Sweetwater Country Club HOA, 2011a; Sweetwater Country Club HOA, 2011b). Figure 11 depicts sub-divisions and major streets contained within the Sweetwater Country Club HOA jurisdiction.



Note: Red highlighted region in area map above reflects HOA jurisdiction detailed below.



Source: Sweetwater Country Club HOA (2010b).

Figure 11: Sweetwater Country Club Homeowner Association—Neighborhood Map

Design and Amenities

The greater Sweetwater neighborhood reflects conventional suburban neighborhood design standards. Homes in Sweetwater are built with moderate to very large street setbacks with some Sweetwater Club plots, including Huskey's own, spanning several acres (Snyder, 1991b). While some multi-family dwellings exist adjacent to the Sweetwater Golf and Country Club golf course, the neighborhood is comprised predominantly of single-family homes.

Each Sweetwater neighborhood is accessible from Wekiva Springs Road, the sole artery linking the area to other central Florida roadways. Sweetwater Oaks spans both north and south sides of Wekiva Springs Road and has several access points on each side. Some portions of Sweetwater Oaks, including the small sub-division of Sweetwater Cove, are disconnected from other areas and accessible only via Wekiva Springs Road, while other streets exhibit inter-neighborhood connectivity. Sweetwater Club has a single, gated point of entry on the south side of Wekiva Springs Road and is accessible only by residents and permitted guests. Sweetwater Country Club is located in an area where Wekiva Springs Road turns from an east-west artery to a north-south artery, leaving most of the neighborhood flanked by Wekiva Springs Road on its north and west sides (an exception is the Sweetwater Park Village sub-division, which is located on the west side of this throughway). Most portions of the neighborhood can be accessed from several streets that intersect Wekiva Springs Road, while two sub-divisions (Sweetwater Park Village and Sweetwater Country Club Place) have single points of entry and are disconnected from the remainder of the neighborhood.

A majority of homes in Sweetwater Oaks are single-story, ranch-style structures, but the design of these homes range from traditional brick and stone facades to “1970s-modern” with bold angles to the Spanish-style stucco exteriors often associated with Florida architecture. High-end and custom-built, homes within Sweetwater Club reflect an even greater variety of styles, ranging from two-story southern Colonials such as the home once occupied by Huskey (Snyder, 1991b) to stucco- and tile-roofed Italian-inspired masterpieces complete with central, fountain-bearing piazzas. The older portions of the Sweetwater Country Club neighborhood contain ranch-style homes with brick facades and other similar traditional styles, while its newest portions contain single- and two-story homes with stucco exteriors that are reflective of modern Florida architecture.

Great care was taken to preserve the nature-centric atmosphere of Wekiwa Springs State Park throughout much of the greater Sweetwater neighborhood. Particularly in Sweetwater Oaks, a thick live oak canopy lends to the well-established air of the neighborhood. Although to a lesser extent than Sweetwater Oaks, older trees were also retained within Sweetwater Club. With its contained golf course, fewer older trees were retained within Sweetwater Country Club, but parts of the neighborhood (such as the Sweetwater Park Village sub-division, which abuts Wekiwa Springs State Park) have well-established canopies.

Each of the Sweetwater neighborhoods has access to a common private beach and boat ramp on Lake Brantley, a body of water on the southwest perimeter of Sweetwater Oaks. Each neighborhood also contains tennis courts and parks available to residents and guests. Access to neighborhood amenities was a point of struggle when The Huskey Company relinquished control of the Sweetwater Oaks HOA to its residents in 1989 (Berry, 1990; Kilsheimer, 1989).

Sweetwater Oaks residents wanted, rather than to continue sharing its parks, lighted tennis courts, and Lake Brantley beach access, to have exclusive rights to these areas. Huskey argued that all Sweetwater residents have historically had privileges to these amenities and that he would hand over control of recreational areas only if access continued to be shared (Berry, 1990). The Sweetwater Oaks HOA sued The Huskey Company for exclusive access rights in 1990, but a 1993 ruling granted continued shared access by residents of all Sweetwater neighborhoods (Berry, 1990, 1993).

Accessibility

School Zoning and Accessibility

Students attending Florida public schools are zoned into districts corresponding with county of residence first, then street address within the county (Florida Department of Education, 2005). Some districts, including Seminole County Public Schools (SCPS) and Orange County Public Schools (OCPS), provide some degree of school choice, but school assignment is determined primarily through zoning based on the child's residential address (OCPS, n.d.; SCPS, n.d.; SCPS Choices, n.d.). In accordance with their locations, Sweetwater Oaks, Sweetwater Cove, and Sweetwater Club sub-divisions are zoned for Seminole County schools, while homes

in the Sweetwater Country Club cluster of sub-divisions are zoned for Orange County schools (OCPS, n.d.; SCPS, n.d., 2011;)

Homes within Sweetwater Oaks are zoned for Sable Point Elementary School, Rock Lake Middle School, and Lake Brantley High School (SCPS, n.d.). Sable Point Elementary School is located along Wekiva Springs Road, one-quarter mile southeast of the closest Sweetwater Oaks homes, and approximately two miles from the most distant homes. With a sidewalks along both sides of Wekiva Springs Road and guarded crosswalks near the school, bicycling to Sable Point Elementary School is feasible for most Sweetwater Oaks children, while walking is likely feasible for children within a smaller radius of the school. Rock Lake Middle School is located between five and 6.5 miles northeast of Sweetwater Oaks homes (depending on home location) and is accessible only via highly-trafficked State Road 434. With a minimum of six lanes of traffic on the corresponding segment of SR 434 and the school's sizable distance from the neighborhood, Sweetwater Oaks children attending Rock Lake Middle School must be bussed or driven to and from school. Lake Brantley High School is located between 2.5 and four miles southeast of Sweetwater Oaks, depending on home location and route taken. Primary routes contain sufficient sidewalks for walking or bicycling, but distance and traffic concerns render Lake Brantley High School difficult and potentially unsafe to access on foot or on bicycle.

The Sweetwater Club sub-division is zoned for Wekiva Elementary School, Rock Lake Middle School, and Lake Brantley High School (SCPS, n.d.). Wekiva Elementary School, located within the Wekiva sub-division, is between three and 3.5 miles southeast of Sweetwater Club homes, depending on home location. Sidewalks are available for the entire route to the school and guarded crosswalks are provided near the school, but its distance from Sweetwater

Club may not make walking or bicycling feasible. Rock Lake Middle School is located between 7.5 and eight miles away, while Lake Brantley High School is roughly five miles from the neighborhood via the Wekiva sub-division route. Walking and bicycle accessibility of these schools is subject to the same traffic and distance challenges described for the Sweetwater Oaks neighborhood, making bus or automobile the primary means of access.

Sweetwater Country Club homes are zoned for Clay Springs Elementary School, Piedmont Lakes Middle School, and Wekiva High School (OCPS, n.d.). Clay Springs Elementary School is located approximately one-half mile south of the closest Sweetwater Country Club homes, and as far as 1.5 miles south of the most distant homes. Sidewalks and guarded crosswalks are abundantly available, making the school reasonably accessible on foot or on bicycle for some parts of the neighborhood. However, its location directly on a four-lane portion of Wekiva Springs Road that is highly-trafficked during peak hours, and its detachment from a majority of the Sweetwater Country Club neighborhood, detract from the school's pedestrian accessibility. Piedmont Lakes Middle School and Wekiva High School are each located approximately six miles south/southeast of the Sweetwater Country Club neighborhood. Routes to both schools require crossing two major central Florida arteries, SR 436 and US 441, which each contain a minimum of eight traffic lanes at traversed intersections. Given their distance, traffic volume, the potential danger of crossing major intersections, and the lack of continuous sidewalks, these schools are not safely accessible on foot or on bicycle from the Sweetwater Country Club neighborhood.

Commercial Accessibility

Sweetwater Square, a small plaza offering a handful of retail, restaurant, and service options, is located immediately east of Sweetwater Oaks, between residential properties and Sable Point Elementary School. This plaza contains a convenient store that could be utilized to purchase standard grocery items. Given its close proximity, Sweetwater Square is easily accessible on foot or by bicycle from homes within the eastern portion of Sweetwater Oaks.

Two grocery store-anchored commercial plazas, Springs Plaza and Shoppes of Sweetwater, are located in close proximity to Sweetwater neighborhoods. Springs Plaza, located 1.7 miles east of Sweetwater Oaks at the intersection of Wekiva Springs Road and State Road 434, contains a large variety of retail, service, and restaurant options in a strip-type plaza setting. Springs Plaza marks the beginning of a commercial corridor along State Road 434 that includes small and mid-sized office spaces, big box-type retail stores, and a variety of local and national retail, service, and restaurant options. Springs Plaza is outside of the walkable range for Sweetwater residents but is a feasible bicycling distance and can be safely accessed (via sidewalks flanking Wekiva Springs Road) by residents in the eastern and central portions of the Sweetwater Oaks neighborhood. Given its eastern location, the plaza is less accessible for residents of western Sweetwater Oaks, Sweetwater Club, and Sweetwater Country Club neighborhoods. Located at a busy intersection, it is possible that automobile traffic in and around the plaza could deter some residents from considering utilitarian physical activity to be a safe option for accessing the plaza. The commercial corridor beyond Springs Plaza is arguably too traffic-ridden to be safely accessed on foot or on bicycle.

The Shoppes of Sweetwater is considerably smaller than Springs Plaza but offers a grocery store, pharmacy, restaurants, and a variety of services. The plaza is centrally-located within the greater Sweetwater area, located less than one-quarter mile west of the western perimeter of Sweetwater Oaks and approximately one-half mile east of Sweetwater Club. Given its location, Shoppes of Sweetwater is within the walkable range for residents living in the western portion of Sweetwater Oaks and for the most proximal Sweetwater Club residents. With sidewalks along Wekiva Springs Road and only one small intersection, pedestrian safety is likely a negligible concern with respect to plaza access.

Public Transit Accessibility

The two closest LYNX bus stops to the Sweetwater neighborhood are located near the intersection of Wekiva Springs Road and SR 434. Both stops are located on the north side of SR 434 and approximately 1.8 miles from the easternmost portion of Sweetwater Oaks. One stop is approximately 100 yards east of the intersection with Wekiva Springs Road, and one approximately 100 yards west of the intersection, in front of Springs Plaza. Sidewalks are available along Wekiva Springs Road and SR 434 to each stop.

A Sweetwater resident living on Fox Valley Drive, which forms the eastern perimeter of the neighborhood (closest to LYNX stops), traveling on a weekday morning from their home to Orlando City Hall would need to leave at 5:23 AM, walk a total of 2.78 miles, make three transfers, and wait a total of 20 minutes between transfers to arrive at the destination at 7:36 AM

(total travel time of two hours and 12 minutes). The same trip in the middle of the day (roughly 12:00 PM departure from home) increases the total trip duration by 12 minutes and the transfer wait time to 32 minutes, with walking distance and number of transfers remaining constant. The return trip, leaving Orlando City Hall at 5:31 PM, would require a total walk of 2.45 miles, two transfers, and a total transfer wait time of 24 minutes for a home arrival time of 7:55 PM and a total travel time of two hours and 24 minutes. Selecting return trip custom itinerary options of “fastest route” and “minimize walking” present options that *increase* total travel time by six minutes and reduce total walking distance to 2.24 miles, respectively. The latter option also increases the number of transfers to three and increases total travel time to two hours and 52 minutes. Selecting the itinerary option of “minimize transfers” maintains a total of two transfers. These trip options do not pick up or drop off at the bus stops nearest to Sweetwater. Rather, they leverage a stop on SR 434 roughly one-half mile southwest of the stop in front of Springs Plaza, which appears to present a more efficient route to and from downtown Orlando than the stops closest to Sweetwater (LYNX TripPlanner, 2011). Not leveraging the closest stops to Sweetwater is perhaps exemplary of general perceptions of the inefficiency and lack of direct routes reported by interviewed residents, as detailed later in this chapter.

Social Opportunities

Neighborhood amenities, including parks, tennis courts, and Lake Brantley Beach, provide public spaces for Sweetwater residents to interact in both organized and ad-hoc

capacities. The Sweetwater Golf and Country Club provides further opportunities for Sweetwater residents and other members to interact. Additionally, a variety of clubs and holiday activities provide within-neighborhood opportunities for socialization and community-building (Sweetwater Club HOA, 2008; Sweetwater Country Club HOA, 2009b; Sweetwater Oaks HOA, 2011).

In addition to neighborhood-specific activities, neighborhood schools offer residents the opportunity to engage in youth-focused community activities. Sabal Point Elementary School, Wekiva Elementary School, Rock Lake Middle School, and Lake Brantley High School offer an array of educational and extracurricular activities for children, including academic clubs, student government, musical and other fine arts groups, fundraisers, Girl Scouts, Boy Scouts, field trips, learning achievement contests, book fairs, and numerous school sports. Equally, these activities, along with the school parent-teacher association, provide opportunities for parents to volunteer and engage in children's activities and interact with other neighborhood residents.

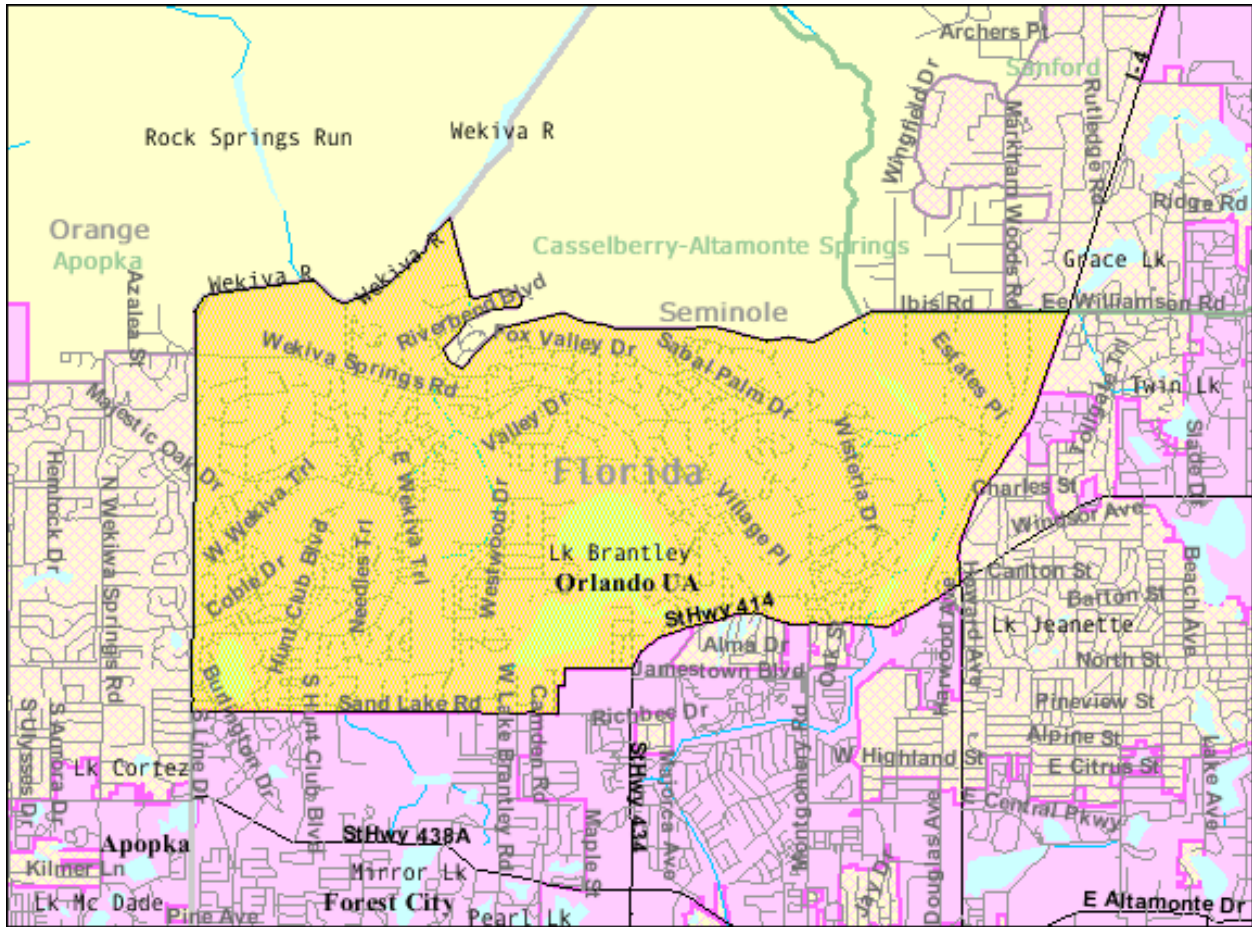
Resident Life

In morning hours, a steady stream of elementary-aged children and their parents were observed walking or bicycling to Sable Point Elementary School. Crosswalks traversing Wekiva Springs Road and Fox Valley Drive (on which the small western commercial plaza is located) were guarded, enabling safe access to the school for all pedestrians. Similar activity was observed in after-school hours.

In comparison with Celebration, a similar number of residents were observed participating in unstructured outdoor social activities. Residents were observed engaging in recreational physical activity, including walking, running, and bicycling along Wekiva Springs Road throughout the day, particularly in morning and evening hours. In the evening hours, a fair number of adult Sweetwater residents were observed doing yard work or engaging in recreational physical activity, while children were observed playing pickup games of basketball in residence driveways and bicycling and skateboarding around the neighborhood. Neighborhood parks and playgrounds appeared underutilized at various times of day.

Socio-Demographic Composition

While some Sweetwater homes (those in Sweetwater Country Club subdivisions) exist in Orange County, the majority of homes in the neighborhood exist within Seminole County and, more specifically, within Wekiva Springs CDP. Wekiva Springs CDP, illustrated in Figure 12, includes residential areas beyond Sweetwater neighborhoods but contains a larger subset of Seminole County that is comparable to Sweetwater. Thus, Wekiva Springs CDP was utilized as a proxy for Sweetwater neighborhoods in the evaluation of socio-demographic characteristics.



Source: factfinder.census.gov

Figure 12: Wekiva Springs CDP

Wekiva Springs CDP exhibited a moderately more homogenous racial makeup than Seminole County, with 93.1% of residents reporting their race as white, compared with 80.3% in Seminole County. Nine percent of Wekiva Springs CDP residents reported that they were of Hispanic or Latino descent, while 15.7% of Seminole County residents reported the same.

Although not as significantly different as Celebration and Osceola County, Wekiva Springs CDP also exhibited educational attainment, employment status, household income, and

home value characteristics that reflected a more affluent population than Seminole County. In Wekiva Springs CDP, 46.79% of individuals aged 25 years and older attained at least a bachelor's degree, while 32.79% of Seminole County residents achieved the same. There was only a slight difference in percent unemployed between the two groups, with 6.1% and 7.4% of Wekiva Springs CDP and Seminole County residents, respectively, reporting unemployment. The median household income within Wekiva Springs CDP (\$72,559) was approximately 21% higher than that of Seminole County (\$57,302). Similarly, the median value of owner-occupied residential units was \$324,700 in Wekiva Springs CDP and \$245,700 in Seminole County, reflecting a roughly 25% difference between the two groups.

Wekiva Springs CDP residents were slightly older than Seminole County residents, with mean ages of 44 and 37.5, respectively. This variation in age was also reflected in the proportion of households containing residents of retirement age, with 28.1% of Wekiva Springs CDP households containing one or more residents aged 65 years or older, compared to 21.3% in Seminole County.

Like Celebration and Osceola County, there was little difference in commuting behaviors between groups. A majority of residents in Wekiva Springs CDP (86.2%) and Seminole County (83.2%) reported driving alone in a personal vehicle while a minority carpooled in private vehicles. No residents within Wekiva Springs CDP reported utilizing public transportation for their commute, while only 0.5% of Seminole County residents reported public transit usage. Residents that walked to work and worked from home were similar across groups, and mean travel time to work was nearly identical, with Wekiva Springs CDP and Seminole County residents commuting an average of 25.9 minutes and 25.8 minutes, respectively.

Socio-demographic data for Wekiva Springs CDP and Seminole County are detailed in Table 23.

Table 23: Wekiva Springs CDP, Seminole County Socio-Demographic Profiles (Part A)

	Wekiva Springs CDP		Seminole County	
	Estimate	%	Estimate	%
SEX AND AGE				
Total population	21,494	—	410,723	—
Male	10,528	49.0	202,101	49.2
Female	10,966	51.0	208,622	50.8
Median age (years)	44	(X)	37.5	(X)
18 years and over	17,039	79.3	313,846	76.4
RACE				
Total population	21,494	—	410,723	—
One race	21,239	98.8	401,400	97.7
White	20,018	93.1	329,771	80.3
Black or African American	315	1.5	43,981	10.7
American Indian and Alaska Native	0	0.0	922	0.2
Asian	648	3.0	15,387	3.7
Native Hawaiian and Other Pacific Islander	0	0.0	200	0.0
Some other race	258	1.2	11,139	2.7
Hispanic or Latino (of any race)	1,945	9.0	64,596	15.7
Not Hispanic or Latino	19,549	91.0	346,127	84.3
EDUCATIONAL ATTAINMENT				
Population 25 years and over	15,576	—	275,677	—
Percent bachelor's degree or higher	7,288	46.8	90,878	33.0
HOUSEHOLDS BY TYPE				
Total households	8,108	—	148,932	—
Family households (families)	5,950	73.4	100,365	67.4
With own children under 18 years	2,188	27.0	45,048	30.2
Married-couple family	4,950	61.1	74,425	50.0
With own children under 18 years	1,745	21.5	31,161	20.9
Nonfamily households	2,158	26.6	48,567	32.6
Householder living alone	1,685	20.8	38,993	26.2
Households w/ one or more people < 18 years	2,350	29.0	49,112	33.0
Households w/ one or more people ≥ 65 years	2,282	28.1	31,678	21.3
Average household size	2.65	(X)	2.74	(X)

Source: 2007–2009 American Community Survey

	Wekiva Springs CDP		Seminole County	
	Estimate	%	Estimate	%
EMPLOYMENT STATUS				
Population 16 years and over	17,554	—	325,837	—
In labor force	11,817	67.3	226,941	69.6
Not in labor force	5,737	32.7	98,896	30.4
Percent Unemployed	6.1	(X)	7.4	(X)
INCOME AND BENEFITS (IN 2009 INFLATION-ADJUSTED DOLLARS)				
Total households	8,108	—	148,932	—
Less than \$10,000	256	3.2	7,721	5.2
\$10,000 to \$14,999	229	2.8	6,394	4.3
\$15,000 to \$24,999	628	7.7	14,023	9.4
\$25,000 to \$34,999	564	7.0	16,152	10.8
\$35,000 to \$49,999	1,018	12.6	21,007	14.1
\$50,000 to \$74,999	1,565	19.3	28,884	19.4
\$75,000 to \$99,999	1,043	12.9	19,622	13.2
\$100,000 to \$149,999	1,558	19.2	20,597	13.8
\$150,000 to \$199,999	587	7.2	7,544	5.1
\$200,000 or more	660	8.1	6,988	4.7
Median household income (dollars)	72,559	(X)	57,302	(X)
Mean household income (dollars)	101,014	(X)	76,466	(X)
HOUSING OCCUPANCY, TENURE, AND MORTGAGE STATUS				
Total housing units	9,293	—	173,772	—
Occupied housing units	8,108	87.2	148,932	85.7
Owner-occupied	6,354	78.4	105,474	70.8
Housing units with a mortgage	4,726	74.4	82,528	78.2
Housing units without a mortgage	1,628	25.6	22,946	21.8
Renter-occupied	1,754	21.6	43,458	29.2
Vacant housing units	1,185	12.8	24,840	14.3
Source: 2007–2009 American Community Survey				

	Wekiva Springs CDP		Seminole County	
	Estimate	%	Estimate	%
VALUE OF OWNER-OCCUPIED UNITS				
Owner-occupied units	6,354	—	105,474	—
Less than \$50,000	49	0.8	3,028	2.9
\$50,000 to \$99,999	51	0.8	5,003	4.7
\$100,000 to \$149,999	262	4.1	9,349	8.9
\$150,000 to \$199,999	481	7.6	16,679	15.8
\$200,000 to \$299,999	1,858	29.2	34,880	33.1
\$300,000 to \$499,999	2,846	44.8	25,679	24.3
\$500,000 to \$999,999	645	10.2	9,005	8.5
\$1,000,000 or more	162	2.5	1,851	1.8
Median (dollars)	324,700	(X)	245,700	(X)
YEAR STRUCTURE BUILT				
Total housing units	9,293	—	173,772	—
Built 2005 or later	189	2.0	8,205	4.7
Built 2000 to 2004	184	2.0	21,011	12.1
Built 1990 to 1999	888	9.6	33,729	19.4
Built 1980 to 1989	3,973	42.8	51,675	29.7
Built 1970 to 1979	3,641	39.2	37,412	21.5
Built 1960 to 1969	233	2.5	12,145	7.0
Built 1950 to 1959	152	1.6	6,240	3.6
Built 1940 to 1949	17	0.2	1,472	0.8
Built 1939 or earlier	16	0.2	1,883	1.1
YEAR HOUSEHOLDER MOVED INTO UNIT				
Occupied housing units	8,108	—	148,932	—
Moved in 2005 or later	2,266	27.9	55,819	37.5
Moved in 2000 to 2004	1,813	22.4	37,275	25.0
Moved in 1990 to 1999	2,188	27.0	33,242	22.3
Moved in 1980 to 1989	1,178	14.5	13,250	8.9
Moved in 1970 to 1979	640	7.9	6,710	4.5
Moved in 1969 or earlier	23	0.3	2,636	1.8

Source: 2007–2009 American Community Survey

	Wekiva Springs CDP		Seminole County	
	Estimate	%	Estimate	%
RESIDENCE 1 YEAR AGO				
Population 1 year and over	21,287	—	405,474	—
Same house	19,345	90.9	349,289	86.1
Different house in the U.S.	1,851	8.7	53,800	13.3
Same county	857	4.0	24,836	6.1
Different county	994	4.7	28,964	7.1
Same state	502	2.4	20,247	5.0
Different state	492	2.3	8,717	2.1
Abroad	91	0.4	2,385	0.6
VEHICLES AVAILABLE				
Occupied housing units	8,108	—	148,932	—
No vehicles available	35	0.4	5,715	3.8
1 vehicle available	2,328	28.7	51,998	34.9
2 vehicles available	4,099	50.6	65,428	43.9
3 or more vehicles available	1,646	20.3	25,791	17.3
COMMUTING TO WORK				
Workers 16 years and over	10,711	—	205,805	—
Car, truck, or van — drove alone	9,228	86.2	171,276	83.2
Car, truck, or van — carpooled	507	4.7	15,771	7.7
Public transportation (excluding taxicab)	0	0.0	995	0.5
Walked	84	0.8	2,187	1.1
Other means	74	0.7	3,773	1.8
Worked at home	818	7.6	11,803	5.7
Mean travel time to work (minutes)	25.9	(X)	25.8	(X)
Source: 2007–2009 American Community Survey				

Anticipated Findings

Given the numerous opportunities for social engagement described in the Celebration case study, and the researcher's prior exposure to events and residents within the neighborhood, it was anticipated that this research would support hypotheses surrounding the impact of neighborhood type on community participation. However, due to the auto-centric culture that exists in central Florida, the lack of walkable destinations from most areas of Celebration, the lack of a readily-utilized public transportation system, and the sub-tropical regional climate, it was anticipated that hypotheses surrounding the impact of neighborhood type on transportation-related outcomes would not be supported. With respect to the impact of attitudes on corresponding behaviors, it was anticipated that this research would support the attitudinal-behavioral relationship defined by social-ecological theory and fall in line with prior related research. Anticipated findings are summarized in Table 24.

Table 24: Summary of Anticipated Findings

ID	Anticipated Finding	Anticipated Result
Q1	What is the impact of neighborhood type on community participation?	
H1	NU residents are more likely to have positive attitudes toward community participation than CS residents	Reject null
H2	NU residents participate in community activities more frequently than CS residents	Reject null
Q2	What is the impact of neighborhood type on automobile usage?	
H3	There is no difference in drive-minimizing attitudes between NU and CS residents	Accept null
H4	There is no difference in miles driven per week between NU and CS residents	Accept null
Q3	What is the impact of neighborhood type on utilitarian physical activity?	
H5	There is no difference in attitudes toward UPA between NU and CS residents	Accept null
H6	There is no difference in frequency of UPA trips between NU and CS residents	Accept null
Q4	What is the impact of community participation, automobile usage, and utilitarian physical activity on associated behaviors?	
H7	There is a positive correlation between attitudes supportive of community participation and community participation frequency	Reject null
H8	There is a positive correlation between attitudes supportive of automobile usage minimization and vehicle miles driven per week	Reject null
H9	There is a positive correlation between perceived level of difficulty to engage in UPA and UPA frequency	Reject null
<hr/> NU: New urban; CS: Conventional suburban; UPA: Utilitarian physical activity <hr/>		

ID	Research Question	Anticipated finding	Anticipated consistency
Q5	What factors influence neighborhood selection, and are these factors consistent across neighborhood types?	Desire for participative community	Not consistent (stronger in NU neighborhoods)
		Desire for walkable neighborhood	Not consistent (stronger in NU neighborhoods)
Q6	What, if any, regional factors impact attitudes and behaviors with respect to utilitarian physical activity and public transit usage, and are these factors consistent across neighborhood types?	Climate is a deterrent of UPA	Consistent across neighborhoods
		Climate is a deterrent of public transit usage	Consistent across neighborhoods
		Lack of access is a deterrent of public transit usage	Consistent across neighborhoods
		Lack of system efficiency is a deterrent of public transit usage	Consistent across neighborhoods
		Minimal public transit usage is a deterrent of UPA	Consistent across neighborhoods

NU: New urban; UPA: Utilitarian physical activity

CHAPTER 4: RESULTS

Quantitative Findings

Survey Response Rate

Survey data collection methods described in Chapter 3 yielded net valid response rates of 15.8% (33 responses) and 25.5% (64 responses) for experimental and control groups, respectively. Net response rates excluded invalid addresses (as determined by returned survey packets) and included respondents recruited at HOA meetings. Excluding HOA meeting recruits (and therefore including only randomly sampled households), response rates were 14.8% and 24.6% for experimental and control neighborhoods, respectively. When evaluating HOA meeting response rates alone, 20% of residents recruited from the experimental neighborhood meeting and 36.8% of residents recruited from the control neighborhood meeting responded to hand-distributed surveys and/or informational cards detailing online survey instructions. Survey response rates are detailed in Table 25.

Table 25: Survey Response Rates

Group	Total responses	Gross pop.	Gross RR (%)	Invalid	Reassigned	Reassigned invalid	Total invalid	% invalid	Net pop.	Net RR (%)
Celebration										
Random Sample	31	250	12.40	60	26	7	41	16.40	209	14.83
HOA Recruits	2	10	20.00	—	—	—	—	—	10	20.00
Sub-Total	33	260	12.69	60	26	7	41	16.40	219	15.79
Sweetwater										
Random Sample	57	250	22.80	18	0	0	18	7.20	232	24.57
HOA Recruits	7	19	36.84	—	—	—	—	—	19	36.84
Sub-Total	64	269	23.79	18	0	0	18	7.20	251	25.50
Cross-Neighborhood										
Totals	97	529	—	78	26	7	59	—	470	—
Mean	48.50	264.50	18.34	39	13	3.50	29.50	11.15	235	20.64

Definitions:

Random Sample: Randomly-sampled households

HOA Recruits: Residents recruited at HOA meetings

Sub-Total: Sub-total for respective neighborhood, including random and HOA recruit samples.

Total Responses: Total survey responses; includes partial responses.

Gross Population (Gross Pop.): Gross sample population (total number of households queried)

Gross Response Rate (Gross RR): Percent total responses of gross population

Invalid: Number of invalid (vacant, etc.) addresses

Reassigned: Number of packets reassigned to new addresses after original address found to be invalid

Reassigned Invalid: Number of reassigned addresses found to be invalid (vacant, etc.)

Total Invalid: Sum of invalid and reassigned invalid addresses

Invalid: Percent invalid addresses of gross population

Net Population (Net Pop.): Gross population less total invalid

Net Response Rate (Net RR): Percent total responses of net population

Household surveys often yield response rates that are lower than those of other survey methods. In an analysis of the most effective—where “effective” is defined as the method yielding the highest response rate—Kaplowitz et al. (2004) found that a completely mail-based survey approach bested household survey methods that incorporated email recruitment, with the mail-based approach yielding a 31.5% response rate. In the same study, varying methods that incorporated email recruitment yielded response rates ranging from 20.7% to 29.7%. Dillman (2000) found that, when querying households, mail-back surveying is the most effective method of achieving optimal response rates. In this research, respondents were given both mail-back and online options. A total of 9.3% (N = 9) of respondents opted to complete the online survey. Four online responses were from Celebration residents, and five were from Sweetwater residents. The small proportion of online survey respondents achieved in this research supports the findings of Kaplowitz et al. and Dillman.

Studies involving household surveys with objectives related to this research have yielded response rates similar to that of Kaplowitz et al. (2004). Handy et al. (2005) queried eight neighborhoods—four conventional suburban and four new urban—for a total of 8000 households in the San Francisco Bay area and yielded a cross-group response rate of 24.5%. Cao et al. (2006) queried a total of 6000 households in six neighborhoods in the Austin, Texas area and yielded a cross-group response rate of 23%. Dill (2006) queried three neighborhoods (one new urban, two conventional suburban) in the Portland, OR area and a total of 628 households (352 new urban, 276 conventional suburban), yielding a 45% response rate (185 responses) among new urban households and a 29% response rate (136 responses) among conventional suburban households.

While response rates from both neighborhoods in this research are low by some standards, the control group response rate falls well within the bounds of the range defined by the research described above. Ideally, response rates of both groups would fall into this defined range and would be similar to each other so as to equally assess the impact of neighborhood type on dependent variables.

It is possible that additional mailings would have generated additional responses from both groups; likewise, it is plausible that additional recruitment of residents at HOA meetings would also have increased response rates. Given the higher response rates yielded from HOA meeting recruits compared to randomly sampled households, it is anticipated that additional HOA recruitment would have been more effective in increasing response rates than extending the survey mailing effort. However, doing so would arguably have introduced additional bias to study results since it is logical to assume that residents attending HOA meetings are likely to also be more active in community activities in general.

Based on the tenets of new urbanism and the related assumption that new urban residents are or seek to be more involved in community activities than conventional suburban residents, one would expect that the experimental group response rate would have been higher than the control group response rate. In this research, a higher response rate was yielded from conventional suburban residents than from new urban residents. One possible explanation for the lower new urban group response rate is that Celebration has been highly scrutinized since it was conceptualized, in large part because of its high-profile affiliation with the Walt Disney Company and a troupe of elite architects and planners. A number of studies, texts, and articles targeting or otherwise referencing the neighborhood have been published over the course of its

existence, with both positive and negative conclusions drawn about its adherence to New Urbanist standards, the quality of life afforded to its residents, and its impact on surrounding local governments and central Florida residents (Bartling, 2002, 2004; Burden, 1999; Davis, 1997; Frantz and Collins, 1999; Njoh, 2009; Ross, 1999; Sander, 2002; Sully, 2004). Compared to other new urban projects, Celebration seems to have been much more in the spotlight since its inception, with media honing in on the project as soon as it was announced and latching on to and broadcasting information about challenges encountered during its development (Frantz and Collins, 1999; Ross, 1999). It is possible that, after more than 15 years of the neighborhood being in the public eye, queried households chose not to participate in the study for sake of minimizing this scrutiny.

While the State of Florida does have a large part-time resident population, the low experimental response rate cannot be explained by state of legal residence or year-round residence in the queried address, as 100% of responding Celebration residents were Florida residents and 97% were year-round residents. If these variables were factors in explaining low response rates, whether due to lack of vested interest in participation in such a study or because queried residents were not living at this address when surveys were mailed, these percentages would have been much lower.

Surveyed Sample Socio-Demographic Characteristics

As detailed in Table 26, survey respondents tended to be in their mid-to late forties and, particularly in Sweetwater, female. Most respondents were married and employed at least part-time and reflected a group of individuals that were well-educated (85.29% and 88.71% of Celebration and Sweetwater respondents, respectively, reported completing a bachelor's degree or higher). Not surprisingly, respondents represented a homogenous racial make-up, with 91.18% of Celebration residents reporting that they were white, and 86.67% of Sweetwater residents reporting the same. While a majority of queried residents reported that children were present in the household, a lower proportion (38.24%, compared with 66.67% in Sweetwater) of Celebration residents reported that children aged 18 years or younger were present in the household.

Table 26: Surveyed Sample Socio-Demographic Characteristic

Characteristic (1)	Across neighborhoods			Celebration			Sweetwater		
	N	Valid N	Value	N	Valid N	Value	N	Valid N	Value
Median age (years)	—	91	46.00	—	33	49.00	—	58	46.00
Female	64	96	66.67%	20	34	58.82%	44	62	70.97%
Married	70	96	72.92%	25	34	73.53%	45	62	72.58%
Employed (full- or part-time)	61	87	70.11%	20	31	64.52%	41	56	73.21%
Completed bachelor's degree or higher	84	96	87.50%	29	34	85.29%	55	62	88.71%
Race (2):									
White	83	94	88.30%	31	34	91.18%	52	60	86.67%
Black or African American	0	94	0.00%	0	34	0.00%	0	60	0.00%
American Indian and Alaska Native	0	94	0.00%	0	34	0.00%	0	60	0.00%
Asian	4	94	4.26%	0	34	0.00%	4	60	6.67%
Native Hawaiian/Pacific Islander	0	94	0.00%	0	34	0.00%	0	60	0.00%
Some Other Race	7	94	7.45%	3	34	8.82%	4	60	6.67%
Children present in household	62	97	63.92%	18	34	52.94%	44	63	69.84%
Children 18 or younger present in household	55	97	56.70%	13	34	38.24%	42	63	66.67%
Household income:									
Less than \$25K	2	83	2.41%	1	29	3.45%	1	54	1.85%
\$25K - \$49,999	6	83	7.23%	2	29	6.90%	4	54	7.41%
\$50K - \$74,999	10	83	12.05%	5	29	17.24%	5	54	9.26%
\$75K - \$99,999	14	83	16.87%	7	29	24.14%	7	54	12.96%
\$100K - \$149,999	21	83	25.30%	3	29	10.34%	18	54	33.33%
\$150K - \$199,999	14	83	16.87%	3	29	10.34%	11	54	20.37%
\$200K or greater	16	83	19.28%	8	29	27.59%	8	54	14.81%

(1) Characteristics representative of queried resident unless “household” specified

(2) Residents not given option to selected multiple races; refers to single race only

Characteristic (1)	Across neighborhoods			Celebration			Sweetwater		
	N	Valid N	Value	N	Valid N	Value	N	Valid N	Value
Own/hold mortgage on home	86	96	89.58%	27	34	79.41%	59	62	95.16%
Mean household size (persons)	—	91	3.33	—	33	2.82	—	58	3.62
Year moved to home (time in home):									
Moved in 2005 or later (< 5 years)	79	96	82.29%	28	34	82.35%	51	62	82.26%
Moved in 2000 to 2004 (5 to 9.99 years)	14	96	14.58%	5	34	14.71%	9	62	14.52%
Moved in 1990 to 1999 (10 - 19.99 years)	1	96	1.04%	1	34	2.94%	1	62	1.61%
Moved in 1980 to 1989 (20 - 29.99 years)	1	96	1.04%	0	34	0.00%	1	62	1.61%
Moved in 1970 to 1979 (30 - 39.99 years)	1	96	1.04%	0	34	0.00%	0	62	0.00%
Moved in 1969 or earlier (40+ years)	0	96	0.00%	0	34	0.00%	0	62	0.00%
Mean time in home (years)	—	96	3.91	—	34	3.036	—	62	4.385
Vehicles in household:									
No vehicles available	0	97	0.00%	0	34	0.00%	0	63	0.00%
1 vehicle available	13	97	13.40%	6	34	17.65%	7	63	11.11%
2 vehicles available	48	97	49.48%	20	34	58.82%	28	63	44.44%
3 or more vehicles available	36	97	37.11%	8	34	23.53%	30	63	47.62%
Mean travel time to work (minutes)	—	65	17.70	—	23	17.13	—	42	18.01
Mean travel distance to work (miles)	—	65	10.47	—	23	11.82	—	42	9.72
Work from home 1 or more days per week	26	67	38.81%	10	24	41.67%	16	43	37.21%

(1) Characteristics representative of queried resident unless “household” specified

Household income among Celebration respondents was fairly well distributed across the \$50,000 to \$200,000 or greater range, with a large proportion (41.38%) falling within the \$50,000 to \$99,999 range. Income distribution in Celebration was also skewed toward the highest bracket, \$200,000 or greater, with 27.59% of respondents reporting household incomes in this range. Sweetwater respondents reported a more centralized distribution of incomes, with 66.66% of households falling in the \$75,000 to \$199,999 range and just over half (53.70%) falling within the \$100,000 to \$199,999 range.

Celebration respondents were less likely to own or have a mortgage on their homes than Sweetwater residents, with 79.41% and 95.16%, respectively, reporting ownership status. With a mean household size of 3.62 persons, Sweetwater households were larger than those of Celebration, which reflected a mean of 2.82 persons. This finding and the larger percentage of Sweetwater households containing children aged 18 or younger seemed to be an indication that more family households were present in the Sweetwater queried sample than in Celebration.

All respondents reported that their household had at least one vehicle available, with most households (82.35% in Celebration and 92.06% in Sweetwater) reporting at least two available vehicles. Roughly twice as many Sweetwater households had three or more cars available as compared to Celebration. This finding could be indicative of more driving-aged children present in queried Sweetwater homes than in Celebration, or perhaps representative of varied perceptions in automobile needs across neighborhoods.

There was virtually no difference in travel time to work between queried groups, with mean times of 17.13 minutes and 18.01 minutes reported in Celebration and Sweetwater, respectively. Celebration residents, on average, traveled slightly further in their one-way trip to

work (11.82 miles) than Sweetwater residents, who traveled an average of 9.72 miles one-way. A sizable proportion of respondents from both neighborhoods (41.67% in Celebration and 37.21% in Sweetwater) worked from home at least one day per week.

As detailed in Table 27, Celebration survey respondents tended to be older than the Celebration CDP population, with a 27.94% difference in median ages of the two groups. There was a marked difference in educational attainment, with 24.55% more survey respondents reporting achievement of a bachelor's degree or higher. The groups were very similar in the racial make-up, although 7.42% more Celebration residents reported being of 'Some Other Race' than the CDP population.

Table 27: Comparison of Surveyed Sample and CDP Socio-Demographic Characteristics

Characteristic (1)	Celebration			Sweetwater		
	Sample	CCDP	Difference	Sample	WSCDP	Difference
Median age (years)	49	38.3	27.94%	46	44	4.55%
Female	58.82%	49.90%	8.92%	70.97%	51.00%	19.97%
Married	73.53%	NDC	N/A	72.58%	NDC	N/A
Employed (full- or part-time)	64.52%	NDC	N/A	73.21%	NDC	N/A
Completed bachelor's degree or higher	85.29%	60.74%	24.55%	88.71%	46.79%	41.92%
Race (2):						
White	91.18%	91.50%	-0.32%	86.67%	93.10%	-6.43%
Black or African American	0.00%	1.70%	-1.70%	0.00%	1.50%	-1.50%
American Indian/Alaska Native	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Asian	0.00%	3.90%	-3.90%	6.67%	3.00%	3.67%
Native Hawaiian/Pacific Islander	0.00%	0.10%	-0.10%	0.00%	0.00%	0.00%
Some Other Race	8.82%	1.40%	7.42%	6.67%	1.20%	5.47%
Children present in household	52.94%	NDC	N/A	69.84%	NDC	N/A
Children ≤ 18 in household	38.24%	37.70%	0.54%	66.67%	29.00%	37.67%
Household income:						
Less than \$25K	3.45%	7.30%	-3.85%	1.85%	13.70%	-11.85%
\$25K - \$49,999	6.90%	14.70%	-7.80%	7.41%	19.60%	-12.19%
\$50K - \$74,999	17.24%	17.00%	0.24%	9.26%	19.30%	-10.04%
\$75K - \$99,999	24.14%	9.90%	14.24%	12.96%	12.90%	0.06%
\$100K - \$149,999	10.34%	22.00%	-11.66%	33.33%	19.20%	14.13%
\$150K - \$199,999	10.34%	9.70%	0.64%	20.37%	7.20%	13.17%
\$200K or greater	27.59%	19.50%	8.09%	14.81%	8.10%	6.71%
Own/hold mortgage on home	79.41%	71.80%	7.61%	95.16%	78.40%	16.76%
Mean household size (persons)	2.82	2.55	10.59%	3.62	2.65	36.60%
Year moved to home:						
Moved in 2005 or later	82.35%	49.30%	33.05%	82.26%	27.90%	54.36%
Moved in 2000 to 2004	14.71%	39.80%	-25.09%	14.52%	22.40%	-7.88%
Moved in 1990 to 1999	2.94%	10.50%	-7.56%	1.61%	27.00%	-25.39%
Moved in 1980 to 1989	0.00%	0.40%	-0.40%	1.61%	14.50%	-12.89%
Moved in 1970 to 1979	0.00%	0.00%	0.00%	0.00%	7.90%	-7.90%
Moved in 1969 or earlier	0.00%	0.00%	0.00%	0.00%	0.30%	-0.30%
Mean time in home (years)	3.036	NDC	N/A	4.385	NDC	N/A
Vehicles in household:						
No vehicles available	0.00%	1.50%	-1.50%	0.00%	0.40%	-0.40%
1 vehicle available	17.65%	31.30%	-13.65%	11.11%	28.70%	-17.59%
2 vehicles available	58.82%	43.90%	14.92%	44.44%	50.60%	-6.16%
3 or more vehicles available	23.53%	23.30%	0.23%	47.62%	20.30%	27.32%
Mean time to work (minutes)	17.13	23.10	-25.84%	18.01	25.90	-30.46%
Mean distance to work (miles)	11.82	NDC	N/A	9.72	NDC	N/A
Work from home 1+ days/week	41.67%	12.90%	28.77%	37.21%	7.60%	29.61%

NDC: No direct comparison with census data; CCDP: Celebration CDP; WSCDP: Wekiva Springs CDP
Sources: CCDP: 2005–2009 American Community Survey; WSCDP: 2007–2009 American Community Survey

A roughly equal number of households reported having children aged 18 or younger across Celebration survey respondents and Celebration CDP, although mean household size was 10.59 larger among surveyed residents. The Celebration CDP had a more proportional distribution across household income ranges than queried residents, with more residents in lower income brackets in the CDP. This finding could be related to the inclusion of multi-family housing units in the CDP.

More Celebration CDP households had one vehicle available, with a 13.65% difference compared with survey respondents. In turn, more surveyed households (14.92%) had two vehicles available as compared with the CDP population. Nearly identical proportions of households had three or more vehicles available.

Queried Celebration residents reported shorter commute times, with a 25.84% difference compared with Celebration CDP. Many more surveyed residents (28.77%) reported working from home at least one day per week as compared to the CDP population.

Sweetwater survey respondents were similar in age to residents of Wekiva Springs CDP, but were disproportionately female (70.97%) and reflected a population. Like Celebration, Sweetwater respondents were more highly-educated than the corresponding CDP population, with 41.92% more surveyed residents reporting having attained a bachelor's degree or higher. Sweetwater respondents reflected a slightly more racially heterogeneous consistency, with 6.43% fewer respondents reporting a race of 'White' as compared to Wekiva Springs CDP.

More than twice as many queried Sweetwater households reported having children aged 18 or younger, with a difference of 37.67% between groups. Queried Sweetwater households tended to have higher incomes, with 34.08% more households in the CDP population falling in

the under \$25,000 to \$74,999 range as compared to survey respondents. Sweetwater respondents were more likely to own or hold a mortgage on their home, as marked by a 16.76% difference in home ownership as compared to Wekiva Springs CDP. Average household size was also larger among queried households, with a 36.60% difference between groups.

More queried Sweetwater residents (27.32%) reported having three or more vehicles available than the CDP population. Sweetwater respondents drove, on average, 18.01 minutes to work as compared to 25.9 minutes within the greater Wekiva Springs CDP (a 30.46% difference). Congruently, Sweetwater respondents were more likely to work from home at least one day per week, with 29.61% more respondents working from home than the CDP population.

Index Variable Reliability

As detailed in Chapter 3, a number of dependent and independent variables assessed in this research were index variables comprised of a series of Likert-type items. The reliability of these variables was evaluated prior to subsequent analysis of household survey data.

Reliability of Dependent Index Variables

Four of five dependent index variables were found to be sufficiently reliable. Reliability results for these variables are detailed in Table 28.

Table 28: Reliability of Dependent Index Variables

Variable	Description	Cronbach's Alpha	Valid cases % (N)
COMM_ATT	Attitude toward participation	.760	33.0 (32)
COMM_FREQ	Community participation frequency	.762	74.2 (72)
DRIVE_ATT	Attitude toward automobile travel	.455*	96.9 (94)
WB_DIFF	Attitude toward utilitarian physical activity	.861	54.6 (53)
UTIL_FREQ	Utilitarian physical activity frequency	.730	99.0 (96)

* Cronbach's alpha below .7; omitted from further analysis

COMM_ATT, an index variable that measured attitude toward participation, produced a sufficient reliability coefficient ($\alpha = .760$) with all six contained items. None of the contained items reflected corrected-item total correlations below the desired .3 threshold, and all six items were retained in the final index variable.

COMM_FREQ, which measured community participation frequency, also had sufficient reliability ($\alpha = .760$) with all six contained items. However, removing the OTHER item that corresponded to the statement "I enjoy participating in other activities" increased the number of valid cases from 29.9% (N = 29) to 74.2% (N = 72) and yielded a slight increase in reliability ($\alpha = .762$). Given these factors, the OTHER item was removed from the final COMM_FREQ variable.

DRIVE_ATT, intended to measure attitude toward automobile travel, proved to be insufficiently reliable ($\alpha = .455$). Of the four contained items, only WALKBIKE, representing residents' level of agreement with the statement "I prefer to walk or ride a bicycle rather than drive whenever possible" had a corrected-item total correlation above .3. It was concluded that

this single item would not sufficiently test corresponding hypotheses, and thus DRIVE_ATT was dropped from further analysis.

WB_DIFF was designed to measure perceived difficulty to walk or bicycle to everyday activities and represent resident attitude toward utilitarian physical activity. While initial index variable with its seven contained item produced a sufficient reliability ($\alpha = .776$), it was determined that removing GROCERY and OTHER items increased the number of valid cases and yielded an increased reliability coefficient ($\alpha = .861$). Given these results, GROCERY and OTHER items were excluded from the final WB_DIFF variable.

UTIL_FREQ, which measured the utilitarian physical activity frequency, produced an insufficient reliability ($\alpha = .486$) when all seven initial items were retained. Removing WORSHIP, RESTAURANT, EXERCISE, and OTHER items increased the reliability of UTIL_FREQ to a desirable level ($\alpha = .730$), and these items were excluded from the final variable.

Dependent index variable composition was adjusted based on above analyses. Adjusted index variables are detailed in Table 29.

Table 29: Composition of Adjusted Dependent Index Variables

Variable	Retained items	Omitted items
Attitude toward participation	HOA, SCHOOL, SPORTS, FAITH, CIVIC, OTHER	None
Community participation frequency	HOA, SCHOOL, SPORTS, FAITH, CIVIC	OTHER
Attitude toward utilitarian physical activity	SCHOOL, CHILD_ACTIVITIES, WORSHIP, RESTAURANT, EXERCISE	GROCERY, OTHER
Utilitarian physical activity frequency	GROCERY, SCHOOL, CHILD_ACTIVITIES	WORSHIP, RESTAURANT, EXERCISE, OTHER

Reliability of Independent Index Variables

Reliability of each of the four independent variables, including three selection variables, was also evaluated. The results of corresponding reliability analyses are detailed in Table 30.

Table 30: Reliability of Independent Index Variables

Variable abbreviation	Variable long name	Cronbach's Alpha	Valid cases % (N)
SEL_SOC	Selection based on social or community-related characteristics	.418*	89.7 (87)
SEL_ACCESS	Selection based on accessibility characteristics	.635**	89.7 (87)
SEL_QUAL	Selection based on neighborhood/home quality	.121*	93.8 (91)
DRIVE_FREQ	Drive frequency to common destinations	.676**	93.8 (91)

* Cronbach's alpha below .7; omitted from further analysis
** Cronbach's alpha below .7, but retained for further analysis

Self-selection control variables were intended to distinguish attitudes and behaviors resulting from prior predispositions from those resulting from the studied neighborhoods themselves. Of the three selection index variables, reliability analysis indicated that only SEL_ACCESS ($\alpha = .635$), which measured selection based on accessibility characteristics, was sufficiently reliable. While this result was below the desired reliability coefficient threshold ($\alpha = .7$), previous research (Taylor et al., 2001) supports inclusion of index variables of with reliability coefficients (α) of .6 or higher. Given this precedent, SEL_ACCESS was retained while other index selection variables (SEL_SOC and SEL_QUAL) were excluded from further analysis.

DRIVE_FREQ, which measured drive frequency to common destinations, yielded a moderate reliability coefficient ($\alpha = .620$) when all seven initial items were evaluated. Reliability was improved ($\alpha = .676$) by removing GROCERY, WORSHIP, RESTAURANT, OTHER items, which each reflected corrected inter-item correlation values below .3. This result

was below the desired reliability threshold ($\alpha = .7$); however, this change increased the total number of valid cases substantially ($n = 91$) and, considering the accepted precedent of retaining index variables with a reliability coefficient of .6 or higher, this variable was retained.

The composition of adjusted independent index variables is detailed in Table 31.

Table 31: Composition of Adjusted Independent Index Variables

Variable	Retained items	Omitted items
SEL_ACCESS	WORK, SHOP, SW	None
DRIVE_FREQ	SCHOOL, CHILD_ACTIVITIES, EXERCISE	GROCERY, WORSHIP, RESTAURANT, OTHER

Bivariate Correlation

Bivariate correlation was evaluated for dependent and independent variables retained after reliability analysis. As described in Chapter 3, PPMC was utilized for relationships containing scale variables, and Spearman's rho was utilized for relationships not containing scale variables. Dependent-independent relationships exhibiting correlation coefficients of .3 or higher are depicted in Table 32, with dependent variables displayed across columns. Note that, for simplification purposes, bivariate correlations weaker than .3 are not depicted in this table.

Table 32: Bivariate Correlation Results

Independent variable	Coefficient	COMM_ATT	COMM_FREQ	WB_DIFF	UTIL_FREQ	AUTO_MILES
Neighborhood type	Spearman	—	—	-.613**	—	—
CS to NU mover	Spearman	—	—	—	.477**	—
Attitude toward participation	Spearman	N/A	.528**	—	—	—
Community participation frequency	Spearman	.528**	N/A	—	—	—
Selection based on safety characteristics	Spearman	.343**	.380**	—	—	—
Drive frequency to common destinations	Spearman	—	.420**	—	.437**	—
Marital status	Spearman	—	.384**	—	—	—
Household income	Spearman	—	.340**	—	—	—
Number of bicycles in household	PPMC	—	.377**	—	—	—
Household size	PPMC	—	.401**	—	—	—
Age of person 4 in household	PPMC	-.312*	—	—	—	—
Distance to work	PPMC	—	—	—	—	.542**
Driving time to work	PPMC	—	—	—	—	.549**
Employment status	PPMC	—	—	—	—	.299**
Both resident and spouse employed	PPMC	—	—	—	—	.319*

* Significant at .05 level
** Significant at .01 level

Multicollinearity

With models adjusted following reliability and correlation analyses, multicollinearity between remaining independent variables in each model was assessed. Tolerance and VIF were utilized to detect multicollinearity between predictor variables. The output of these analyses is detailed along with regression results in the hypothesis testing results section.

Only the model utilized to evaluate vehicle miles driven per week exhibited potential multicollinearity. Within this model, driving time to work and distance to work yielded tolerances of .105 and .107, respectively, and VIF values of 9.380 and 9.488, respectively. Although these values are within the desired thresholds, they were close enough to thresholds to warrant concern. Further, as driving time to work is logically related to distance to work, it is foreseeable that one of these two variables could serve as a proxy for the other. Driving time to work and distance to work had moderate, nearly identical correlations (Pearson coefficients = .549 and .542, respectively; both significant at the .01 level) with the dependent variable. As it yielded a slightly lower correlation, the distance to work variable was excluded from the vehicle miles driven per week model in favor of driving time to work. This modification decreased R-square of the vehicle miles driven per week model only slightly, from .392 to .382, and resulted in greatly improved tolerance (.968) and VIF (1.033) of the retained driving time to work predictor.

Normality and Linearity

Normality and linearity statistics of remaining variables were assessed to identify the most appropriate means of hypothesis testing. Using the statistic/standard error ratio described in Chapter 3, it was determined that dependent variables representing vehicle miles driven per week and utilitarian physical activity frequency were well outside normal thresholds. Attitude toward utilitarian physical activity had an acceptable skewness ratio (-1.159) but a kurtosis ratio (-2.441) that was just outside the normal threshold. Attitude toward participation and community participation frequency reflected skewness (-4.410 and 2.980, respectively) just outside normal thresholds but kurtosis (1.343 and 1.662, respectively) within normal thresholds. The dependent variable of interest, neighborhood type, reflected skewness and kurtosis (2.596 and -3.359, respectively) ratios just outside normal thresholds. Of control variables retained after correlation evaluation, only number of bicycles in household and household income were within normal parameters for both skewness and kurtosis, with household size being acceptably skewed but having a slightly abnormal kurtosis. Skewness and kurtosis results are depicted in Table 33 in conjunction with other descriptive statistics.

Table 33: Descriptive Statistics—Across Groups

	N	Min	Max	Mean	SD	Skewness		Kurtosis	
						Statistic	SE	Statistic	SE
Neighborhood type	97	0	1	0.350	0.480	0.636	0.245	-1.629	0.485
Attitude toward participation	94	1.75	5	3.953	0.806	-1.098	0.249	0.662*	0.493
Community participation frequency	96	1	5.60	2.452	0.962	0.733	0.246	0.811*	0.488
Vehicle miles driven per week	93	0	600	125.380	114.237	1.509	0.250	2.942	0.495
Attitude toward utilitarian physical activity	96	1	5	3.247	1.233	-0.285*	0.246	-1.191	0.488
Utilitarian physical activity frequency	97	1	7	1.473	1.078	3.647	0.245	14.484	0.485
CS to NU mover	33	0	1	0.610	0.496	-0.455*	0.409	-1.913	0.798
Selection based on safety characteristics	95	2	5	4.720	0.577	-2.605	0.247	8.621	0.490
Number of bicycles in household	97	0	7	2.720	1.760	0.272*	0.245	-0.646*	0.485
Household size	91	1	6	3.330	1.359	-0.079*	0.253	-1.032	0.500
Age of person 4 in household	48	1	75	14.880	14.842	3.021	0.343	9.572	0.674
Distance to work	65	0	105	10.469	14.359	4.699	0.297	29.459	0.586

	N	Min	Max	Mean	SD	Skewness		Kurtosis	
						Statistic	SE	Statistic	SE
Driving time to work	65	0	105	17.700	16.428	2.480	0.297	11.337	0.586
Employment status	87	0	1	0.700	0.460	-0.894	0.258	-1.229	0.511
Both resident and spouse employed	62	0	1	0.560	0.500	-0.267*	0.304	-1.994	0.599
Drive frequency to common destinations	97	1	7	2.926	1.451	0.546	0.245	-0.226*	0.485
Marital status	96	0	1	0.730	0.447	-1.048	0.246	-0.922*	0.488
Household income	83	1	8	4.880	1.699	-0.204*	0.264	-0.528*	0.523

* Quotient of statistic/std. error less than 2; indicates normal skewness or kurtosis

A number of independent variables (neighborhood type, CS to NU mover, employment status, both resident and spouse employed, marital status) were dichotomous in nature, and thus could not be evaluated for linearity. In assessing scatterplots depicting relationships between non-dichotomous variables, none of the remaining five dependent variables exhibited linearity with all independent variables contained in their respective models. Most promising among the models was community participation frequency, which depicted some degree of linearity with attitude toward participation, number of bicycles in household, household size, and drive frequency to common destinations.

The overall lack of normality and linearity among study variables posed challenges in selecting the most appropriate methods for hypothesis testing. Dependent variables vehicle miles driven and utilitarian physical activity frequency were far outside normal distribution parameters, and vehicle miles driven only exhibited linearity with predictor variable driving time to work (utilitarian physical activity frequency did not exhibit linear relationships with any contained predictor variables). The distributions of dependent variables community participation frequency and attitude toward utilitarian physical activity were just outside normal parameters. Community participation frequency exhibited the most linearity among all dependent variables with contained predictors and, given it being just outside normality parameters, is a valid candidate for multiple linear regression. The adjusted attitude toward utilitarian physical activity model contained only one predictor variable, neighborhood type. As a dichotomous variable, it is not possible to evaluate the linearity of the relationship of neighborhood type with the outcome variable. Dependent variable attitude toward participation was nearly-normally distributed, with

abnormal skewness but normal kurtosis, but it exhibited a linear relationship with only one predictor variable, community participation frequency.

While multiple logistic regression does not assume normality or linearity, any type of logistic regression requires a substantial number of cases. Generally, when logistic regression is utilized on sample sizes of less than 500, resulting beta coefficients tend to be systematically overestimated, with this overestimation decreasing as sample size increases (Nemes, Jonasson, Genell, and Steineck, 2009). This research yielded 97 total cases, far beneath the 500-case threshold for multiple logistic regression to be a viable analytic technique.

These factors in mind, linear regression was selected as the best-fitting analysis method for this research. While not a “perfect” solution given the non-parametric nature of most study variables, linear regression was deemed more appropriate than logistic regression due to the case number requirements of logistic regression.

Revised Regression Models

During regression testing, it was noted that some models contained variables that limited the number of cases evaluated or resulted in another variable being treated as a constant when evaluated in SPSS. In the model evaluating the impact of neighborhood type on attitude toward participation (Hypothesis 1), the age of person number four (P4_AGE) was found to have a moderate negative correlation (PPMC = $-.312$) with the outcome variable, but only 48 queried residents had at least four people or reported ages of all residents. When P4_AGE was removed,

the number of cases more than doubled to 91, and R^2 increased from .318 ($p = .002$) to .352 ($p = .000$). Accordingly, this variable was excluded from the final regression model utilized to evaluate hypothesis 1. Because of its case limitation impacts, P4_AGE was also excluded from the final regression model utilized to evaluate Hypothesis 7, which assessed the impact of attitude toward participation on community participation frequency.

In the model evaluating the impact of neighborhood type on vehicle miles driven per week (Hypothesis 4), it was found that the predictor variable representing households where both the responding both resident and spouse employed limited the number of viable cases to 43. When this variable was removed, the number of valid cases increased to 58, but R^2 decreased from .382 ($p = .001$) to .320 ($p = .000$). Post-hoc statistical power analyses, detailed in the next section, indicated that the strength of the model utilized to evaluate Hypothesis 4 was sufficient both with and without the both resident and spouse employed predictor. In an effort to maximize the number of valid cases, the both resident and spouse employed variable was excluded from the adjusted model for Hypothesis 4.

In the model utilized to evaluate the impact of neighborhood type on utilitarian physical activity frequency (Hypothesis 6), it was found that the inclusion of the predictor variable representing new urban (NU) residents that moved to their current neighborhood from a conventional suburban (CS) neighborhood rendered the independent variable of interest, neighborhood type, a constant. This phenomenon was a result of the nature of the CS to NU mover variable, which was only applicable to residents with a neighborhood type of “new urban”. Thus, while the CS to NU mover variable was found to be moderately and significantly correlated (.477, $p = .01$) with the outcome variable, its inclusion prevented the neighborhood

type variable from being evaluated within the corresponding model (predictor variables that are constants cannot be evaluated regression analyses). As neighborhood type was the independent variable of interest for this hypothesis, the CS to NU mover variable was omitted from the regression model utilized to evaluate Hypothesis 6.

The CS to NU mover variable was also found to limit the number of cases available for evaluation in the model utilized to assess the impact of attitude toward utilitarian physical activity on utilitarian physical activity frequency (Hypothesis 9). As described above, this predictor variable included only new urban residents; consequentially, its inclusion limited the number of cases available for evaluation in the model utilized to assess Hypothesis 9 to 33. By omitting the CS to NU mover variable, the number of cases increased to 96, although this change decreased R-square of the model from .487 to .355.

Neighborhood type was found to exhibit a moderate/strong correlation (Spearman's rho = .613) with only one dependent variable, attitude toward utilitarian physical activity (hypothesis 5). However, this variable was retained in all models assessing hypotheses where neighborhood type was the independent variable of interest (Hypotheses 1, 2, 4, 5, and 6).

Adjusted regression models, which reflect the variable omissions described above, are depicted in Figure 13. (* Denotes independent variable of interest.)

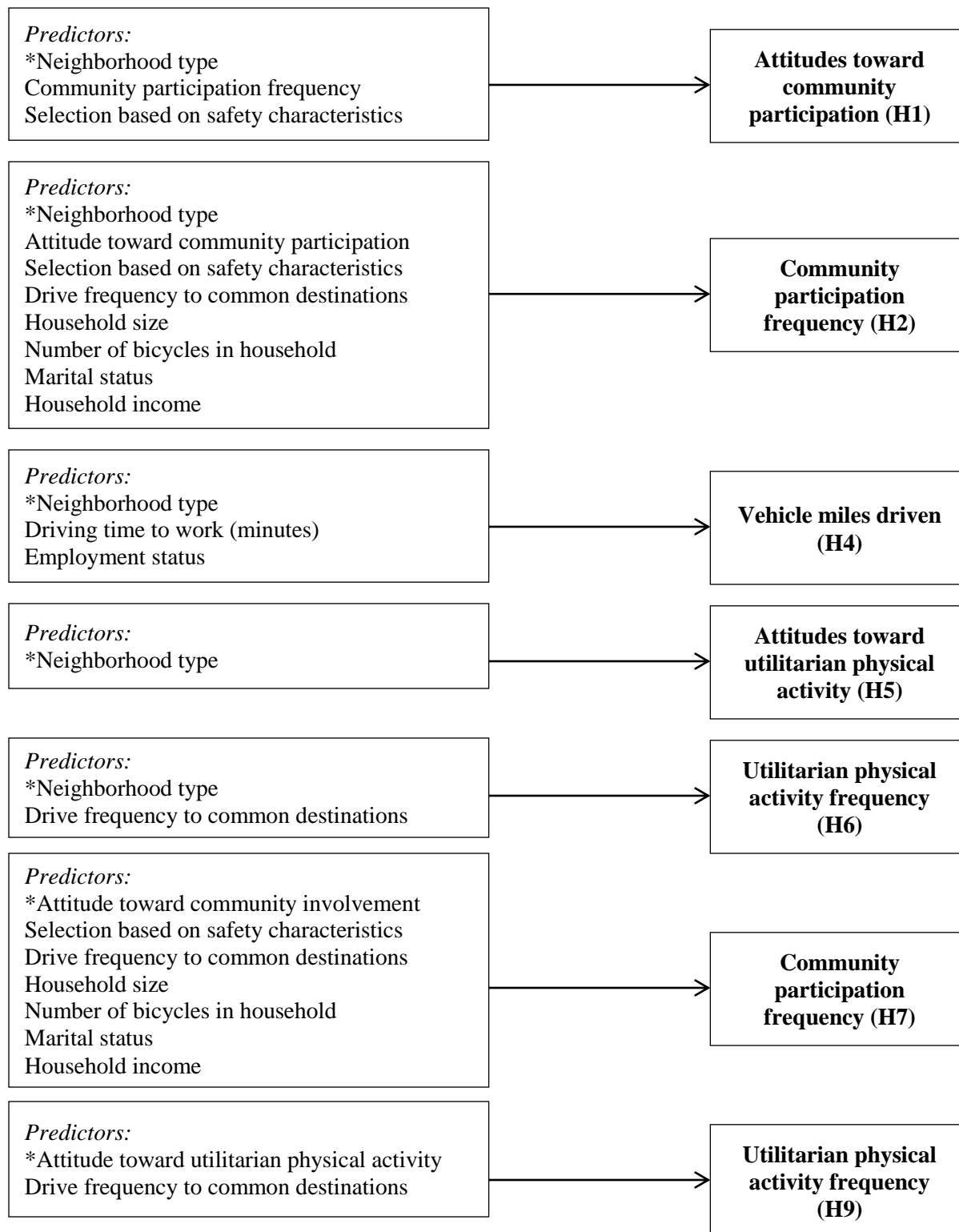


Figure 13: Revised Regression Models

Hypothesis Testing Results

Multiple and simple linear regression were utilized to evaluate each of the seven viable models in this study (models corresponding with Hypotheses 3 and 8 were eliminated following reliability analysis, thus reducing the number of testable models from nine to seven). Evaluated hypotheses included:

- **H1:** Impact of neighborhood type on attitude toward participation
- **H2:** Impact of neighborhood type on community participation frequency
- **H4:** Impact of neighborhood type on vehicle miles driven per week
- **H5:** Impact of neighborhood type on attitude toward utilitarian physical activity
- **H6:** Impact of neighborhood type on utilitarian physical activity frequency
- **H7:** Impact of attitude toward participation on community participation frequency
- **H9:** Impact of attitude toward utilitarian physical activity on utilitarian physical activity frequency

Hypotheses were evaluated by running sequential control variable only and integrated (control variables combined with the independent variable of interest) regression models. This methodology enabled direct evaluation of the addition of the independent variable of interest to regression models. For models corresponding to Hypotheses 1, 2, 4, 5, and 6, the independent variable of interest was neighborhood type. For models corresponding to Hypotheses 7 and 9, the independent variables of interest were attitude toward participation and attitude toward utilitarian physical activity, respectively. Note that, because Hypothesis 5 contained only one

predictor variable (neighborhood type, the independent variable of interest), it was evaluated through a single regression model.

Hypothesis 1: Impact of Neighborhood Type on Attitude Toward Participation

Table 34 depicts descriptive statistics for dependent and control variables included in the regression models utilized to evaluate Hypothesis 1. Descriptive statistics were evaluated for each neighborhood type and across neighborhood types. Evaluation of the dependent variable, attitude toward participation (captured on a five-point scale, where a score of five denotes the most positive attitudes), indicated that attitudes were slightly more positive among new urban residents (mean = 4.024) than conventional suburban residents (mean = 3.935), while community participation frequency (also on a five-point scale, where a score of five denotes the highest participation frequency) were slightly higher among conventional suburban residents (mean = 2.576) than new urban residents (mean = 2.355). Evaluation of the control variable measuring neighborhood selection based on safety characteristics (captured on a five-point “importance” scale, where a score of five is “extremely important”) indicated that conventional suburban residents (mean = 4.760) were slightly more likely to base their neighborhood selection decision on safety characteristics than new urban residents (mean = 4.630), but that safety was an important characteristic across both neighborhood types. These findings are representative of 94.1% (N = 32) of total new urban cases, 93.7% (N = 59) of total conventional suburban cases, and 93.8% (N = 91) of total survey cases.

Table 34: Impact of Neighborhood Type on Attitude Toward Participation—Descriptive Statistics

Variable	NU			CS			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Attitude toward participation	4.024	.876	32	3.935	.785	59	3.967	.814	91
Community participation frequency	2.355	.986	32	2.576	.931	59	2.498	.951	91
Selection based on safety characteristics	4.630	.660	32	4.760	.536	59	4.710	.583	91

NU = New urban
CS = Conventional suburban

The model summary provided in Table 35 illustrates that the control variable model (model 1) explained 33.5% of variance in attitude toward participation, while the integrated model (model 2) explained 35.2% of variance (R^2 change = .017). F test results indicate that the variance explained by the control variable model was statistically significant ($p = .000$), while the change in F resulting from the inclusion of the independent variable of interest in the integrated model was not statistically significant ($p = .133$).

Table 35: Impact of Neighborhood Type on Attitude Toward Participation—Model Summary

Model	R	R ²	Adjusted R ²	SE of Estimate	Change statistics				
					R ² change	F change	df1	df2	Sig. F change
1	.578 ^a	.335	.319	.672	.335	22.122	2	88	.000
2	.593 ^b	.352	.329	.667	.017	2.296	1	87	.133

a. Predictors: (Constant), SEL_SAFETY, COMM_FREQ
b. Predictors: (Constant), SEL_SAFETY, COMM_FREQ, NH_TYPE

Multiple regression output provided in Table 36 depicts a statistically significant relationship between community participation frequency and attitude toward participation in both control variable ($p = .000$) and integrated ($p = .000$) models. Likewise, selection based on safety characteristics exhibited a statistically significant relationship with the dependent variable in control variable ($p = .006$) and integrated ($p = .004$) models. However, congruent with F test findings depicted in Table 35, the independent variable of interest, neighborhood type ($p = .133$), did not exhibit a statistically significant relationship with the dependent variable. Accordingly, *the null hypothesis was accepted.*

Table 36: Impact of Neighborhood Type on Attitude Toward Participation—Multiple Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	1.310	.578		2.265	.026	.160	2.459		
	Community participation frequency	.360	.081	.421	4.465	.000	.200	.521	.852	1.174
	Selection based on safety characteristics	.373	.132	.267	2.831	.006	.111	.634	.852	1.174
2	(Constant)	1.136	.585		1.942	.055	-.027	2.300		
	Community participation frequency	.369	.080	.431	4.598	.000	.210	.529	.847	1.181
	Selection based on safety characteristics	.388	.131	.278	2.960	.004	.127	.648	.847	1.181
	Neighborhood type	.224	.148	.132	1.515	.133	-.070	.518	.982	1.019

Dependent variable: Attitude toward participation
 N = 91

Hypothesis 2: Impact of Neighborhood Type on Community Participation Frequency

Table 37 depicts descriptive statistics for dependent and control variables included in the model regression models utilized to evaluate Hypothesis 2. Descriptive statistics were evaluated for each neighborhood type and across neighborhood types. Evaluation of the dependent variable, community participation frequency, indicated that conventional suburban residents (mean = 2.583) participated slightly more frequently than new urban residents (mean = 2.435) and that both groups exhibited moderate participation frequencies based on the parameters of the provided frequency scale. In contrast, new urban residents (mean = 3.970) had slightly more positive attitudes toward participation than conventional suburban residents (mean = 3.887) and that both groups exhibited fairly positive attitudes within the provided attitudinal scale. Conventional suburban residents (mean = 4.720) were slightly more likely to base their selection decision on neighborhood safety characteristics than new urban residents (mean = 4.670), while both groups reported that safety was an important selection influencer within the provided importance scale. These findings are consistent with those pertaining to Hypothesis 1. Evaluation of the control variable measuring drive frequency to common destinations (captured on a five-point scale, where a score of five denotes the highest frequency) indicated that conventional suburban residents (mean = 1.413) made slightly more frequent trips than new urban residents (mean = 1.330), and that the driving trip frequency for both groups was fairly low within the provided frequency scale. Evaluation of household size across neighborhood types indicated that conventional suburban households (mean = 3.740 persons per household) were approximately 17% larger than new urban households (mean = 3.110 persons per

household). With mean values of 2.890 and 2.860, new urban and conventional suburban households, respectively, contained roughly the same number of bicycles. Eighty-one percent of new urban respondents evaluated in the model were married, compared to 76% of conventional suburban respondents. Mean household incomes (represented by an eight-point scale, where a value of eight denotes the highest income bracket) for both neighborhoods hovered around the scale value of five, denoting an average household income range of \$100,000 to \$149,000 for each neighborhood. These findings are representative of 79.4% (N = 27) of total new urban cases, 79.4% (N = 50) of total conventional suburban cases, and 79.4% (N = 77) of total survey cases.

Table 37: Impact of Neighborhood Type on Community Participation Frequency—Descriptive Statistics

Variable	NU			CS			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Community participation frequency	2.435	1.053	27	2.583	.986	50	2.531	1.005	77
Attitude toward participation	3.970	.929	27	3.887	.796	50	3.916	.840	77
Selection based on safety characteristics	4.670	.679	27	4.720	.573	50	4.700	.608	77
Drive frequency to common destinations	2.716	1.330	27	3.177	1.413	50	3.015	1.393	77
Household size	3.110	1.251	27	3.740	1.291	50	3.520	1.304	77
Number of bicycles in household	2.890	1.968	27	2.860	1.702	50	2.870	1.787	77
Marital status	.810	.396	27	.760	.431	50	.780	.417	77
Household income	4.960	1.891	27	5.020	1.558	50	5.000	1.670	77

NU = New urban
 CS = Conventional suburban

The model summary provided in Table 38 illustrates that the control variable model (model 1) explained 42.1% of variance in community participation frequency, while the integrated model (model 2) explained 42.4% of variance (R^2 change = .003). F test results indicate that the variance explained by the control variable model was statistically significant ($p = .000$), while the change in F resulting from the inclusion of the independent variable of interest in the integrated model was not statistically significant ($p = .527$).

Table 38: Impact of Neighborhood Type on Community Participation Frequency—Model Summary

Model	R	R^2	Adjusted R^2	SE of the Estimate	Change statistics				
					R^2 change	F change	df1	df2	Sig. F change
1	.649a	.421	.362	.803	.421	7.157	7	69	.000
2	.651b	.424	.356	.807	.003	.404	1	68	.527

a. Predictors: (Constant), INCOME, SEL_SAFETY, DRIVE_FREQ, MARRIED, COMM_ATT, NUM_BIKE, HH_SIZE

b. Predictors: (Constant), INCOME, SEL_SAFETY, DRIVE_FREQ, MARRIED, COMM_ATT, NUM_BIKE, HH_SIZE, NH_TYPE

Multiple regression output provided in Table 39 depicts a statistically significant relationship between attitude toward participation and community participation frequency in both control variable ($p = .000$) and integrated ($p = .000$) models. While dependent and independent roles of these variables are reversed, the significance of the relationship between these variables is consistent with findings pertaining to Hypothesis 1. Supporting F test results, neither neighborhood type ($p = .527$) nor other variables evaluated in control variable or integrated

models were found to exhibit statistically significant relationships with the dependent variable.

Accordingly, the *null hypothesis was accepted*.

Table 39: Impact of Neighborhood Type on Community Participation Frequency—Multiple Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	-1.325	.764		-1.736	.087	-2.848	.198		
	Attitude toward participation	.501	.127	.419	3.959	.000	.249	.754	.751	1.331
	Selection based on safety characteristics	.228	.179	.138	1.272	.208	-.130	.586	.713	1.403
	Drive frequency to common destinations	.101	.075	.140	1.350	.182	-.048	.251	.779	1.284
	Household size	.026	.101	.034	.257	.798	-.175	.227	.491	2.035
	Number of bicycles in household	.124	.066	.221	1.887	.063	-.007	.256	.611	1.637
	Marital status	-.039	.266	-.016	-.145	.885	-.569	.492	.688	1.453
	Household income	.020	.062	.033	.318	.752	-.104	.143	.799	1.252
2	(Constant)	-1.249	.776		-1.609	.112	-2.798	.300		
	Attitude toward participation	.508	.128	.424	3.981	.000	.253	.762	.746	1.341
	Selection based on safety characteristics	.224	.180	.135	1.241	.219	-.136	.584	.712	1.405
	Drive frequency to common destinations	.097	.075	.135	1.291	.201	-.053	.248	.774	1.292

Model	Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
	B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
Household size	.007	.106	.009	.065	.948	-.204	.218	.452	2.214
Number of bicycles in household	.130	.067	.231	1.945	.056	-.003	.263	.601	1.665
Marital status	-.009	.271	-.004	-.034	.973	-.550	.532	.668	1.496
Household income	.020	.062	.034	.326	.745	-.103	.144	.799	1.252
Neighborhood type	-.131	.206	-.062	-.635	.527	-.542	.280	.876	1.142

Dependent variable: Community participation frequency
N = 77

Hypothesis 4: Impact of Neighborhood Type on Vehicle Miles Driven Per Week

Table 40 depicts descriptive statistics for dependent and control variables included in the model regression models utilized to evaluate Hypothesis 4. Descriptive statistics were evaluated for each neighborhood type and across neighborhood types. Evaluation of the dependent variable, vehicle miles drive per week, indicated that conventional suburban residents (mean = 158.080 miles per week) drove 17.5% more miles per week than new urban residents (mean = 134.520 miles per week), while the commute time of new urban residents (mean = 17.714 minutes) was 20.8% longer than that of conventional suburban residents (mean = 19.095 minutes). Ninety-seven percent of conventional suburban residents evaluated in the model were employed at least part time, compared to 86% of new urban residents. These findings are representative of 61.8% (N = 21) of total new urban cases, 58.7% (N = 37) of total conventional suburban cases, and 59.8% (N = 58) of total survey cases.

Table 40: Impact of Neighborhood Type on Vehicle Miles Driven Per Week—Descriptive Statistics

Variable	NU			CS			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Vehicle miles driven per week	134.520	162.956	21	158.080	96.251	37	149.550	123.689	58
Driving time to work	17.714	23.070	21	19.095	12.212	37	18.595	16.774	58
Employment status	.860	.359	21	.970	.164	37	.930	.256	58

NU = New urban
 CS = Conventional suburban

The model summary provided in Table 41 illustrates that the control variable model (model 1) explained 31.7% of variance in vehicle miles driven per week, while the integrated model (model 2) explained 32.0% of variance (R^2 change = .003). F test results indicate that the variance explained by the control variable model was statistically significant ($p = .000$), while the change in F resulting from the inclusion of the independent variable of interest in the integrated model was not statistically significant ($p = .619$).

Table 41: Impact of Neighborhood Type on Vehicle Miles Driven Per Week—Model Summary

Model	R	R ²	Adjusted R ²	SE of the Estimate	Change statistics				
					R ² change	F change	df1	df2	Sig. F change
1	.563a	.317	.292	104.049	.317	12.775	2	55	.000
2	.566b	.320	.283	104.766	.003	.250	1	54	.619

a. Predictors: (Constant), EMPLOYED, TIME_WORK
b. Predictors: (Constant), EMPLOYED, TIME_WORK, NH_TYPE

Multiple regression output provided in Table 42 depicts a statistically significant relationship between driving time to work and vehicle miles driven per week in both control variable ($p = .000$) and integrated ($p = .000$) models. Neither neighborhood type ($p = .619$) nor other variables evaluated in control variable or integrated models exhibited statistically significant relationships with the dependent variable. Accordingly, the *null hypothesis was accepted*.

Table 42: Impact of Neighborhood Type on Vehicle Miles Driven Per Week—Multiple Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	42.197	52.532		.803	.425	-63.080	147.474		
	Driving time to work	4.035	.832	.547	4.847	.000	2.366	5.703	.974	1.027
	Employment status	34.726	54.631	.072	.636	.528	-74.756	144.209	.974	1.027
2	(Constant)	53.220	57.302		.929	.357	-61.664	168.103		
	Driving time to work	4.033	.838	.547	4.811	.000	2.352	5.713	.974	1.027
	Employment status	28.633	56.340	.059	.508	.613	-84.323	141.588	.928	1.077
	Neighborhood type	-14.674	29.341	-.058	-.500	.619	-73.499	44.150	.952	1.051

Dependent variable: Vehicle miles driven per week

N = 58

Hypothesis 5: Impact of Neighborhood Type on Attitude Toward Utilitarian Physical Activity

Unlike other models evaluating the impact of neighborhood type on dependent variables, the final model representing the impact of neighborhood type on attitude toward utilitarian physical activity contained no control variables (all control variables were eliminated from the model due to lack of sufficient bivariate correlation). Thus, only one model, inclusive of the independent variable of interest, was evaluated for Hypothesis 5.

Table 43 depicts descriptive statistics for the model regression model utilized to evaluate Hypothesis 5. Descriptive statistics were evaluated for each neighborhood type and across neighborhood types. The dependent variable, attitude toward utilitarian physical activity, was based on a five-point scale of perceived difficulty to walk or ride a bicycle to common destinations, where a score of five denotes the highest level of difficulty. Between-group comparison indicated that conventional suburban residents (mean = 3.809) found it much more difficult to reach common destinations on foot or bicycle than new urban residents (mean = 2.221). Bivariate correlation results (Spearman's $\rho = -.613$) further explained this relationship: as neighborhood type increased from zero (conventional suburban) to one (new urban), the perceived difficulty to walk or bike to common destinations decreased. Due to the nature of this scale, this result was interpreted as new urban residents exhibiting more positive attitudes toward utilitarian physical activity than conventional suburban residents.

Table 43: Impact of Neighborhood Type on Attitude Toward Utilitarian Physical Activity—Descriptive Statistics

Variable	NU			CS			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Attitude toward utilitarian physical activity	2.221	0.957	34	3.809	0.981	62	3.247	1.233	96

NU = New urban
 CS = Conventional suburban

The model summary provided in Table 44 illustrates that 38.4% of variance in attitude toward utilitarian physical activity could be explained by neighborhood type alone. F test results indicate that the variance explained by this model was statistically significant ($p = .000$).

Table 44: Impact of Neighborhood Type on Attitude Toward Utilitarian Physical Activity—
Model Summary

Model	R	R ²	Adj. R ²	SE of the Estimate	Change statistics				
					R ² change	F change	df1	df2	Sig. F change
1	.619 ^a	.384	.377	.973	.384	58.494	1	94	.000

a. Predictors: (Constant), neighborhood type

As indicated by the F test result, regression output provided in Table 45 depicts a statistically significant relationship between neighborhood type and attitude toward utilitarian physical activity ($p = .000$). While it was anticipated that new urban residents would reflect more positive attitudes toward utilitarian physical activity than their conventional suburban counterparts, due to the statistical significance of this relationship, the *null hypothesis was rejected*.

Table 45: Impact of Neighborhood Type on Attitude Toward Utilitarian Physical Activity—Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	3.809	.124		30.829	.000	3.564	4.054		
	Neighborhood type	-1.588	.208	-.619	-7.648	.000	-2.000	-1.176	1.000	1.000

Dependent variable: Attitude toward utilitarian physical activity
N = 96

Hypothesis 6: Impact of Neighborhood Type on Utilitarian Physical Activity Frequency

Table 46 depicts descriptive statistics for dependent and control variables included in the model regression models utilized to evaluate Hypothesis 6. Descriptive statistics were evaluated for each neighborhood type and across neighborhood types. Evaluation of the dependent variable, utilitarian physical activity frequency, indicated that conventional suburban residents (mean = 1.487) engaged in utilitarian activities slightly more frequently than new urban residents (mean = 1.4461), although the rate of utilitarian activity was low across both groups. New urban residents (mean = 2.4510) made slightly fewer driving trips to common destinations than conventional suburban residents (mean = 2.926). These findings are representative of 100% (N = 34) of total new urban cases, 100% (N = 63) of total conventional suburban cases, and 100% (N = 97) of total survey cases.

Table 46: Impact of Neighborhood Type on Utilitarian Physical Activity Frequency—Descriptive Statistics

Variable	NU			CS			Total		
	Mean	SD	N	Mean	SD.	N	Mean	SD.	N
Utilitarian physical activity frequency	1.446	1.004	34	1.487	1.123	63	1.473	1.0776	97
Drive frequency to common destinations	2.451	1.321	34	3.183	1.464	63	2.926	1.4514	97

NU = New urban
CS = Conventional suburban

The model summary provided in Table 47 illustrates that the control variable model (model 1) explained 29.9% of variance in utilitarian physical activity frequency, while the integrated model (model 2) explained 31.3% of variance (R^2 change = .014). F test results indicate that the variance explained by the control variable model was statistically significant ($p = .000$), while the change in F resulting from the inclusion of the independent variable of interest in the integrated model was not statistically significant ($p = .172$).

Table 47: Impact of Neighborhood Type on Utilitarian Physical Activity Frequency—Model Summary

Model	R	R ²	Adjusted R ²	SE of the Estimate	Change statistics				
					R ² change	F change	df1	df2	Sig. F change
1	.547a	.299	.292	.907	.299	40.531	1	95	.000
2	.559b	.313	.298	.903	.014	1.891	1	94	.172

a. Predictors: (Constant), drive frequency to common destinations
b. Predictors: (Constant), drive frequency to common destinations, neighborhood type

Multiple regression output provided in Table 48 depicts a statistically significant relationship between drive frequency to common destinations and utilitarian physical activity frequency in both control variable ($p = .000$) and integrated ($p = .000$) models. Congruent with F test results, neighborhood type ($p = .172$) did not exhibit a statistically significant relationship with the dependent variable in the integrated model. Accordingly, the *null hypothesis was accepted*.

Table 48: Impact of Neighborhood Type on Utilitarian Physical Activity Frequency—Multiple Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	.284	.208		1.367	.175	-.129	.698		
	Drive frequency to common destinations	.406	.064	.547	6.366	.000	.279	.533	1.000	1.000
2	(Constant)	.125	.237		.528	.599	-.346	.596		
	Drive frequency to common destinations	.428	.065	.576	6.539	.000	.298	.558	.942	1.062
	Neighborhood type	.272	.198	.121	1.375	.172	-.121	.665	.942	1.062

Dependent variable: Utilitarian physical activity frequency
 N = 97

Hypothesis 7: Impact of Attitude Toward Participation on Participation Frequency

While neighborhood type was the independent variable of interest in Hypotheses 1—6, Hypotheses 7—9 evaluated the impact of attitudes on corresponding behaviors across all queried residents to assess whether attitudes were a precursor to behaviors. Correspondingly, descriptive statistics were evaluated for the entire sample, irrespective of neighborhood type.

Table 49 depicts descriptive statistics for dependent and control variables included in the model regression models utilized to evaluate Hypothesis 7. Evaluation of the dependent variable, community participation frequency, depicted a moderate frequency (mean = 2.531) across the sample. In contrast, attitude toward participation (mean = 3.916) was fairly strong. These findings, which were representative of 79.4% (N = 77) of total survey cases, indicate that positive attitudes toward participation do not necessarily translate to equivalent participatory behaviors.

Table 49: Impact of Attitude Toward Participation on Community Participation Frequency—
Descriptive Statistics

	Mean	SD	N
Community participation frequency	2.531	1.005	77
Selection based on safety characteristics	4.70	.608	77
Drive frequency to common destinations	3.015	1.393	77
Number of bicycles in household	2.87	1.787	77
Household size	3.52	1.304	77
Marital status	.78	.417	77
Household income	5.00	1.670	77
Attitude toward participation	3.916	.840	77

Dependent variable: Community participation frequency

The model summary provided in Table 50 illustrates that the control variable model (model 1) explained 28.9% of variance in community participation frequency, while the integrated model (model 2) explained 42.1% of variance (R^2 change = .132). F test results indicate that the variance explained by the control variable model was statistically significant ($p = .000$), as was the change in F resulting from the inclusion of the independent variable of interest in the integrated model ($p = .000$).

Table 50: Impact of Attitude Toward Participation on Community Participation Frequency—Model Summary

Model	R	R ²	Adj. R ²	SE of the Estimate	Change statistics				Sig. F change
					R ² change	F change	df1	df2	
1	.538a	.289	.228	.883	.289	4.743	6	70	.000
2	.649b	.421	.362	.803	.132	15.674	1	69	.000

a. Predictors: (Constant), INCOME, SEL_SAFETY, DRIVE_FREQ, MARRIED, NUM_BIKE, HH_SIZE

b. Predictors: (Constant), INCOME, SEL_SAFETY, DRIVE_FREQ, MARRIED, NUM_BIKE, HH_SIZE, COMM_ATT

Multiple regression output provided in Table 51 depicts a statistically significant relationship between selection based on safety characteristics and community participation frequency in the control variable ($p = .000$) model, but not in the integrated ($p = .208$) model. Other control variables were not found to exhibit statistically significant relationships with the dependent variable. Consistent with F test results, attitude toward participation ($p = .000$) exhibited a statistically significant relationship with the dependent variable in the integrated model. Despite the finding that positive attitudes toward participation did not necessarily yield equivalent participation frequencies, due to the relationship between the independent variable of interest and the dependent variable, the *null hypothesis was rejected*.

Table 51: Impact of Attitude Toward Participation on Community Participation Frequency—Multiple Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	-1.049	.836		-1.254	.214	-2.716	.619		
	Selection based on safety characteristics	.542	.177	.328	3.066	.003	.190	.895	.886	1.128
	Drive frequency to common destinations	.130	.082	.180	1.584	.118	-.034	.294	.786	1.272
	Number of bicycles in household	.125	.073	.223	1.727	.089	-.019	.270	.611	1.637
	Household size	.013	.111	.016	.114	.910	-.208	.234	.492	2.033
	Marital status	.037	.292	.015	.125	.901	-.545	.619	.692	1.446
	Household income	.041	.068	.068	.608	.545	-.094	.176	.805	1.242
2	(Constant)	-1.325	.764		-1.736	.087	-2.848	.198		
	Selection based on safety characteristics	.228	.179	.138	1.272	.208	-.130	.586	.713	1.403
	Drive frequency to common destinations	.101	.075	.140	1.350	.182	-.048	.251	.779	1.284
	Number of bicycles in household	.124	.066	.221	1.887	.063	-.007	.256	.611	1.637
	Household size	.026	.101	.034	.257	.798	-.175	.227	.491	2.035

Model	Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
	B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
Marital status	-.039	.266	-.016	-.145	.885	-.569	.492	.688	1.453
Household income	.020	.062	.033	.318	.752	-.104	.143	.799	1.252
Attitude toward participation	.501	.127	.419	3.959	.000	.249	.754	.751	1.331

Dependent variable: Community participation frequency
N = 77

Hypothesis 9: Impact of Attitude Toward Utilitarian Physical Activity on Utilitarian Physical Activity Frequency

Table 52 depicts descriptive statistics for dependent and control variables included in the model regression models utilized to evaluate Hypothesis 9. Evaluation of the dependent variable, utilitarian physical activity frequency, depicted a low frequency (mean = 1.477) across the sample. In contrast, attitude toward utilitarian physical activity (mean = 3.247) was moderate. These findings, which were representative of 99% (N = 96) of total survey cases, indicate that positive attitudes toward utilitarian physical activity do not necessarily translate to equivalent utilitarian physical activity behaviors.

Table 52: Impact of Attitude Toward Utilitarian Physical Activity on Utilitarian Physical Activity Frequency—Descriptive Statistics

	Mean	SD	N
Utilitarian physical activity frequency	1.477	1.082	96
Drive frequency to common destinations	2.946	1.445	96
Attitude toward utilitarian physical activity	3.247	1.233	96
Dependent variable: Utilitarian physical activity frequency			

The model summary provided in Table 53 illustrates that the control variable model (model 1) explained 29.9% of variance in utilitarian physical activity frequency, while the integrated model (model 2) explained 35.5% of variance (R^2 change = .057). F test results indicate that the variance explained by the control variable model was statistically significant

($p = .000$), as was the change in F resulting from the inclusion of the independent variable of interest in the integrated model ($p = .005$).

Table 53: Impact of Attitude Toward Utilitarian Physical Activity on Utilitarian Physical Activity Frequency—Model Summary

Model	R	R ²	Adjusted R ²	SE of the Estimate	Change statistics				
					R ² change	F change	df1	df2	Sig. F change
1	.546a	.299	.291	.911	.299	40.002	1	94	.000
2	.596b	.355	.341	.878	.057	8.197	1	93	.005

a. Predictors: (Constant), DRIVE_FREQ
b. Predictors: (Constant), DRIVE_FREQ, WB_DIFF

Multiple regression output provided in Table 54 depicts a statistically significant relationship between drive frequency to common destinations in both control variable ($p = .000$) and integrated ($p = .000$) models. Consistent with F test results, attitude toward utilitarian physical activity ($p = .005$) exhibited a statistically significant relationship with the dependent variable in the integrated model. Despite the finding that positive attitudes toward utilitarian physical activity did not necessarily yield equivalent utilitarian activity frequencies, due to the relationship between the independent variable of interest and the dependent variable, the *null hypothesis was rejected*.

Table 54: Impact of Attitude Toward Utilitarian Physical Activity on Utilitarian Physical Activity Frequency—Multiple Regression Coefficients

Model		Unstandardized coefficients		Stand. coeff.	t	Sig.	95.0% CI for B		Collinearity statistics	
		B	SE	Beta			Lower bound	Upper bound	Tol.	VIF
1	(Constant)	.272	.212		1.284	.202	-.149	.693		
	Drive frequency to common destinations	.409	.065	.546	6.325	.000	.281	.537	1.000	1.000
2	(Constant)	.849	.287		2.959	.004	.279	1.419		
	Drive frequency to common destinations	.450	.064	.601	7.034	.000	.323	.577	.951	1.052
	Attitude toward utilitarian physical activity	-.215	.075	-.244	-2.863	.005	-.364	-.066	.951	1.052

Dependent variable: Utilitarian physical activity frequency
N = 96

Quantitative Findings Summary

Hypotheses concerning the impact of neighborhood type on attitudinal and behavioral aspects of participation were not supported, and accompanying null hypotheses were accepted. The hypothesis regarding attitude toward automobile travel could not be tested, as the dependent variable for this model was not sufficiently reliable. Neighborhood type was not found to be a significant predictor of vehicle miles driven per week, and the accompanying null hypothesis was accepted. Neighborhood type was found to be a significant predictor of attitude toward utilitarian physical activity, with new urban residents more likely to have positive attitudes; the accompanying null hypothesis was rejected. Neighborhood type was not a significant predictor of utilitarian physical activity frequency, and the accompanying null hypothesis was accepted.

In assessing the impacts of attitudes on corresponding behaviors, attitude toward participation was found to be a significant determinant of participation frequency across all queried respondents. Accordingly, the associated null hypothesis was rejected. Because the index variable for attitudes toward driving was found to be insufficiently reliable, the hypothesis regarding the impact of driving attitudes on vehicle miles driven per week could not be tested. Finally, attitude toward utilitarian physical activity was found to be a significant predictor of utilitarian physical activity frequency, and the corresponding null hypothesis was rejected.

Hypothesis testing results are summarized in Table 55.

Table 55: Summary of Hypothesis Testing Results

Hypothesis	Description	Result
H1	Impact of neighborhood type on attitudes toward participation	Null accepted
H2	Impact of neighborhood type on community participation frequency	Null accepted
H3	Impact of neighborhood type on attitudes toward driving	Not tested*
H4	Impact of neighborhood type on vehicle miles driven per week	Null accepted
H5	Impact of neighborhood type on attitude toward utilitarian physical activity	Null rejected
H6	Impact of neighborhood type on utilitarian physical activity frequency	Null accepted
H7	Impact of attitude toward participation on community participation frequency	Null rejected
H8	Impact of attitude toward automobile travel on vehicle miles driven per week	Not tested*
H9	Impact of attitude toward utilitarian physical activity on utilitarian physical activity frequency	Null rejected

* Dependent index variable measuring attitude toward automobile travel (DRIVE_ATT) not sufficiently reliable for hypothesis testing

Post-Hoc Power Analysis

As detailed in Table 56, post-hoc analyses yielded strong statistical powers for each regression model tested, indicating a minimal likelihood of making Type I (incorrectly rejecting the null hypothesis; false positive) or Type II (failing to reject the null; false negative) errors.

Table 56: Post-Hoc Power Analysis

	Hypothesis	Predictor variables	Observed R ²	Sample size	P-value	Calculated power
H1	Impact of neighborhood type on attitude toward participation	3	0.352	91	0.05	0.999991
H2	Impact of neighborhood type on community participation frequency	8	0.424	77	0.05	0.999930
H4	Impact of neighborhood type on vehicle miles driven per week	3	0.320	58	0.05	0.993968
H5	Impact of neighborhood type on attitude toward utilitarian physical activity	1	0.384	96	0.05	0.999999
H6	Impact of neighborhood type on utilitarian physical activity frequency	2	0.313	97	0.05	0.999988
H7	Impact of attitude toward participation on community participation frequency	7	0.421	77	0.05	0.999954
H9	Impact of attitude toward utilitarian physical activity on utilitarian physical activity frequency	2	0.355	96	0.05	0.999999

Qualitative Findings

Open-Ended Survey Questions

Factors Influencing Neighborhood Selection

Survey respondents were posed with open-ended questions ‘What was the most important factor in your selection decision?’ and ‘Were there any other factors that influenced your decision?’ to gather subjective information beyond Likert-type questions regarding neighborhood selection. Because ‘most important’ responses were representative of ‘other factor’ responses, only the former were tabulated. These responses were categorized based on common themes, as detailed in Table 57.

Table 57: Selection—Most Important

Selection factor	Celebration		Sweetwater	
	N	% Total	N	% Total
Neighborhood appearance, quality, or physical characteristics	5	16.67	3	5.36
Quality of schools	4	13.33	30	53.57
Social characteristics (1)	4	13.33	1	1.79
Proximity to work	3	10.00	0	0.00
Affiliation with WDC brand (2)	3	10.00	0	N/A
Location or area (general)	2	6.67	5	8.93
Neighborhood safety	2	6.67	0	0.00
Utilitarian accessibility to downtown Celebration	2	6.67	0	N/A
Access to nature, recreation	1	3.33	4	7.14
Characteristics of home or property itself	1	3.33	8	14.29
Price, value of home	1	3.33	4	7.14
Proximity to family, friends	1	3.33	1	1.79
Proximity to schools	1	3.33	0	0.00
Totals	30	100.00	56	100.00

(1) Sense of community, community activities, family-oriented
(2) Celebration reputation; proximity to Walt Disney World

Celebration residents reported a range of ‘most important’ selection factors, with neighborhood appearance, quality, or physical characteristics being the most common (reported by 16.67% of respondents) theme. Slightly smaller proportions of respondents (13.33%) reported that quality of schools and social characteristics were top selection factors. Other influential factors included proximity to work and affiliation of Celebration with the WDC brand (10%).

Sweetwater responses were more concentrated, with 53.57% of residents reporting that quality of schools was the most important factor in their selection decision. As described later in this chapter, this finding is consistent with interview feedback. Following quality of schools, 14.29% of Sweetwater respondents reported that characteristics of the home or property itself

was the most important factor in the selection process. Other influential factors included being located in the central Florida region (8.93%), access to nature and recreation (7.14%), and the price/value of the home (7.14%).

Factors Influencing Decision to Participate

Survey respondents were also posed with an open-ended question inquiring about the first-, second-, and third-most influential factors in their decision to participate in community or neighborhood activities. Reported first-most influential factors were representative of second- and third-most influential factors, and thus only the former were tabulated and, as detailed in Table 58, grouped by theme.

A majority of respondents from both neighborhoods reported that timing (lack of time, or conflicts with other activities or obligations) was the most influential factor in their decision to participate. Following timing challenges, respondents were influenced by a variety of other challenges specific to their households. Level of interest and cost were reported by a smaller proportion of residents as the most influential factor in their decision to participate. A number of other factors, including type of activity, illness/lack of ability to participate, the presence of children in the household/children's needs, and other people that are participating also influenced the participate decision.

Table 58: Participation—Most Significant Contributor

Participation factor	Celebration		Sweetwater	
	N	% Total	N	% Total
Time/scheduling	19	59.38	32	54.24
Other*	5	15.63	10	16.95
Interest	3	9.38	4	6.78
Cost	2	6.25	5	8.47
Distance	1	3.13	2	3.39
Lack of activities	1	3.13	6	10.17
Transportation	1	3.13	0	0.00
Totals	32	100.00	59	100.00

* Other factors included type of activity, illness/lack of ability to participate, the presence of children in the home/children’s needs, and other people that are participating

Interview Findings

Interviews of Celebration and Sweetwater residents provided further insights into neighborhood selection factors, attitudinal and behavioral aspects of outcome variables assessed in quantitative analysis, regional factors impacting transportation attitudes and choices, and overall neighborhood satisfaction. A total of 20 interviews (including 10 Celebration residents and 10 Sweetwater residents) were conducted.

Characteristics of Celebration and Sweetwater interview participants are summarized in Table 59 and Table 60, respectively.

Table 59: Interview Participant Characteristics—Celebration

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Recruitment method	HOA meeting	HOA meeting	HOA meeting	HOA meeting	Personal contact	Personal contact	Referral	Referral	Referral	Chance meeting
Interview method	Group 1	Group 1	Group 1	Group 1	Group 2	Group 2	Group 2	Phone	Phone	In-person
Sex	Male	Male	Male	Male	Male	Female	Female	Female	Female	Male
Married	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Children in HH	Yes	No	No	No	Yes	Yes	No	Yes	No	No
Year moved to NH	2001	1997	2001	2003	2006	2002	2010	1997	2000	2011
Year moved to central Florida	2001*	1997*	2001*	2003*	2004	2002*	2010*	1997	2000	2011
Previous residence location	South FL	NJ	TN	MI	Central FL	CA	WA	South FL	NY	Germany
Moved to central Florida specifically to live in Celebration	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
Employed	Full-time	Full-time	Part-time	Full-time	Full-time	Full-time	Full-time	Full-time	Full-time	Full-time
Works from home	Yes, PT	No	Yes, FT	Yes, FT	Yes, FT	Yes, FT	Yes, FT	No	No	Yes, PT
Employed in NH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Self-employed	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No
Industry	Real estate	Salon/cosmetic	Event planning	Multiple industries	Marketing	Technology	Travel	Restaurant	Financial services	Building materials
Distance to work	Varied**	Not specified	N/A	N/A	N/A	N/A	N/A	.75 miles	1.5 miles	Varied**
Drives to work	Yes	Not specified	N/A	N/A	N/A	N/A	N/A	Yes	Yes	N/A

* Moved to central Florida specifically to live in Celebration

** Varies based on client location and/or travels for work

HH: Household; NH: Neighborhood; PT: Part-time; FT: Full-time

Table 60: Interview Participant Characteristics—Sweetwater

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Recruitment method	Running group*	Personal contact	Running group*	Personal contact	Personal contact	Chance meeting	Referral	Referral	Referral	Referral
Interview method	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone	Phone
Sex	Male	Female	Female	Female	Female	Female	Female	Female	Female	Female
Married	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Children in HH	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No
Year moved to NH	1996	2001	1996	2000	2003	2007	2005	1998	1997	1998
Year moved to central Florida	1996	2001	1996	Not specified	1984	2007	1996	1998	1997	Not specified
Previous residence location	MI	FL	MI	Central FL	Central FL	Antigua	MA	FL	MD	FL
Employed	Full-time	Full-time	Full-time	Full-time	Full-time	Part-time	Part-time	No	Part-time	Part-time
Works from home	No	No	No	No	No	No	Yes, FT	N/A	Yes, PT	Yes, PT
Employed in NH	No	No	No	No	No	No	Yes	N/A	Yes	Yes
Self-employed	No	No	No	Yes	No	No	Yes	N/A	Yes	Yes
Industry	Banking	Local govt.	Real estate	Education	Health care	Education	Health care	N/A	Health care	Multiple industries
Distance to work	14 miles	14-15 miles	15 miles	< 3 miles	Varied**	Varied**	N/A	N/A	Varied**	Varied**
Drives to work	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes

* Interview participant was member of primary investigator’s running group

** Varied based on client/job/patient location

HH: Household; NH: Neighborhood; PT: Part-time; FT: Full-time

Celebration Interview Findings

Factors Influencing Neighborhood Selection

Two themes dominated interviewed residents' selection of Celebration: their preference for the neighborhood's highly-social atmosphere, and the Walt Disney Company (WDC) brand promise. In open-ended questioning, eight of 10 interviewed residents identified social atmosphere characteristics as a primary factor in neighborhood selection, while half identified the social atmosphere and the delivery on promise they had come to expect from WDC as jointly influential in their selection decision. Some residents also expressed a desire to “live the marketing concept,” a sentiment that straddled the social expectations of new urban neighborhoods and the WDC brand promise.

As detailed in Table 59, only one interviewed resident lived in central Florida before moving to Celebration. Eight of 10 interviewees moved to central Florida specifically to live in Celebration because of their preference for the neighborhood or its reputation. The remaining two residents moved to Celebration because of established relationships within the neighborhood. Seven of 10 residents moved directly to Celebration from out-of-state, including one resident (whose primary selection factor was an established relationship with a resident of the neighborhood) that moved from abroad.

Only one resident relayed transportation-oriented motivators for neighborhood selection. This resident described:

My wife and I expected to walk and bike, but we don't, because the community as a whole has not embraced the walkable concept. For example, the majority of parents drive their kids to school rather than the kids walking or biking.

Other residents conveyed that, when making their decision to move to the neighborhood, they appreciated these transportation options but that they were not influential in their selection decision.

Secondary⁹ selection factors included mild regional weather, proximity to family and friends, business opportunities, and the presence of a strong homeowner association. Multiple residents conveyed that the potential for the neighborhood to provide business opportunities was weighed in their selection decision; this finding was consistent with the predominance of self-employed interviewees. To a lesser extent, residents reported that high community and private property maintenance standards upheld by WDC (via Celebration Company), and, successively, CROA, influenced their decision. Only one interviewed resident indicated that the Celebration School was a strong motivator. This resident was part of the 1996 housing lottery, and given that education was one of the initial pillars utilized to market the neighborhood, it is possible that this expectation was linked to associated marketing.

The portion of the interview targeting neighborhood selection factors also queried participants on their likes and dislikes of the neighborhood. More than one resident commented on what they perceived as a social divide in the neighborhood. Said one resident: "There's social jealousy. It's a 'they have this, we don't,' high school rivalry type of thing."

Regarding this social divide, another resident conveyed:

⁹ "Secondary" selection factors defined as less-influential or minority factors.

There are people that stretch to live here, people that are very wealthy, and people that are in between. The in-betweens did great in real estate for a while, but now that group is struggling and they don't want to pay for services that the neighborhood needs.

Also pertaining to likes and dislikes of the neighborhood, one resident, who worked in the marketing field and had multiple clients within the neighborhood, conveyed one thing he valued greatly about Celebration: "The community offers me a career. It's a social atmosphere and a work atmosphere rolled into one. The way Disney built the neighborhood and the people it attracted result in its social atmosphere. Disney marketing influences the social atmosphere."

Participation and Social Environment

Interviewed residents' preference for socialability transpired into their corresponding attitudes and behaviors. Nearly all Celebration interviewees expressed a strong desire to participate and reported that they participated frequently in a wide range of activities, including school, church, CROA, CCDD, Celebration Games (an annual between-villages competition), charity events, holiday festivals, and Founder's Day¹⁰ events. Said one resident when asked if he liked to participate in neighborhood or community activities:

Yes, and I'm very involved. I ran for CCDD. I'm involved in the Celebration Games every year. I raise money for various charities. I ran for a CROA seat. I may be more involved than most residents, but I feel involvement creates more of a sense of community, and I'm involved because I like to be, I like to help, and my efforts are from the heart.

¹⁰ Founder's Day is the anniversary of the November 1996 lottery drawing for Celebration home sites. Annually, a number of events are held the week of Founder's Day (Frantz and Collins, 1999).

Some residents conveyed a preference for activities targeted to neighborhood residents as opposed to “inbound” activities linked to commercial motivators. Inbound activities were reported as intended to drive traffic to neighborhood businesses and/or attract homebuyers. Historically, such commercially-motivated events were promoted by Lexin Capital, neighborhood retail and service providers, homebuilders, and real estate firms. The resulting commercial influx made the neighborhood itself an attraction, thereby deterring some residents from participating in affiliated events.

Despite this influx of “outsiders”, Celebration maintained a tightly-knit social atmosphere that residents compared to the atmospheres of traditional American small towns. Many residents referred to the neighborhood as “the bubble”¹¹ due to its strong sense of community, contained retail and service offerings, and business opportunities. Seven of 10 interviewed residents were self-employed, with their firms being sustained primarily or entirely by customers from the neighborhood. For example, one interviewee owned and ran a popular restaurant in downtown Celebration; one was a real estate broker representing clients in the neighborhood; one was an independent travel agent whose focus was on Celebration residents; and two owned marketing services firms whose customer bases were made up largely of neighborhood businesses. This employment scenario resulted in professional interactions that were largely concentrated on other Celebration residents. Of the three residents that were not self-employed, one worked exclusively from home as a marketing professional with a multi-national technology firm, one was a

¹¹ Multiple residents utilized the phrase “the bubble” in separate interviews in response to open-ended, non-guided questions. A randomized sample of residents, rather than a snowball sample, may not have commonly utilized this phrase. The snowball method lends certain weaknesses to sampling, including pre-existing relationships between sampled individuals.

financial advisor and executive for a major financial services provider with an office in downtown Celebration, and one was a sales executive for a multi-national construction firm who traveled extensively but worked from home when not traveling.

The tightly-knit social atmosphere of Celebration was viewed by most interviewees as their favorite characteristic of the neighborhood. Residents valued small town-type benefits—like being able to eat at restaurants and buy goods on credit, and even cash a check at the neighborhood bank without presenting identification—because of their strong relationships within the neighborhood. Similarly, residents expressed that they enjoyed having “go-to” service providers for common household needs (i.e. plumbing, landscaping, etc.) because of relationships with other residents that offered these services within the neighborhood.

Just as benefits of the social atmosphere resembled what one would expect in a small town, so did its detriments. One resident reported that building a fence on their property gave rise to heated debates within the community about whether the fence should be allowed. More generally, residents reported “everybody knows everybody’s business”, socio-economic divides (the “haves” and the “have-nots”), and political rifts. These social perceptions and challenges were reported as impacting social relationships and activity participation. Political issues seemed to stem from whether or not residents supported the neighborhood’s 2004 attempt at municipal incorporation, with distinct groups formed by those that supported the initiative and those that did not. Even though the incorporation effort occurred several years prior to interviews, some residents reported that resulting political divides still influenced participation in specific activities.

Celebration interviewees reported that their participation in neighborhood activities was influenced—both positively and negatively—by their friends’ involvement and support of the activity (often determined by neighborhood politics), their children’s level of interest in the activity, and whether the activity was attached to commercial or charitable purposes (they were more inclined to participate if the activity had a charitable purpose). Residents reported a desire to contribute, or “give back” to the community, and many felt a responsibility to do so. The sheer abundance of activities lent to residents’ inability to participate in everything that interested them, as did the challenges of balancing family and professional obligations with neighborhood activities.

Most residents conveyed that, since moving to Celebration, their attitude toward participation had been positively enhanced. Some residents said that if they lived in a “normal” (conventional suburban) neighborhood they would not participate as often or with as much enthusiasm. When asked if she would participate at the same or a different level in a conventional suburban neighborhood, one resident conveyed: “I would participate less. I would participate in my kids’ school activities, but not in the neighborhood. In my previous neighborhood we had nothing to participate in. We basically just lived there.”

This same resident, when asked if her attitude toward participation had changed since living in Celebration, relayed: “Yes, living here has changed my perception. I see now that participation is a really needed action. Living in Celebration has opened my eyes to how important volunteering is.”

Two other residents also conveyed the impact of living in Celebration on their attitude toward participation: “Celebration has absolutely changed my attitude toward participation.

Living here has made me want to participate more because of the people I've met. I'm influenced by the level of involvement of the people in this community." And "It's impossible to move here and not be engaged and want to help support events."

Given the sometimes-tense political environment within the neighborhood, some residents were cautious about the activities they did participate in. One resident reported that they were much more enthusiastic about participating when they moved to Celebration, but that political rifts had resulted in a negative attitudinal change since moving to the neighborhood. This case of deterioration of desire to participate was the exception amidst the group of interviewees.

As conveyed in some of the above statements, some residents conveyed an expectation to participate. In some cases it seemed that preexisting preferences for participation influenced this expectation, while, in others, the expectation evolved as a result of living in the neighborhood. One resident agreed that there was an expectation to participate, saying: "It's the general feeling of 'we've all signed up to be in this neighborhood.' There is a perception of the level of commitment that's expected of the people that live here."

Transportation Needs, Attitudes, and Choices

The "bubble" construct identified by multiple interviewed Celebration residents represented not just social engagement, but also transportation themes. With the neighborhood providing jobs, social networks, K-12 education, and many retail and service needs, residents

described having to “leave the bubble” for unfulfilled needs as inconvenient. One resident conveyed:

Since moving here, I think differently about driving long distances to get to places. I’m not willing to go long distances any more. I’m willing to pay a premium at restaurants in the neighborhood so that I don’t have to drive outside of the neighborhood.

The most significant unfulfilled need conveyed by residents was the lack of a grocery store or small market within the neighborhood. Residents described that a small market providing basic groceries existed within the downtown area when the WDC (via Celebration Company) managed it, but that it closed near the time of the hand-off to Lexin Capital in 2004. Shortly thereafter, another small market opened downtown, but it too was later closed. Residents expressed a deep disappointment about the Gooding’s Supermarket in Water Tower Place, the retail and services plaza located at the neighborhood’s northern boundary, closing in late 2005. The location of the next-nearest grocery store, a Publix Supermarket on SR 192, was cited by residents as difficult to get to, and one resident conveyed that the lack of a grocery store was her least favorite thing about the neighborhood. Another resident conveyed that the desire to reestablish a small market in downtown Celebration had lead to discussions among a small group of financially-capable residents of either outright purchasing the downtown area from Lexin Capital or launching a co-op, membership-based market.

Not all residents expressed contentment with the array of retail and service venues within the neighborhood. One resident, who moved to Celebration from a high density, public transit-centric area of Germany after living there for more than 20 years, expressed that the offerings within the neighborhood were too niche and tourist-centric to fulfill his needs. This resident

conveyed: “Only 3% of my needs are fulfilled by the offerings in the neighborhood. I go to the restaurants downtown a lot, but I have to drive outside the neighborhood for everything else.”

As indicated by the lack of transportation-oriented motivators in their selection decision, residents expressed less interest in the potential transportation-related advantages of living in a new urban neighborhood than in the sense of community within the neighborhood. Echoing the statement from the resident that cited that most children seem to be driven to school rather than them walking or biking, another resident cited “difficulty letting go of the car culture” as an inhibitor of engaging in utilitarian physical activity. The same resident, when asked if he like walking or biking places instead of driving, stated: “I would like to walk downtown but I live three miles away. I drive from home to downtown, walk around downtown, and then I drive home.”

The general lack of selection based on transportation-related attributes, reported car culture, and distance between outlying residential villages and the central downtown area seemed to transpire into corresponding walking and bicycling behaviors. In addition to children being driven to school by their parents, one resident that lived downtown reported walking to other downtown destinations nearly daily, but would travel by car to destinations in the neighborhood that were farther away. Another resident, who lived approximately three-quarters of a mile from downtown and also worked downtown, conveyed the desire to walk or bike for utilitarian purposes but that a demanding schedule resulted in driving to work each day. Residents living further from downtown conveyed that they would ride a bicycle downtown once in awhile, but not if they planned to shop because it was too difficult to carry purchased goods on a bicycle. Some residents reported that they were more likely to walk or ride a bicycle to other destinations,

including friend's houses and neighborhood pools and parks, which were nearer to their homes than downtown was. Except for the resident that lived downtown, the primary means of reaching downtown was by car. The exception to the car centric perspective among interviewees was the resident that moved to Celebration from Germany. Perhaps because of the lower degree of car culture in many European cities and a corresponding, greater tolerance for utilitarian physical activity, this resident conveyed that his home, which was located in the distal village of Artisan Park, was a walkable distance to downtown Celebration.

Despite this one exception, distance was clearly the most significant deterrent of utilitarian walking or bicycling within the neighborhood. Most interviewed residents lived outside a comfortable walking distance from downtown, making walking there impractical and inefficient. When discussing whether she would make the same or different transportation mode choices if she lived in a conventional suburban neighborhood, one resident conveyed: "It's the neighborhood design features that most influence mode choice. Living two and one-half miles from the destination prohibits walking, regardless of neighborhood type."

Utilitarian travel to Water Tower Place, located approximately one and one-half miles northeast of downtown and even further for residents of western areas of the neighborhood, was even more out of reach for most residents. Interviewed residents conveyed that its location along US 192 lent to high volumes of automobile traffic and that the safety of utilitarian travel to Water Tower Place was a concern.

After distance, regional climate was the next most significant deterrent of utilitarian physical activity identified by interviewed residents. Multiple residents indicated that central Florida's warm climate and potential for rain made walking anywhere unfeasible, regardless of

neighborhood. Other deterrents of utilitarian travel include lack of time and the perception that walking and bicycling were recreational, not transportation-based, activities.

In support of utilitarian travel, residents generally agreed that Celebration's abundance of sidewalks and bicycle lanes made walking and bicycling within the neighborhood safe, with the exception of traveling to and from Water Tower Place. Residents conveyed that the availability of these features, as well as the neighborhood's sidewalks, bicycle lanes, and nature trails, encouraged recreational physical activity and that they utilized these amenities regularly.

Some residents conveyed that they viewed other neighborhoods as less safe for utilitarian and recreational walking and bicycling. One factor contributing to this viewpoint was the perception that other neighborhoods had fewer sidewalks and bicycle lanes, and therefore pedestrians were at greater risk of collisions with automobile traffic. Another contributing factor was residents' sense of safety as a result of the small town feel within Celebration. Multiple interviewees conveyed that they felt safe being on foot or bicycle, even at night, because they believed that if something were to happen to them passersby or otherwise in-proximity residents would help them.

Utilization of Neighborhood Electric Vehicles

Celebration, especially its downtown area, is uniquely designed to support the use of Neighborhood Electric Vehicles (NEVs). About the size of a golf cart, a NEV is a battery-operated, four-wheeled vehicle with a top speed of no more than 25 miles per hour. In 1998, the

US Department of Transportation's National Highway Traffic Safety Administration (NHTSA) classified NEVs as "low-speed vehicles," a group of vehicles of maximum speeds between 20 and 25 miles per hour, to establish parameters around the usage of small vehicles in designated areas. This ruling was the result of an increasing number of US states, including Florida, permitting jurisdictions to allow small vehicles like NEVs and golf carts on roadways in designated communities (NHTSA, 1998).

As observed on numerous visits to the neighborhood, downtown Celebration offered dedicated NEV parking spaces and charging outlets. Residents were commonly observed driving NEVs throughout Celebration, with a higher concentration of NEV utilization around the downtown area. Downtown, NEVs are respected and have the same right of way privileges as automobiles. Outside of downtown, most NEV drivers yield to automobile traffic by straddling the bicycle lane or otherwise occupying the right-most part of the driving lane.

Two interviewed residents reported that they or a member of their household owned and utilized a NEV to travel around the neighborhood on a regular basis. In doing so, these households minimized automobile usage within the neighborhood and only drove automobiles when traveling outside the neighborhood or in inclement weather.

Attitudes Toward and Utilization of Public Transportation

Two LYNX bus routes run along the section of US 192 that creates the northern border of Celebration. The closest bus stop to the neighborhood, part of the Link 56 route, is located

across from Celebration Place, a commercial center located within the ECDD and approximately 1.3 miles from downtown Celebration. Via Link 56, LYNX riders can connect to other bus lines to travel throughout the central Florida region through various transfer hubs. The bus stop at Celebration Place, like many LYNX stops, is not covered or otherwise protected from environmental elements.

When queried, interviewed residents reported that they did not utilize the LYNX bus system. Some residents expressed that they did not like using public transportation in general, even in large cities with efficient, multi-mode systems. One resident, who grew up in the Boston area, reported: “Even growing up in Boston, I only used the ‘T’¹² once or twice. I prefer to drive because I don’t like to wait. I can go when I’m ready, and I can leave when I’m ready.”

Another resident reported that, while willing to walk around large metropolitan areas like New York City, stated that she did not utilize public transportation. The resident that recently moved from Germany was the exception among residents with respect to attitudes toward public transit. This resident conveyed a strong preference for public transit and conveyed that he utilized it regularly before moving to Celebration. When asked about his experience with public transit in central Florida, he replied: “There’s a public transit system in central Florida? How do I access it from Celebration?”

¹² Massachusetts Bay Transportation Authority, or MTBA, system

Sweetwater

Factors Influencing Neighborhood Selection

While the primary selection factor for Celebration residents was the neighborhood's highly social environment, Sweetwater residents reported a resounding preference for quality schools in their selection decision. When asked why he chose Sweetwater, one resident relayed:

Schools, schools, schools. My wife did a lot of research before we moved (from Michigan) and found excellent elementary, middle, and high schools for the same neighborhood, which is hard to find. We narrowed it down to Sabal Point, which had the same schools, and Sweetwater. We ended up selecting Sweetwater because we liked the mature trees and the homes better.

The collection of Sweetwater neighborhoods spans both Seminole and Orange Counties, with the majority of contained homes located in Seminole County. Nine of the 10 interviewed residents lived in Seminole County, and one resident resided in Orange County. Of the Seminole County residents, seven had children living in their households upon moving the Sweetwater. All seven of these residents identified the reputation of the Seminole County Public Schools (SCPS) district and, more specifically, the elementary, middle, and high schools Sweetwater was zoned for, as the most important factor in selecting their neighborhood. Among these residents, two relayed:

We moved to central Florida because of my husband's job transfer to Lake Mary. My primary focus in determining where to live was schools. It was down to Winter Park (in Orange County) and Seminole County. We looked at Tuskawilla, but Sweetwater felt "nice." "Leafier."

Schools were the main thing. We have three kids. Even though the neighborhood is overpriced for what we got, it was worth it for the schools. My kids are good students. We moved from Antigua to Florida and selected Seminole County out of all of Florida because of the schools. We considered Palm Beach County because it is also known for good schools, but we picked Seminole County.

Of the two Seminole County residents that did not have children present in the household when they moved to Sweetwater, one reported that the above average, stable resell value of neighborhood homes that resulted from the quality school district was a selection factor. This resident, as well as the second Seminole County resident without children present in their household upon moving to Sweetwater, also conveyed that proximity to family, friends, and work was the most significant influencer in their selection decision.

The Orange County resident did not identify school zoning as a factor in neighborhood selection. This resident's children attended a faith-based private school linked to the family's church, indicating that public school zoning was inconsequential to her family's neighborhood selection decision.

School zoning was equally important for residents that moved to Sweetwater from out-of-state and those that moved from other Florida regions. Two residents that moved from out-of-state reported that they evaluated schools across the state and chose Seminole County—specifically, the Sweetwater neighborhood—because of school reputations. One of these residents had no social, employment, or other ties to central Florida; the decision to move to Sweetwater was based solely on the neighborhood being zoned for elementary, middle, and high schools with strong reputations. Other residents moving from out-of-state or other in-state regions moved to central Florida for employment-related reasons, but selected the Sweetwater neighborhood within central Florida because of its zoned public schools.

Further demonstrating the influence of zoned schools on neighborhood selection, one Sweetwater resident reported, *“I didn’t buy a house, I bought schools—a school trifecta.”* This resident initially moved from out-of-state to Sabal Point, a neighborhood immediately east of the Sweetwater cluster of neighborhoods. At the time of the move, Sabal Point and Sweetwater were both zoned for Lake Brantley High School in Altamonte Springs, an adjacent municipality. However, in 2004, Seminole County issued a rezoning plan that shuffled high school students across the county. Many parents that had purchased homes in specific areas that were zoned for preferred high schools were dissatisfied with the new school zoning (WESH-TV, 2004; WFTV, 2005). To maintain zoning for Lake Brantley High School, this particular resident’s family sold their home in Sable Point and purchased a home in Sweetwater.

Less influential but likewise common across interviewed residents was the preference for the Sweetwater neighborhood’s natural environment and outdoor amenities. Nearly all residents reported that the neighborhood’s nature-rich environment, including mature trees, proximity to Wekiwa Springs State Park, common areas and parks, and beach and boat ramp access at nearby Lake Brantley were positive influencers in their selection decision.

Neither social nor transportation factors appeared to be strong influencers in interviewed residents’ selection decisions. Several residents reported that proximity to family or friends was weighed in their decision process, but only two residents identified their perception of Sweetwater’s sense of community as a factor considered in their selection decision. Likewise, while some residents conveyed that proximity to frequented destinations was a factor in selection, residents unanimously reported that the ability to walk or bicycle to nearby destinations was not considered.

Participation and Social Environment

While social factors did not appear to be strong influencers of neighborhood selection, Sweetwater residents with children tended to be fairly involved in community activities. Involvement centered on children's school activities, HOA-sponsored activities, and non-HOA-sponsored holiday activities. Some residents also participated in activities not oriented toward children, including book groups, walking and running groups, and within-neighborhood adult social gatherings.

The presence of children in the household was the most influential factor in interviewed resident's participation decision. Residents with children currently living in their households conveyed that their children's interest and involvement in activities contributed most to their decision to participate. A common thread among several residents was having children that had grown up in the neighborhood and were now in college. When asked whether they liked participating in community activities and what types of activities they participated in, two of these residents conveyed:

I've never liked participating unless it was sports related. We used to be really involved in the kids' sports. My wife used to be really involved in a lot of things, but now that the kids are in college we don't participate in anything.

My husband really enjoys participating and still has some activities he's involved in. We the kids were middle and high school age and below we would have an annual picnic and shared backyards. Also, one of our neighbors used to have a Fourth of July party for the neighborhood, and we used to go Christmas caroling when the kids were little. Now, I don't really know what activities are available and I've lost touch with the adults in the neighborhood.

Outside of not having children in the household, the next most significant deterrent of participation was available time to participate. Of residents interviewed, five were employed

full-time, four were employed part-time, and one was not employed. Residents employed full-time expressed that they were challenged to balance professional obligations with community activities, indicating that employment status influenced participation frequency.

Sweetwater resident's participation frequency, interest, and opportunity seemed to grow and wane in a neighborhood- and resident-maturation life cycle. Where residents whose children had grown up in Sweetwater but since moved to college or out of the household reported that they did not participate or that there did not seem to be many kids in the neighborhood any more, residents with school-aged children reported a vibrant social atmosphere. One resident, who had three middle school- and elementary-aged children living in their household, conveyed a high level of social intimacy within the neighborhood. This resident reported participating in an abundance of self- and neighbor-organized activities:

Our cul-de-sac gets together at a neighbor's house to do our own Halloween function. Once every other month, one of our neighbors will put a big movie screen out on their lawn for movie night. We also do New Year's Eve, an annual Easter egg hunt, and Fourth of July with our neighbors.

When asked how she would describe the social atmosphere within the neighborhood, a mother of two children replied:

Mayberry. People brought us cookies when we moved in. We lived in Sable Point before Sweetwater and found that both neighborhoods are very tightly knit. We actually found out about our house from one of my kids' teachers. The teacher said, it's the most perfect street because of the neighbors.

At the other end of the maturation spectrum, a resident whose children had grown up in the neighborhood but were now in college reported that, when their family moved to the neighborhood in 1996, "most moms did not work and they did more together" than neighbors seemed to do now. At the time of the interview, the same resident reported that she did not know

many people in the neighborhood or how to find out about neighborhood activities, a stark difference from when her children were younger.

Another resident witnessed this evolution of the neighborhood but from a different perspective. This resident had school-aged children at the time of the interview and reported that not many children in her area of the neighborhood were her own children's ages, and that nearby households either had children in college or children that were much younger than her own. The same resident also conveyed that their sub-neighborhood was home to a number of older residents that had lived in the neighborhood since it was built in the 1970s. The concentration of older residents was described as limiting the between-neighbor social opportunities that arise through the presence of similarly-aged children across neighborhood households.

The location-based and maturation-related ebb and flow of social intimacy seemed to be a gauge of perception of the neighborhood's social atmosphere and sense of community. On one hand, residents whose children had strong social groups within the neighborhood and who had participatory neighbors had a positive perception of the social atmosphere and felt a strong sense of community. Where one resident described the social atmosphere as "Mayberry", another resident who did not have children yet reported that she did not have strong social ties in the neighborhood and had less optimistic perceptions about its current sense of community.

When asked whether the neighborhood influenced their participation, residents that participated, either currently or when their children lived at home, reported that it did. Two of these residents indicated that if their existing social networks did not participate, they probably would not either. Two residents whose households historically did not participate in

neighborhood activities reported that they were too disconnected from the neighborhood for it to influence them.

Where residents of Celebration generally conveyed that they would participate less in another neighborhood, seven of 10 interviewed Sweetwater residents reported that they would participate at the same level in another neighborhood. When asked if they participated at the same or different levels than their previous neighborhood, responses varied significantly, with various life factors influencing participation differences between neighborhoods. One particularly involved resident reported a positive attitudinal change since moving to the neighborhood, but all other residents reported no attitudinal change.

Transportation Needs, Attitudes, and Choices

Sweetwater residents conveyed the same car culture and distance inhibitors as Celebration residents. When asked if there were any factors about the neighborhood itself that influenced his transportation mode choices, one resident conveyed: “We’re too far way from anything to walk or bike. Central Florida is a car-centric area where walking, biking, and public transportation are not feasible.”

The same resident, when asked if he would make the same or different transportation choices if he lived in a more walkable neighborhood, described:

It’s about distance, not neighborhood type. Maybe if I lived a block or two from downtown Winter Park I’d walk there, but generally distance is a big inhibitor. And I don’t want to get all sweaty. If I lived in New York City where it’s more difficult to drive than it is to walk, I’d walk.

Unlike interviewed Celebration residents, who were all employed within their neighborhood via self-owned businesses or employers that enabled virtual offices, Sweetwater residents tended to be employed outside the neighborhood. Each of the five interviewed residents that worked full-time had external offices or otherwise worked outside the neighborhood, as did one resident that was employed part-time. Of the five full-time employed residents, three traveled 14-15 miles each way to their place of employment, one traveled three miles each way, and one, a hospice physician, traveled around central Florida to patient homes. Of the four part-time employed residents, one, a substitute teacher for SCPS, traveled varying distances outside the neighborhood depending on school location; one worked only from home; and two were small business owners that worked from home offices when not visiting client sites.

Given distances traveled and varying work locations of residents working outside of the neighborhood, each interviewed residents conveyed that walking or bicycling to work was not feasible. Like residents of Celebration, these residents also conveyed that climate, including heat and potential rain, made walking or bicycling to work impractical.

With no commercial destinations located within Sweetwater, residents reported that they had to leave the neighborhood for retail, service, and other needs. Many residents referenced the two nearest grocery store-anchored shopping plazas, Springs Plaza and Shoppes of Sweetwater, as readily-frequented destinations. Feedback from interviewed residents regarding the walking and bicycling accessibility of these commercial venues was generally aligned with the researcher's subjective observations that some venues were accessible by utilitarian means; however, few residents reported walking or bicycling to either. One resident reported

occasionally walking to and from the grocery store located at Shoppes of Sweetwater and conveyed that she felt the plaza was a walkable distance and was safely accessible by foot. This resident, however, also reported recreational walking and jogging in the neighborhood, so her predisposition for engaging in recreational physical activity could have contributed to her perception of the plaza's walkability. Another resident reported that she and her husband occasionally rode bicycles to Springs Plaza and felt safe in doing so. Time-permitting, she reported that she would travel by bicycle to the plaza more frequently. Other residents conveyed safety concerns, time constraints, and the practicality of carrying home groceries or other purchased items as contributors to their decision to drive to the plazas.

With abundant sidewalks and being less than one-quarter mile from the easternmost portion of Sweetwater Oaks, Sable Point Elementary School was found to be accessible by foot or on bicycle for children living in eastern areas of the neighborhood. The response of one Sweetwater Oaks resident, who reported that her ten-year-old son walked or rode his bicycle to the school regularly, supported this subjective assessment. This resident was the only interviewee with an elementary-aged child – other children of interviewed residents attended Rock Lake Middle School, Lake Brantley High School, or had middle and high school-aged children that attended private schools. None of the older children were reported as walking or bicycling to school.

Outside of utilitarian walking and bicycling inhibitors, some residents reported challenges in accessing Sweetwater neighborhoods or turning on to Wekiva Springs Road during peak morning and evening traffic times. Wekiva Springs Road, which bisects the Sweetwater Oaks sub-division and is the access point for all Sweetwater neighborhoods, is a feeder artery for

SR 434, Interstate 4, and other major central Florida roadways. Residents reported particular difficulty turning eastbound onto Wekiva Springs Road during the morning commute window, when eastbound traffic backs up for more than a mile along the two-lane portion of the road within Sweetwater Oaks. In the morning peak traffic time, traffic started at Sable Point Elementary School and often extended through the entire neighborhood to Hunt Club Boulevard on its west side.

Attitudes Toward and Utilization of Public Transportation

While Sweetwater residents expressed a negative sentiment about public transportation in central Florida eight of 10 interviewees reported utilizing public transportation when in large cities and were supportive of the public transit as an alternative to personal automobiles. However, they also relayed that the LYNX system was inefficient and impractical. Primary complaints about the LYNX system were that it was inefficient (the time required to travel between points, the lack of a direct route to downtown Orlando), unreliable (a lack of confidence that buses would be on time), and impractical (bus stops were difficult to access). One resident that worked in downtown Orlando reported that she once tried to find a bus route to take to work, but that the route was so indirect and required so much time between destinations that she decided not to try it.

Two residents, who had positive attitudes toward public transportation in large cities where public transit riders had more diverse profiles, conveyed socioeconomic perspectives of central Florida public transportation users:

In central Florida, public transportation is for poor people. In major metropolitan areas, a wide gamut of people rides public transportation—professionals, etc. Here, it's just for people that can't afford a car. There's a reason there are bike racks on the front of the buses—it's because the people that ride the bus don't have cars.”

I don't use public transportation in central Florida. When I see people waiting for buses I feel sorry for them. It's for people that can't afford cars. It's different here than it is in larger metropolitan regions where there are better systems. When we lived in south Florida, my husband rode the TriRail system every day.

Residents also highlighted the overall “car culture” that exists in central Florida and their perception of the region's public transportation users. One resident described central Florida as having “pockets of urbanness” that supported pedestrianism and use of public transportation, but that as a whole the area was too sub-urbanized for these methods of transportation to be readily-embraced.

Summarizing the perception of central Florida public transportation among Sweetwater residents quite well, one interview participant told the story of a friend that moved to the region with pre-defined expectations about transit:

I had a friend who moved here from New York and didn't want to have a car and didn't think he needed one. He moved to an apartment near a bus stop and rode the bus to work and other places. After about a week, he decided to get a car.

Summary of Interview Findings

Qualitative coding methods described in Chapter 3 were utilized to identify and link themes from interview transcripts. These findings were compiled for each neighborhood, and then aggregated to compare findings across neighborhoods. Aggregated interview findings are provided in Table 61.

Table 61: Summary of Interview Findings

	Celebration	Sweetwater
Neighborhood selection		
Primary factors in NH selection	<i>Preference for social atmosphere, WDC brand promise</i>	<i>Schools, natural environment, proximity to family/friends</i>
Selection influenced by social factors	Yes	No
Selection influenced by transportation factors	No	No
Social characteristics		
Sense of community	Very strong	Strong among residents with children; otherwise, low to moderate
Desire to participate	Very strong	Strong among residents with children; otherwise, low to moderate
Participation influencers	Interest among social circle, children's interest/participation, activity purpose, desire to "give back" to community	<i>Children's interest/participation, interest among social circle</i>
Participation deterrents	Abundance of activities, lack of time	Lack of children in household, lack of time
Participation frequency	Very frequent	More frequent if children present in household
Experienced change in attitude toward participation since moving to NH	Yes—more positive since moving to NH	No
Would participate at same level in another NH	No—would participate less	Yes

	Celebration	Sweetwater
Transportation characteristics		
Car required for day-to-day living	Yes	Yes
Considers day-to-day destinations walkable	No	Mixed responses
UPA influencers	Sidewalks, bicycle lanes, strong perceived safety within NH	Sidewalks
UPA deterrents	<i>Distance</i> , lack of time, climate	Lack of time
Engages in UPA	Rarely	Rarely
Attitude toward public transit in transit-oriented cities	Negative	Positive
Attitude toward central Florida public transit	Negative	Negative
Deterrents of utilization of central Florida public transit	Climate	Socio-economic perception of transit users, system inefficiency
Utilizes central Florida public transit	No	No
Strongest themes <i>italicized</i>; NH: Neighborhood; UPA: Utilitarian physical activity		

Summary of Quantitative and Qualitative Findings

As summarized in Table 62, findings ascertained from quantitative and qualitative methods were largely inconsistent. Quantitative methods entailed evaluation of data obtained from closed-ended household survey questions, while qualitative methods collectively evaluated open-ended survey questions, interview feedback, and neighborhood case studies. It is possible that study design characteristics, including group selection and variable makeup, contributed to disparities between quantitative and qualitative conclusions. Limiting design elements are discussed in Chapter 5.

Table 62: Summary and Comparison of Quantitative and Qualitative Findings

	Quantitative findings	Qualitative findings
Research Question 1: What is the impact of neighborhood type on community participation?		
H1: Impact of neighborhood type on attitude toward participation	<p>Mean evaluation: Attitudes toward participation slightly more positive among NU residents</p> <p>Hypothesis result: Relationship between neighborhood type and attitude toward participation not statistically significant (null accepted)</p>	<p>Interview feedback: NU residents more likely to have positive attitudes toward participation</p>
H2: Impact of neighborhood type on community participation frequency	<p>Mean evaluation: Participation frequency slightly higher among CS residents</p> <p>Hypothesis result: Relationship between neighborhood type and community participation frequency not statistically significant (null accepted)</p>	<p>Interview feedback: NU residents more likely to participate</p>
Research Question 2: What is the impact of neighborhood type on automobile usage?		
H3: Impact of neighborhood type on attitude toward automobile travel	Not tested*	Not tested*
H4: Impact of neighborhood type on vehicle miles driven per week	<p>Mean evaluation: CS residents drove more miles per week than NU residents; however, NU resident commute times were longer than those of CS residents</p> <p>Hypothesis result: Relationship between neighborhood type and vehicle miles driven per week not statistically significant (null accepted)</p>	<p>Interview feedback: NU residents <i>may</i> drive fewer miles, in part due to working within community</p>
Research Question 3: What is the impact of neighborhood type on utilitarian physical activity?		
H5: Impact of neighborhood type on attitude UPA	<p>Mean evaluation: Attitudes toward UPA much more positive among NU residents</p> <p>Hypothesis result: Relationship between neighborhood type and attitude toward UPA statistically significant (null rejected)</p>	<p>Interview feedback: NU residents <i>may</i> be more likely to have positive attitudes toward UPA</p>

	Quantitative findings	Qualitative findings
H6: Impact of neighborhood type on UPA	<p>Mean evaluation: CS residents engage in UPA slightly more frequently than NU residents; UPA low across both groups</p> <p>Hypothesis result: Relationship between neighborhood type and UPA frequency not statistically significant (null accepted)</p>	<p>Interview feedback: NU residents <i>may</i> engage more frequently in UPA</p>
Research Question 4: What is the impact of attitudes on corresponding behaviors?		
H7: Impact of attitude toward participation on community participation frequency	<p>Mean evaluation: Moderate participation frequency across groups, despite fairly strong positive attitudes toward participation across groups</p> <p>Hypothesis result: Relationship between attitude toward participation and participation frequency statistically significant (null rejected)</p>	<p>Interview feedback: Positive attitudes toward participation seemed to be linked to higher community participation frequency; consistent across neighborhood types</p>
H8: Impact of attitude toward automobile travel on vehicle miles driven per week	Not tested*	Not tested*
H9: Impact of attitude toward UPA on UPA frequency	<p>Mean evaluation: Low UPA frequency across groups, despite moderately positive attitudes toward UPA across groups</p> <p>Hypothesis result: Relationship between attitude toward UPA and UPA frequency statistically significant (null rejected)</p>	<p>Interview feedback: Positive attitudes toward UPA seemed to be linked to higher UPA frequency</p>

	Quantitative findings	Qualitative findings
Research Question 5: What factors influence neighborhood selection, and are these factors consistent across neighborhood types?		
Most influential selection factors	N/A	Interview feedback and open-ended survey questions: <i>Celebration</i> : Social atmosphere, WDC brand, neighborhood characteristics <i>Sweetwater</i> : access to quality schools
Consistent across neighborhood types?	N/A	No
Research Question 6: What, if any, regional factors impact attitudes and behaviors with respect to utilitarian physical activity, and are these factors consistent across neighborhood types?		
Regional factors	N/A	Interview feedback: Climate, car culture
Consistent across neighborhood types?	N/A	Interview feedback: Yes
Regional factors	N/A	Interview feedback: Climate, car culture
* Index variable measuring attitude toward automobile travel not sufficiently reliable for hypothesis testing NU: New urban; CS: Conventional suburban; UPA: Utilitarian physical activity;		

CHAPTER 5: DISCUSSION

Discussion of Findings

This research sought to better understand the ability of new urban development to produce desired social and transportation outcomes. Through quantitative and qualitative analyses of one new urban and one conventional suburban neighborhood, these outcomes were holistically evaluated in a region that has thus far not been the target of such research.

As illustrated in Table 62, quantitative and qualitative methods produced mixed findings. Given this variation, as well as study limitations discussed later in this chapter, it is difficult to establish definitive relationships between the variables studied in this research.

Despite the inconsistency between quantitative and qualitative findings, several observations pertaining to research questions and hypotheses were made:

1. New urban residents *may* have more positive attitudes toward participation than conventional suburban residents, but it is not clear whether this difference is attributable to the neighborhood itself or other factors (H1);
2. Community participation frequency seems to be more a factor of corresponding attitudes than neighborhood type (H2; H7);
3. New urban residents *may* drive fewer miles per week than conventional suburban residents, especially if they work within the community or telecommute (H4);

4. New urban residents seem to have more positive attitudes toward utilitarian physical activity than conventional suburban residents (H5);
5. In geographically-distributed neighborhoods, neighborhood type does not appear to influence utilitarian physical activity (H6);
6. Positive attitudes toward participation seem to yield more frequent community participation, but not necessarily in equal proportion (H7);
7. Positive attitudes toward utilitarian physical activity seem to yield more frequent utilitarian physical activity, but not necessarily in equal proportion (H9);
8. Deterrents of utilitarian physical activity¹³ seem to override the ability of positive attitudes toward utilitarian physical activity to translate to corresponding behaviors (H9);
9. New urban residents seem to place more emphasis on social atmosphere in their selection decision than conventional suburban residents (RQ5¹⁴); and
10. Regional factors (including climate, automobile-centricity, and lack of efficient public transportation systems) may deter engagement in utilitarian physical activity (RQ6).

¹³ Primary deterrents include distance to destination and the efficiency and convenience of automobile-based transportation.

¹⁴ RQ = Research question

Research Question 1: Impact of Neighborhood Type on Community Participation

In evaluating the impact of neighborhood type on community participation, quantitative methods indicated that neighborhood type did not exhibit a statistically significant relationship with attitudinal ($p = .133$) or behavioral ($p = .527$) components of community participation. A between-group mean comparison revealed that attitudes toward participation were slightly more positive among new urban residents, while participation frequency was higher among conventional suburban residents.

Collectively, interviewed new urban residents conveyed a strong desire to participate and a high participation frequency. Interviewed conventional suburban residents were more likely to express a desire to participate and engage in activities if there were children living in the household. This attachment of participation to children living in the household, paired with the finding that conventional suburban residents engaged more frequently in community activities, might be explained by the household composition of the surveyed sample: 66.67% of conventional suburban residents reported having children aged 18 years old or younger living in their household, as compared to 38.24% of new urban residents. Household composition—particularly the presence of children in studied households—is evaluated in relation to other variables explored in this research later in this chapter.

Research Question 2: Impact of Neighborhood Type on Automobile Usage

The relationship between neighborhood type and vehicle miles driven per week was found not to be statistically significant ($p = .619$). A between-group mean comparison revealed that conventional suburban residents drove 17.5% more miles per week, but this finding was contradicted by the finding that new urban resident commute times were 20.8% longer than their conventional suburban counterparts.

Interview results indicated that new urban residents drove less overall than conventional suburban residents, but this difference might be attributable to the large proportion of interviewed new urban residents that worked within the neighborhood. Nine of 10 new urban interviewees worked within the neighborhood, compared with three of 10 interviewed conventional suburban residents.

Due to the lack of reliability in the index variable intended to measure attitude toward automobile transportation, the hypothesis evaluating the attitudinal component of automobile usage could not be evaluated.

Research Question 3: Impact of Neighborhood Type on Utilitarian Physical Activity

Quantitative analyses illustrated a statistically significant relationship between neighborhood type and attitude toward utilitarian physical activity ($p = .000$), but not between neighborhood type and utilitarian physical activity frequency ($p = .172$). Between-group mean

comparisons revealed that new urban residents exhibited much more positive attitudes toward utilitarian physical activity than new urban residents. In contrast, between-group comparisons illustrated that conventional suburban residents engaged slightly more frequently in utilitarian physical activity than new urban residents, although utilitarian physical activity frequency was generally low in both groups. Interview feedback indicated that new urban residents had slightly more positive attitudes toward utilitarian physical activity and that they engaged in utilitarian physical activity slightly more frequently.

Drive frequency to common destinations ($p = .000$) was found among evaluated predictor variables to best explain variance in utilitarian physical activity frequency and to be positively correlated with the outcome variable. While potentially counterintuitive (one might anticipate that an individual that makes frequent automobile trips to common destinations would not frequently engage in utilitarian physical activity), this finding could illustrate that people that simply *make more trips*—regardless of mode—are more likely to walk or ride a bicycle to a destination.

When queried about their perception of whether their neighborhood facilitated walking and bicycling between destinations, nine of 10 interviewed new urban residents reported that it did through abundant sidewalks, bicycle lanes, and a strong sense of safety within the neighborhood. However, most interviewed new urban residents also conveyed that distal villages (sub-neighborhoods) were located too far from mixed use and commercial areas to render walking feasible. Likewise, a subset of interviewed Sweetwater residents considered some day-to-day destinations to be walkable, but conveyed that they rarely walked to them.

Research Question 4: Impact of Attitudes on Corresponding Behaviors

Quantitative evaluation detected statistically significant relationships between attitudinal and behavioral components of community participation ($p = .000$) and utilitarian physical activity ($p = .005$). These results were supported by interview findings, which indicated that residents across groups with more positive attitudes toward community participation and utilitarian physical activity engaged in respective activities more frequently.

It was clear from interview feedback that residents that *wanted to* participate or engage in utilitarian physical activity were more likely to do so. However, quantitative results illustrate that positive attitudes toward participation or utilitarian physical activity do not necessarily translate to corresponding behaviors. A distinctive disproportionality was observed between the fairly strong positive attitudes toward participation (mean = 3.916) and the moderate level of participation frequency (mean = 2.531). A similar disproportionality was observed between attitudes toward utilitarian physical activity (mean = 3.247) and utilitarian physical activity frequency (mean = 1.477). Thus, while attitudes may be influential in predicting corresponding behaviors, it appears that other factors have the potential to override attitudes and prevent engagement in these behaviors.

Research Question 5: Factors Influencing Neighborhood Selection

Responses to open-ended survey questions indicated that neighborhood characteristics were most important to new urban residents in their selection decision, while interview feedback revealed that social atmosphere and attachment to the WDC brand were most influential. Conventional suburban residents conveyed through open-ended survey questions and interviews that access to quality schools most influenced their selection decision.

Research Question 6: Regional Factors Impacting Utilitarian Physical Activity

Interviewed new urban and conventional suburban residents collectively indicated that regional climate and a strong car culture were deterrents of utilitarian physical activity. However, it seemed that distance and the convenience of automobile travel outweighed these factors in their ability to deter residents from engaging in utilitarian physical activity. Resident interviews also revealed a perception that the central Florida public transit system, LYNX, was too inefficient to serve as an alternative to automobile-based transportation. While these regional findings are merely exploratory, they indicate that transportation-related findings from similar research on the outcomes of New Urbanism may not be applicable across regions.

Comparison with Similar Research

Comparison with Studies Evaluating Social Outcomes of the Built Environment

Podobnik (2002) found that new urban residents were more socially active than conventional suburban residents. Quantitative methods in this research indicated no difference in attitudinal (H1) or behavioral (H2) components of community participation across neighborhood types, but interview feedback indicated that new urban residents were more likely to have positive attitudes toward community participation and participate more frequently than conventional suburban residents, thereby supporting Podobnik's finding.

Although sense of community was not directly assessed in this research, findings regarding social characteristics are somewhat contradictory to those of Dill (2006), who found no difference in sense of community between evaluated new urban and conventional suburban neighborhoods. Quantitative methods of this research produced no discernable difference across neighborhoods, but Celebration residents exhibited more positive attitudes toward community participation (H1) and, through tangential probing, a stronger sense of community than their Sweetwater peers.

Lund (2003) found that residents who placed emphasis on neighborly interaction were more likely to participate in supportive acts of neighboring. While neighborly interaction was not directly evaluated in this research, both quantitative and qualitative findings demonstrated that

positive attitudes toward community participation (social interaction) influenced participation frequency (H7), thus supporting Lund's finding.

Comparison with Studies Evaluating Transportation Outcomes of the Built Environment

Prior research on the relationship between attitudes toward utilitarian physical activity, utilitarian trip frequency, and corresponding self-selection has produced mixed results. Lund (2001) and Dill (2006) found that neighborhood selection based on perceived ability to engage in utilitarian activity did not necessarily translate to an increase in utilitarian trips. In contrast, Lund (2003) found that attitudes toward utilitarian physical activity were positively correlated with utilitarian trip frequency, and Cao et al. (2006) found that self-selection was the most influential factor in utilitarian trip frequency. The research at hand indicated that perceived ability to engage in utilitarian physical activity was generally not a factor in selection among new urban or conventional suburban residents or queried neighborhoods, but that new urban residents were more likely to exhibit positive attitudes toward utilitarian modes of transportation than conventional suburban residents (H5).

Similar to Dill (2006), this research found that fewer surveyed new urban households (38.24%) contained children aged 18 or younger when compared to queried conventional suburban households (66.67%). Dill concluded that this difference in household makeup may explain why studied new urban residents walked more and drove less than conventional suburban residents, with residents with children opting to drive rather than walk. No differences

in vehicle miles driven per week (H4) or utilitarian trip frequency (H6) across neighborhood type were observed in quantitative methods applied in this research, but qualitative findings indicated some degree of difference in these variables across neighborhoods. As Dill suggested, it is possible that this difference is attributable to the lower frequency of children in new urban households as compared to conventional suburban households.

Like Lund (2001) and Dill (2006), this research could not establish a relationship between attitudinal and behavioral components of utilitarian physical activity. Although the null hypothesis for the hypothesis evaluating the impact of attitudes toward utilitarian physical activity on utilitarian physical activity frequency (H9) was rejected and qualitative methods supported this finding, there was not clear evidence that new urban residents do indeed engage in more utilitarian physical activity than their conventional suburban counterparts. In this research, this relational gap seemed to be due largely to the distance between most homes and commercial areas.

Similar to Lamont (2001) and Cao et al. (2006), this research found that distance to target destinations was a primary determinant of utilitarian physical activity, with shorter distances more likely to yield utilitarian trips. To some degree, this research supports the findings of Khattak and Rodriguez (2005), who found that new urban residents made fewer trips outside the neighborhood. This variable was not directly measured in the study at hand, but interviewed Celebration residents indicated that they preferred not to leave the neighborhood for daily needs and that they fulfilled as many of these needs as possible within the neighborhood.

Comparison with Studies Evaluating Celebration

Beyond exploration of social and transportation outcomes of new urban development, this study provided current insights about Celebration itself. Arguably, this research serves as the most in-depth analysis of the neighborhood since the works of Frantz and Collins (1999) and Ross (1999).

While most new urban neighborhoods are the target of some degree of scrutiny, Celebration seems to be targeted more critically due to its association with WDC and, perhaps, because of the high-profile team of architects and planners that shaped its development. As a result, these factors introduce bias into some evaluations of the neighborhood. Further, of the more recent works about Celebration, some draw conclusions without demonstration of having spent significant time in the community, engaging with its residents, or fully exploring existing literature.

Some findings of this research are contradictory to those of other analyses of Celebration produced in the last 10 years. For example, Njoh (2009) concluded that Celebration lacked adherence to four key principles: pedestrian-centricity, walkability of schools, co-mingling of rental and owner-occupied structures, and non-support of intermodal (particularly public transit) transportation. Like Njoh, this study found that pedestrian-centricity and walkability were limited by the geographic disbursement of the neighborhood and that available public transit was underutilized. However, Njoh did not allude to the multi-purpose spaces (often referred to as “granny flats”) located above detached garages of many Celebration single-family homes, or that access to public transit was, albeit limited, supported within the neighborhood.

Regarding granny flats, resident interviews revealed that, whether approved by CROA or not, these spaces were sometimes leased as apartments. Frantz and Collins (1999, pp. 44, 291) indicated that granny flats provided affordable living options and increased residential population density, thereby supporting the notion that they are utilized as separate residences. Had Njoh considered these spaces, he may have found that Celebration at least partially satisfied the criterion for comingling of rental and owner-occupied structures.

Regarding transit, this research found that the single LYNX bus stop was not walkable from Celebration's residential areas, but that it did support neighborhood connectivity with public transit. While not ideal, the location of the LYNX stop did not appear to be the primary deterrent of its utilization by neighborhood residents. Rather, its lack of utilization seemed to be the result of the generally automobile-centric preferences of neighborhood residents. Auto-centric preferences materialized through multiple residents when queried about their utilitarian physical activity expectations and behaviors (six of 10 interviewees either expressed auto-centric attitudes or behaviors or conveyed that the neighborhood itself was auto-centric). Thus, Celebration's lack of public transit integration is more complex than infrastructure itself; had Njoh (2009) been aware of these factors, corresponding conclusions may have focused not on Celebration's adherence to CNU principles but whether the neighborhood's population embraced public transit.

Njoh (2009) also concluded that Celebration offered no employment opportunities within the community. In this research, the neighborhood was found to offer a variety of professional and non-professional opportunities to residents in the downtown area, Water Tower Place, the numerous office complexes on the northern portion of the ECDD, and at Celebration Health.

Further demonstrating the availability of employment opportunities within the neighborhood, nine of 10 interviewed residents worked exclusively within Celebration, with one resident working from home when not traveling. Thus, this research demonstrated that Celebration exhibits some degree of financial self-sustainability.

Prior to Njoh (2009), Sully (2004) evaluated Celebration's implementation of structures intended to invoke a sense of nostalgia. In her evaluation, Sully noted that architecture was leveraged in the neighborhood as a method for manipulating memory to induce and exploit "a nostalgia of an everyday past that never really happened" (p. 2). The author compared life within Celebration to the fake life of the primary character in the movie *The Truman Show*, which happened to be filmed in the new urban pioneer development of Seaside. Supporting this position of literal and intangible façades that are present in Celebration, Sully cited the faux, non-functional second-story dormers present in some Celebration homes and the waterless water tower that stands near Water Tower Place. The author also stated that, in Celebration and in other new urban developments, the desire to satisfy family and community values seemed to be secondary to addressing urban concerns, such as automobile-centricity and enablement of self-sustainable growth. Sully also discounted the inclusion of only traditional, pre-1940s homes in the neighborhood, rather than embracing modern styles that were present in the pre-1940s era, and states that Celebration represents "an outright rejection of the ideals of Modern architecture expressed by CIAM¹⁵ at the opening of the century" (p. 9). Additionally, Sully

¹⁵ Congrès International d'Architecture Moderne (CIAM), founded in 1928 in Switzerland, seeks to advance modernist architectural perspectives. Members of CIAM, including multiple renowned twentieth-century architects, have contributed significantly to shape urban development since the organization was founded (The MIT Press, 2011).

linked the premise of her paper, *An Everyday Nostalgia: Memory and the Fictions of Belonging*, to Freudian notions of an unexpressed need to belong and suggests that the social and environmental ideals sought by Celebration residents are generated by a force similar to the control-based regime of Orwell's classic novel, *Nineteen Eighty-Four*.

Frantz and Collins (1999) and Ross (1999) also made note of the faux dormer windows, expressing that these structures reduced the legitimacy of the attempt of the neighborhood to represent traditional styles. And, like Sully (2004), the former authors expressed their surprise at the rigid control of all exterior-facing elements of properties. Frantz and Collins recalled the experience of a family that installed red-backed (as opposed to the required white-backed) curtains to enable privacy while they sought CROA-approved window treatments. The red-backed curtains became a somewhat contentious issue even though they were intended only to be a short-term solution.

In another example described by both Frantz and Collins and Ross, a resident that lived in an area where on-street parking for Celebration School often blocked his mailbox, and delivery of his mail, came up with a unique solution to making sure his mail was delivered. He constructed a PVC pipe extension for his mailbox post that extended up and over the parked cars so the mailbox was positioned well for the driver of the postal vehicle. While some neighbors asked the resident to construct identical structures for their own mailboxes (thus, expressing appreciation for the issue and solution), others, and CROA, were not at all in favor of the contraption. After dialogues with a key official, it was observed that 1) the structure would have to come down and 2) that mailboxes for the grouping of townhomes would need to be moved to posterior alleyways.

These examples in mind, there are certainly unique governance mechanisms and aesthetic standards in play within Celebration that, arguably, warrant scrutiny (and humor). However, as evidenced by this research, there are residents in Celebration that value the strong standards that exist within the community. When queried about the most influential factor in their selection decision, 16.67% (N = 30) of surveyed residents conveyed that factors associated with neighborhood appearance, quality, or physical characteristics. Among interviewed residents, preference for social atmosphere and attachment to the WDC brand were the leading selection factors, but some interviewees also conveyed that neighborhood appearance, the presence of a strong HOA, and similar physical and governance factors influenced their selection.

As demonstrated by this research and the works of Frantz and Collins (1999) and Ross (1999), some residents expressed a strong desire to relive or experience for the first time living in a small town atmosphere. In this research, this desire was found not to be naïve or contrived, as Sully (2004) described; it was found to be a genuine desire to experience the values and simplicity of small-town living. This is evidenced by residents' strong desire for a participatory atmosphere, as demonstrated in both open-ended survey and interview findings, and by specific examples of small-town living shared by interviewed residents, like being able to eat at a neighborhood restaurant on credit or having a go-to plumber that is "a friend of a friend".

In summary, while some may scrutinize Celebration and similar new urban neighborhoods for their uniformity, their traditional (and faux) architecture, and their "fictions of belonging," this research provided evidence that people *choose* such neighborhoods at their own will and that the sense of belonging generated by these neighborhoods can indeed be authentic, rather than the result of an Orwellian-type control regime.

Unanticipated Findings

It was surprising to find that, after more than 15 years of community evolution, a sizable portion of queried residents Celebration residents maintained an attachment to the WDC brand. Fifty percent (N = 10) of interviewed residents expressed a preference for the WDC brand as a primary selection factor, while 10% (N = 30) of surveyed residents expressed the same. This attachment, for some residents, was a primary influencer of neighborhood selection that seemed to fade into the background as they planted their roots in the community. For other residents, this attachment was both a selection factor and a continued, guiding framework for their expectations of the neighborhood. As a selection factor, residents anticipated that the quality of products and ability to create welcoming environments for which WDC was known would translate into quality building standards, quality of life, and a vibrant neighborhood social atmosphere. As a continued framework, some residents seemed to hold that the quality for which WDC was known would penetrate and elevate neighborhood governance. By and large, this attachment to WDC superseded expectations of New Urbanism itself to provide a strengthened sense of community and pedestrian-centric environment, and is possibly a unique differentiator of Celebration as compared to other new urban neighborhoods.

Although prior works (Frantz and Collins, 1999; Lassell, 2004) illustrated that access to quality schools was a primary selection factor for Celebration residents, this research found that educational factors were not influential for most residents. Only 10% of surveyed Celebration residents indicated that access to quality schools was their primary selection motivator, and only one interviewed resident conveyed that education was a primary motivator. In comparison, most

Sweetwater residents conveyed that access to quality schools was *the* primary motivator in their selection decision, with 53.57% of surveyed residents and seven of 10 interviewees reporting accordingly. This difference may be linked to the lower proportion of households in the survey sample with children in Celebration as compared to Sweetwater. In the surveyed sample, 38.24% of Celebration households contained children aged 18 years or younger, compared to 66.67% in Sweetwater. As discussed earlier in this chapter, Dill (2006) also found that fewer new urban households contained children than did conventional suburban neighborhoods.

Study Limitations

Limitations of Case Selection

Celebration is a unique case in terms of selection factors, expectations, and actual outcomes of a planned new urban community. Like Frantz and Collins (1999) and Ross (1999), this research found that attachment to the WDC brand was a significant contributor to neighborhood selection. This brand attachment introduces variables that detract from the ability to measure the impact of the built environment itself on outcome variables, thus making Celebration a less-than-ideal group when evaluated as a lone experimental neighborhood. Further, due to its association with a high-profile international firm, few, if any, other new urban neighborhoods have been developed under the scrutiny that Celebration has experienced. As a

result, Celebration residents may be less willing to participate in research than residents of less-scrutinized new urban neighborhoods.

The control neighborhood, Sweetwater, was more engaged and participative than anticipated, a finding that contradicts new urban theory. Following new urban doctrine, conventional suburban residents exhibit higher levels of social isolation and decreased community participation as compared to their traditional and new urban counterparts. In this research, quantitative analyses produced no statistically significant differences in attitudinal or behavioral components of participation. While, overall, interviewed Celebration residents conveyed more positive attitudes toward participation and a higher participation frequency than Sweetwater residents, some interviewed Sweetwater residents expressed participation attitudes and behaviors that rivaled those of Celebration residents.

A limitation of this research, and of much of the related research body, is its concentration on affluent populations. Although the Charter of the New Urbanism hints at socioeconomic diversity through inclusion of single- and multi-family dwellings, renter- and owner-occupied dwellings, and a wide range of price points, few new urban neighborhoods actually achieve this diversity. As demonstrated in the socio-demographic comparison of Celebration CDP to Osceola County, Celebration is exemplary of the social inequality found in new urban neighborhoods. Although it was not explored in this research, it is suspected that socio-demographic homogeneity is a neighborhood selection factor among many new urban residents. As discussed later in this chapter, this concept should be explored in future research to understand 1) if self-selection plays a role in supporting new urban social inequity and 2) what tactical and policy-induced steps should be taken to diversify new urban populations.

Limitations of the Single-Case Design

As discussed in Chapter 2, the case study approach, being non-empirical, can decrease the ability to generalize results across populations. Further, single-case designs risk contributing only exploratory insights to a given body of research. It is difficult to determine from two isolated neighborhoods whether observed community participation and transportation outcomes are the result of individual neighborhood characteristics or built environment characteristics that differentiate neighborhood types. Thus, inclusion of more than one neighborhood would likely have increased generalization potential. Likewise, given the frequent comparison of new urban neighborhoods to traditional neighborhoods, it would be advantageous to include an equal number of traditional neighborhoods in studies evaluating the outcomes of new urban and conventional suburban development. Such a design would enable traditional neighborhoods to serve as a baseline for comparison for outcomes of New Urbanism, enhanced the ability to link the social and transportation outcomes to neighborhood type, and provided additional insights into factors influencing neighborhood selection.

Limitations of Quantitative Methods

Beyond group selection, some aspects of quantitative analysis also posed limitations to this research. First, it would have been advantageous to select variables with levels of measurement that better adapted to a single analysis method. As described in Chapter 4, the

varying levels of measurement (in addition to the lack of normality of variable distributions) complicated the selection of linear regression as the method for evaluating hypotheses.

Similarly, measurement of frequency variables (including participation frequency, automobile trip frequency, and utilitarian physical activity frequency) would have been more accurate if straight counts, rather than Likert-type scales, had been utilized. Straight count variables would have provided a true depiction, rather than an approximation, of frequency, and could have produced different hypotheses results.

Utilization of five-point scale variables also posed limitations to quantitative analyses. Prior research (Alwin, 1997; Andrews, 1984) has demonstrated that increasing the number of categories in scale variables enhances measurement precision and construct validity. It is possible that utilization of seven-point or larger scale variables would have provided more finite insight into differences in outcome variables across neighborhood types.

Other issues with study variables may have been detectable if more thorough survey pre-testing and pre-test data analysis had been conducted. The study survey was issued to a sizeable group of academic and professional peers for review, and, subsequently, pre-test data was utilized to generate descriptive analyses of study variables. While survey feedback and pre-test data influenced edits to survey questions and variables, the reliability of index variables was not evaluated in the pre-test stage. Given the number of index variables utilized in the quantitative portion of this research, reliability pre-testing may have provided significant insights into their ability to effectively measure intended variables. In turn, this testing may have illustrated reliability issues that resulted in the exclusion of most selection index variables and one dependent variable (DRIVE_ATT) from hypothesis evaluation.

Limitations of Qualitative Methods

While resident interviews added richness to this research that could not be obtained from quantitative methods alone, methods utilized to conduct interviews could have been enhanced. Namely, it would have been beneficial for interviews to be audibly recorded. The decision was made not to record interviews because of two concerns: 1) that recording interviews might discourage interview participation and 2) that residents to not be as forthcoming with their responses if they knew their responses were being recorded. These concerns could have been alleviated through appropriate explanation of the purpose of audio recording to interview participants. Had interviews been recorded, they could be completely (rather than partially) transcribed verbatim, and also re-played as needed to capture voice inflections and other audible cues.

Study Implications

Implications for Community Participation Theory

Given the variation in quantitative and qualitative findings regarding community participation across neighborhood types, it is difficult to state that this research provides clear theoretical implications regarding the social outcomes of New Urbanism. However, this research

indicated that “community”—the social fabric of the places in which we live—is what we make of it, regardless of neighborhood type. This notion is supported by the lack of measurable differences in community participation obtained from survey data, as well as the enthusiasm for community engagement by Sweetwater residents with children in their households. If a resident wants to participate, or if they seek a sense of community and are willing to contribute to establishing it, they are likely to exhibit a higher frequency of social engagement. Overall, there seemed to be more residents that wanted to be engaged within Celebration, and it is possible that new urban neighborhoods draw a higher concentration of residents seeking a participative community. Thus, if any insight about the social implications of New Urbanist theory is to be gained from this research, it is that self-selection into new urban neighborhoods likely more influential than built environment characteristics in enabling community participation.

Implications for Transportation and Policy

The results of this research provided two key insights regarding transportation theory and policy: 1) positive attitudes toward utilitarian physical activity do not necessarily translate to engagement in utilitarian trips and 2) regional factors may limit the ability of new urban development to achieve desired transportation outcomes.

With respect to the relationship between toward utilitarian physical activity and resulting behaviors, there appear to be intervening variables that override intentions to engage in utilitarian activity. As demonstrated by prior research (Cao et al., 2006; Lamont, 2001), distance between

destinations is a primary intervening variable. Regardless of neighborhood type, residents living beyond a comfortable walking distance from everyday destinations are likely not to walk to these destinations. New urban development seeks to increase walkability, but practical concerns impede the construction of neighborhoods that are walkable for all residents. Namely, it is likely that the financial viability of building smaller, less geographically-disbursed neighborhoods, or neighborhoods with multiple mixed-use areas that enable walkable access for all residents, impedes the realization of desired transportation outcomes in many new urban developments. Developers, including WDC, seek to maximize profit in their investments, and reducing neighborhood size or increasing the number of mixed-use centers has the potential to reduce profit and increase risk in achieving return on investment. This is the nature of capitalism, and by no means is this dissertation intended to discourage or control the profit maximization of private firms. However, if New Urbanism is to achieve desired transportation goals, including reduced automobile-dependency and increased utilitarian activity, it may be necessary for state and local government bodies to provide a framework that incents developers to better enable walkability new urban projects.

The qualitative results of this research support preliminary premises that regional factors impede achievement of desired New Urbanist transportation outcomes. Interviewed residents conveyed that they did not utilize the LYNX bus system, primarily because of its inability to provide a convenient and efficient alternative to automobile-based transportation. There was variation in resident perceptions of public transit in general across neighborhoods, with more Sweetwater residents reporting that they would utilize transit in large cities (such as New York or Chicago) than Celebration residents. To a lesser extent, residents, particularly in Celebration,

conveyed that regional climate inhibited their utilization of the LYNX system, citing that they did not want to risk “sweating while wearing a suit” or being caught in a rain storm while utilizing public transit.

Overcoming automobile-dependency and negative attitudes toward public transit is challenging, and it is impossible to control climate. However, this research illustrates that, if a viable public transit option was available, central Florida residents may be more willing to utilize it than they are the current LYNX system. To be viable, transit stops should be nearer residential areas to enable walkable access and more efficient routes need to be established. As described in Chapter 4, inbound and outbound trips between downtown Orlando and studied neighborhoods are over *two hours* each way. The same areas can be covered in an hour or less by private automobile, depending on traffic congestion. While not all residents of queried neighborhoods travel to downtown Orlando each day, this trip time is, arguably, representative of the inefficiency LYNX system at large. Further, the sentiment expressed by residents of queried neighborhoods toward the LYNX system is largely consistent with the findings of Wright et al. (2011).

State and local governments in Florida are taking measures to enhance public transit options and efficiency in central Florida, including the forthcoming commuter rail system (Metroplan Orlando, 2010). It is not clear whether this will be a park-and-ride system or whether LYNX or other transit options connecting to rail access points will be established. Either way, much improvement in public transit options must be achieved in order for residents of any central Florida neighborhood to consider transit to be a viable and desirable alternative to automobile-based transportation. Until this progress occurs, it is unlikely that the transportation

outcomes of similar studies targeting transit-centric regions will be generalizable to central Florida or other transit-deficient areas.

Implications for Urban Planning Theory and Policy

The findings of this research provided further insights into new urban development strategies that require evolution in order to achieve desired social and transportation outcomes. A prime example of this need for evolution is demonstrated by the comparison of the experiences of Frantz and Collins (1999) and Ross (1999), who expressed frequent engagement in utilitarian physical activity during their tenures in Celebration, with the experiences of surveyed and interviewed residents of this research. Generally, residents interviewed that lived in or very near the downtown area walked to contained destinations, while residents located in outlying areas did not. Interviewed residents living in outlying areas reported that they usually drive downtown, but sometimes rode a bicycle, because they lived too far away to walk.

Simply stated, Celebration has outgrown its walkability. The community was built from the inside out, starting with the downtown area, then the most proximal residential villages, and moving outward to the most distal villages. Frantz and Collins (1999) lived in a home in East Village, right on the edge of downtown, and could easily walk to downtown destinations. Ross (1999) lived directly downtown, in an apartment above ground-level shops. Today, the bulk of the Celebration population is located outside of feasible walking distance to downtown or other commercial areas.

To address this walkability challenge, there must be a paradigm shift in the way mixed-use or commercial areas are integrated within new urban neighborhoods. Currently, the trend is to include a single, large mixed-use area in a large new urban neighborhood. One alternative, as discussed in the pedestrian-centricity evaluations of Baldwin Park and Celebration in Chapter 4, is to include multiple mixed-use or commercial areas throughout large new urban neighborhoods. Another alternative would be to build multiple, smaller neighborhoods, each with their own walkable amenities. This could also be an opportunity for public-private partnership: for example, smaller, distributed mixed-use or commercial areas could be anchored by key community destinations, such as a city hall, post office, or library. Doing so would provide a strong anchor for the space and unite both public and private stakeholders in neighborhood success.

There are certainly challenges associated with each of these alternatives, including developer concerns with return on investment. However, if the strategy for inclusion of mixed-used or commercial areas in new urban developments does not change, achievement of pedestrian-centric tenets of New Urbanism will likely not be achieved.

The role of location in neighborhood selection and the relationship between residential and commercial development should also be considered with respect to potential theoretical and policy-related outputs of this and related research. The importance of location was well-demonstrated by surveyed and interviewed Sweetwater residents, the majority of whom conveyed that school zoning was the predominant factor in neighborhood selection. Intertwined with the theme of location is the nature of commercial development to follow residential development. Before E. Everette Huskey developed Sweetwater, the portions of Orange and

Seminole counties near Wekiwa Springs State Park were agricultural, with little residential and commercial development. Following the build-up of Sweetwater and neighboring residential areas, many commercial outlets, including the Heathrow commercial corridor, were established (Jackson, 2007). This organic development process is representative of its standard not only in suburban areas, but also the high-density, traditionally-designed urban centers that are the model for new urban development. If residential development and neighborhood selection are location-driven, and if commerce thrives in locations where demand is high, does the packaged, all-in-one-fell-swoop new urban model have long-term viability? In populating new urban commercial centers within newly developed neighborhoods, vendors take a major risk in assuming that there is demand for their products or services. Therefore, it is likely safe to conjecture that many of the first vendors in new urban commercial centers fail to be economically-viable, and that it may take several generations of vendor occupants to establish a true need-based commercial mix that can be sustained by neighborhood and external patrons. Meanwhile, new urban residents, prospective residents, and other observers witness the continuous turnover of commercial occupants, thus fueling the economic self-sustainability critics of New Urbanism.

Recommendations for Future Research

Key limitations of this research included its single-case design, the utilization of indexes to measure frequency variables, the construction of and lack of pre-testing of index variables, and the lack of interview audio recording. In making recommendations for future research, it is

suggested that these study design and methodological elements be addressed, that the research base be expanded to examine regional factors, and that factors contributing to the social inequity of new urban development be explored.

Recommendations for Case Selection

With respect to single-case design and case selection, future studies should include more than one neighborhood of each evaluated type so as to enhance the generalizability of study findings. Some prior research (Handy et al., 2005; Lamont, 2001; Leyden, 2003; Lund, 2003) has included multiple neighborhoods of each evaluated type, and it is recommended that this become the routine practice moving forward. Further, it is suggested that future studies on the impact of new urban development include not only new urban and conventional suburban neighborhoods, but also traditional neighborhoods. Inclusion of traditional neighborhoods provides a second, and very important, point of comparison of the outcomes of New Urbanism: a baseline of what New Urbanism *should* achieve.

Another case selection factor to consider in the case selection process is the level of scrutiny to which studied neighborhoods have been subjected. Many new urban neighborhoods, including Celebration, have been the subject of multiple studies and publications. While it could be difficult to identify a new urban neighborhood that has not been highly studied, inclusion of

less-scrutinized neighborhoods could lead to increased survey response rates and other outcomes that enhance study findings.

These case selection factors and the central Florida region in mind, future research might explore Baldwin Park, a strong new urban candidate for this research, as an alternative or complimentary experimental group. Additionally, areas of older Winter Park, an Orlando suburb just north of downtown Orlando, and downtown Orlando neighborhoods such as Thornton Park would be solid candidates for evaluating the ability of New Urbanism to replicate the outcomes of traditional neighborhood development.

Recommendations for Cross-Regional Comparison

Once a strong understanding of social and transportation outcomes within a given region is established, it would be valuable for the urban planning community to conduct multi-region studies that test broader generalizability of study findings. Such studies have the potential to define common influencers of desired New Urbanist outcomes and to clearly identify region-specific limitations that constrain generalizability. For example, is a lack of an effective public transit system a universal limiter of achieving desired new urban outcomes? Does “car culture” trump transit availability and efficiency across regions? How influential is climate to transit ridership and utilitarian physical activity?

This research provided exploratory findings illustrating the lack of utilization of the LYNX public transit system by interviewed residents and their perceived inefficiency of this

system. These findings in mind, it is recommended that the relationship between public transit and the transportation outcomes yielded by the built environment within central Florida be further explored. Similar research (Podobnik, 2002) has evaluated neighborhood type in conjunction with public transit utilization, and conducting such research in central Florida may help to shape advancements of LYNX or other, nascent central transit systems.

At a more finite level, it would be valuable to better understand the household makeup of new urban neighborhoods and compare this makeup to other, regionally co-located neighborhoods. As discussed in Chapter 4, both this research and Dill (2006) found that new urban neighborhoods within the studied sample tended to have fewer households with children. Determining whether these findings are unique, or representative of other new urban neighborhoods, would help to explain relationships between the built environment and social and transportation-related outcomes. For example, as Dill (2006) proposed, due to the inconvenience of making utilitarian trips with children, households with children may be more likely to rely on automobiles for their trips. If fewer new urban households contain children than conventional suburban neighborhoods (as this study and Dill found) and households with children tend to make more automobile trips for convenience purposes, it is possible to falsely conclude that differences in automobile trips between neighborhood type are a result of the neighborhood type, rather than other factors.

Recommendations for Exploring the Social Inequity of New Urbanism

As introduced earlier in this chapter, the tendency of new urban neighborhoods to contain socio-demographically homogeneous populations begs the question of whether new urban residents self-select so as to maintain this homogeneity. Sampson and Sharkey (2008) explored roughly 4,000 residents originating in the Chicago area over a seven-year period to evaluate their subsequent neighborhood selection choices as they moved around the United States. Findings indicated that studied individuals tended to select into neighborhoods containing residents of similar income and racial characteristics, thereby enabling social inequality. While Sampson and Sharkey did not directly examine new urban neighborhoods, their findings support the notion of socio-demographic based self-selection. This in mind, it is recommended that future research explore this potential relationship.

Beyond self-selection sustenance of social inequality, future research should also explore what measures should be taken to diversify new urban populations. One specific topic to study within this context is whether infill or brownfield new urban developments achieve greater resident diversity than greenfield projects. Being located near diverse city centers, infill and brownfield developments may result in a more racially-diverse resident base, although they may not be any more successful in achieving economic diversity than greenfield projects. Economic diversity is largely a factor of builder ambitions: higher-valued homes yield higher profits. To this end, it is also recommended that future research explore whether local and regional policies that incent development of fixed-price, lower-income dwellings alongside mid- and higher-priced properties would help to achieve economic diversity within new urban neighborhoods.

Summary

This research expanded the understanding of the social and transportation outcomes of New Urbanism, particularly with respect to the central Florida region. While group and quantitative limitations may have impeded the ability of this study to draw decisive conclusions about research questions, distinctive themes regarding social and transportation outcomes were identified. Findings of this research supported those of some prior studies while contradicting others, indicating that further exploration is needed to establish a firm understanding of the capabilities of new urban development to achieve desired outcomes and of regional characteristics that may influence these outcomes.

New Urbanism represents an evolution in planning ideals that seeks to replicate prior successes, to rectify mistakes, and to inspire innovation. In rectifying prior successes and rectifying mistakes, New Urbanism strives to leverage “what works”—namely, characteristics of pre-WWII, traditional neighborhoods—and insert these methods into current planning paradigms to enable community, individual, and environmental wellness. A perfect new urban solution has yet to be achieved, and much exploration of how “what used to work” can be adapted to define “what works today” is needed. This research, it is hoped, provides the urban planning community with greater insight into “what works today”.

APPENDIX A: CHARTER OF THE NEW URBANISM

The Congress for the New Urbanism views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge.

We stand for the restoration of existing urban centers and towns within coherent metropolitan regions, 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.

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

We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

We represent a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

We dedicate ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment.

We assert the following principles to guide public policy, development practice, urban planning, and design:

The region: Metropolis, city, and town

Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges.

The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.

The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.

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

Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion.

Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs/housing balance, not as bedroom suburbs.

The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.

Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.

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

Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.

The neighborhood, the district, and the corridor

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

Neighborhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible. Corridors are regional connectors of neighborhoods and districts; they range from boulevards and rail lines to rivers and parkways.

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

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

Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers.

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

Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.

The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.

A range of parks, from tot-lots and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts.

The block, the street, and the building

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

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

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

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

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

Architecture and landscape design should grow from local climate, topography, history, and building practice.

Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.

All buildings should provide their inhabitants with a clear sense of location, weather and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.

Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society.

Source: Congress of the New Urbanism (CNU). Charter of the New Urbanism. Retrieved January 21, 2007 from <http://www.cnu.org/charter>.

APPENDIX B: INSTITUTIONAL REVIEW BOARD APPROVAL



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Notice of Exempt Review Status

From: UCF Institutional Review Board
FWA00000351, Exp. 10/8/11, IRB00001138

To: Laura Mikovsky

Date: May 11, 2009

IRB Number: SBE-09-06211

Study Title: **Community Participation and Travel Choice: An Analysis of Central Florida New Urban and Conventional Suburban Residents**

Dear Researcher:

Your research protocol was reviewed by the IRB Chair on 5/11/2009. Per federal regulations, 45 CFR 46.101, your study has been determined to be **minimal risk for human subjects and exempt** from 45 CFR 46 federal regulations and further IRB review or renewal unless you later wish to add the use of identifiers or change the protocol procedures in a way that might increase risk to participants. Before making any changes to your study, call the IRB office to discuss the changes. **A change which incorporates the use of identifiers may mean the study is no longer exempt, thus requiring the submission of a new application to change the classification to expedited if the risk is still minimal.** Please submit the Termination/Final Report form when the study has been completed. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

The category for which exempt status has been determined for this protocol is as follows:

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, and achievement), survey or interview procedures, or the observation of public behavior, so long as confidentiality is maintained.
 - (i) Information obtained is recorded in such a manner that the subject cannot be identified, directly or through identifiers linked to the subject, **and/or**
 - (ii) Subject's responses, if known outside the research would not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability or reputation.

The IRB has approved a **waiver of documentation of consent** for all subjects. Participants do not have to sign a consent form, but the IRB requires that you give participants a copy of the IRB-approved consent form, letter, and information sheet. For online surveys, please advise participants to print out the consent document for their files.

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

On behalf of Tracy Dietz, Ph.D., UCF IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 05/11/2009 04:22:02 PM EDT

IRB Coordinator

APPENDIX C: SURVEY COVER LETTER AND QUESTIONNAIRE



Community Participation and Travel Choice Survey

August 11, 2009

Dear Homeowner/Occupant,

You have been selected to participate in a study on the impact of neighborhood type on community involvement and travel choice. This study is being conducted by Laura P. Mikovsky, a student in the Ph.D. in Public Affairs Program at the University of Central Florida, under the supervision of Lawrence L. Martin, Ph.D., a member of the Ph.D. in Public Affairs Program faculty.

The results of this research will contribute toward a greater understanding of the impact of the built environment—our roads, parks, schools, shopping centers, and other man-made structures—on our daily activities. Specifically, this study is intended to evaluate differences in community involvement and travel patterns across different types of neighborhoods. Your participation will provide insight about these relationships in your neighborhood, in central Florida, and ultimately throughout the United States.

Your neighborhood is one of two central Florida neighborhoods selected for this study. All addresses in each neighborhood were selected randomly from public records obtained from county property appraisers; thus, your receipt of this survey is not based on any characteristic other than your living in your neighborhood.

This survey is available in both paper and online formats. If you would prefer to take the online version of this survey, please see the instructions for accessing and submitting the online survey on the next page.

This survey should take approximately 20 minutes to complete. All survey results will be discussed only generally in this research, and results will not be linked in any way to your address or name. Details about survey respondents, including addresses and actual responses, will not be disclosed to other parties. Survey results and the associated written report will be available by December 2009 and provided to respondents upon request.

As with all survey research, obtaining responses from every person that we contact is crucial to the success of this study. We understand that your time is limited, and hope that your investment in your home and community will encourage your participation.

We look forward to receiving your completed survey in the next few days.

Sincerely,

Laura P. Mikovsky, Ph.D. Candidate

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Taking the Survey Online

To take the online version of this survey:

1. Enter <http://neighborhoodsurvey.blogspot.com> into the address bar of your web browser.
2. After this page loads, select the link titled '[Click here to take the survey](#)'.
3. **Important!** Please take note of the **packet number** assigned to your survey packet. This number is printed on the reverse side of this page and on the first page of the printed survey. In order to validate your online response, you will be prompted to enter this packet number before beginning the survey.

Survey Instructions

1. Please ensure that an adult “decision-maker” or head of household completes either the paper or online version of this survey.
2. Please complete all questions as accurately and thoroughly as possible.
3. **Completed paper surveys should be returned in the enclosed, pre-stamped, pre-addressed envelope.** If any of these materials are lost, please contact the survey administrator to request additional copies.
4. Please submit only one survey per household.

Questions in this survey are both multiple choice and fill-in-the-blank. While you are given specific answers to choose from for many questions, you are welcomed and encouraged to provide additional feedback in page margins or in space provided in the online version of the survey.

Confidentiality

All information collected in this survey will be utilized only for the purposes of this research. Demographic information and addresses collected for the purposes of this research will not be distributed. Please direct any questions about use of survey information to the primary researcher or the dissertation supervisor.

Consent to Utilize Survey Feedback

By completing this survey, you give the Primary Investigator permission to report your responses anonymously in the final manuscript to be submitted to the faculty supervisor as part of the degree requirements of the UCF Ph.D. in Public Affairs Program. Submission of completed surveys verifies that you are at least 18 years of age and constitutes your consent to participate in this study. **Please retain this page for your records.**

Survey Organization

This survey is organized into the following sections:

- Section A: Participation, Travel, and Preferences in Your Current Neighborhood
- Section B: Participation, Travel, and Preferences in Your Previous Neighborhood
- Section C: Demographic Information

Community Participation and Travel Choice Survey

Section A: Participation, Travel, and Preferences in Your Current Neighborhood

Section A: Introduction

In Section A, you will be asked questions about your CURRENT neighborhood. Please think about your experience in your CURRENT neighborhood when answering these questions. For all questions in this section, please answer for YOURSELF ONLY, not for other members of your household. Feel free to use page margins for any additional comments or feedback you have about the questions in this section.

Section A, Part 1: Participation in Your Current Neighborhood

Please refer to the examples below when asked about your participation in community activities:

- HOA (homeowner association) activities: holding office, attending meetings, supportive functions
- Neighborhood activities: block parties, barbecues, community garage sales
- Children’s school activities: parent-teacher organizations, field trips, school plays, fundraising
- Youth sporting activities: attending games/practices, coaching, fundraising
- Faith-based activities: attending services, study groups, choirs, event coordination/planning
- Civic activities: political rallies, local government meetings, election day activities
- Other activities: other organized group activities, including but not limited to scouting, 4-H, and clubs/leagues

1. Since living in your CURRENT neighborhood, how much do you agree or disagree about the statements below? Please select ‘N/A’ if a statement is not applicable.

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Not sure	N/A
I enjoy participating in HOA and/or neighborhood activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoy participating in children’s school activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoy participating in youth sporting activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoy participating in faith-based activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoy participating in civic activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoy participating in other activities (specify):	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

2. Since living in your CURRENT neighborhood, how many times in a typical week have you participated in the activities below? Please select ‘N/A’ if an activity is not applicable.

Activity	Never	Less than once	Once or twice	Three or four times	Five or six times	Seven or more	N/A
HOA and/or neighborhood activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Children’s school activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Youth sporting activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Faith-based activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Civic activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Other activities (specify):	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9

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3. Since living in your CURRENT neighborhood, what three factors (i.e. finding time, money, distance to venue, lack of activities, etc.) most influence your frequency of participation in the above activities? Please list factors in order of influence, with the most influential first).

1) _____ 2) _____ 3) _____

Section A, Part 2: Travel in Your Current Neighborhood

4. Since living in your CURRENT neighborhood, how many times in a typical week do you **drive or ride as a passenger in a private vehicle** from your home to the places below for purposes other than work?

Destination	Never	Less than once	Once or twice	Three or four	Five or six	Seven or more
Grocery store	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's school	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's activities	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Place of worship	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Restaurant or coffee place	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
A place to exercise	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Other destination (specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

5. Since living in your CURRENT neighborhood, how many times in a typical week do you **walk or ride a bicycle** from your home to the places below for purposes other than work?

Destination	Never	Less than once	Once or twice	Three or four	Five or six	Seven or more
Grocery store	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's school	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's activities	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Place of worship	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Restaurant or coffee place	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
A place to exercise	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Other destination (specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

6. Since living in your CURRENT neighborhood, approximately how many **miles per week** do **you** drive (including weekends)? Please do not include miles driven by other members of your household.

_____ miles

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7. Since living in your **CURRENT** neighborhood, how many **vehicles and bicycles** are owned and/or leased by your household?

_____ vehicles _____ bicycles

8. Since living in your **CURRENT** neighborhood, how much do you agree or disagree with the statements below? Please select 'N/A' if a statement is not applicable.

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Not sure	N/A
I prefer to walk or ride a bicycle rather than drive whenever possible	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Traveling by car is safer overall than walking or bicycling	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I prefer to organize my errands so that I make as few trips as possible	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
My household could manage with one fewer car than we have (or with no car)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

9. Since living in your **CURRENT** neighborhood, how difficult is it **for you** to **walk or ride a bicycle** from your home to the destinations below? Please select 'N/A' if a statement is not applicable.

Destination	Very easy	Easy	Hard	Very hard	Not sure	N/A
Grocery store	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Children's school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Children's activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Place of worship	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Restaurant or coffee place	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
A place to exercise	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Other destination (specify):	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

10. Please tell us about your **commute** (trip from home to your place of work) since living in your **CURRENT** neighborhood. **If you are not employed, please skip to the next question.**

- a. How often do you **drive** to work? _____ days/week
- b. How often do you **walk or ride a bicycle** to work? _____ days/week
- c. How **far** is it from your home to work? _____ miles
- d. How long does it usually take to **drive** to work? _____ minutes
- e. How often do you **work at home instead** of making the trip to work? _____ days/week
- f. How often do you **travel overnight** for work (on average)? _____ days/month

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11. Since living in your CURRENT neighborhood, how many times in a typical week do you **exercise** for health/fitness purposes (excluding exercise gained while traveling to/from destinations)?

_____ times/week

Section A, Part 3: Characteristics and Preferences in Your Current Neighborhood

For the following question, please think about the characteristics that were important to you when you were IN THE PROCESS OF SELECTING your CURRENT neighborhood and home.

12. When selecting your CURRENT home, how important were the following characteristics in your decision?

Characteristic	Not at all important	Somewhat important	Important	Extremely important	Not sure	N/A
Living near family and/or friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Living near place of employment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Easy access to shopping and/or services	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Abundant sidewalks and/or bike lanes/paths	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Quality schools nearby	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Neighborhood safety	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Friendliness of neighbors	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Presence of children in the neighborhood	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Home quality and overall neighborhood appearance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Front/back yards for large enough for outdoor activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

13. List any other characteristics not mentioned in the previous question that were important when selecting your CURRENT home.

14. What was the most important characteristic considered when selecting your CURRENT home?

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For the following question, please think about the ACTUAL characteristics of your CURRENT neighborhood and home.

15. With respect to your CURRENT home and neighborhood, how true are the following statements? Please select 'N/A' if a statement is not applicable.

Characteristic	Not true at all	Somewhat true	True	Entirely true	Not sure	N/A
I live near family and/or friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I live near my place of employment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I can easily access to shopping and/or services	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There are abundant sidewalks and/or bike lanes/paths	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There are quality schools nearby	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
The neighborhood is safe	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
My neighbors are friendly	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There are plenty of children in the neighborhood	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
The quality of homes and overall neighborhood appearance is acceptable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There are front/back yards large enough for outdoor activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

Section A, Part 4: Additional Information About Your Current Neighborhood

16. Have you experienced any of the following events since living in your CURRENT neighborhood? Please check all that apply.

- 1 Marriage 2 Birth/adoption of children 3 Children leaving household 4 Job/career change
5 Other (specify): _____

17. How long have you lived in your CURRENT residence? _____ Years _____ Months

18. Are you considering moving in the next year?

- 1 No 2 Yes...because of the: 1 house 2 neighborhood 3 location in region
4 other reasons (specify): _____

19. How long have you lived in central Florida? _____ Years _____ Months

20. Do you claim legal residence in the State of Florida? 1 No 2 Yes

21. Do you live in this home year-round? 1 No 2 Yes

22. Do you own/have a mortgage on your home? 1 No 2 Yes

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Section B: Participation, Travel, and Preferences in Your Previous Neighborhood

Section B: Introduction

In Section B, you will be asked questions about your PREVIOUS neighborhood. Please think about your experience in your PREVIOUS neighborhood when answering these questions. For all questions in this section, please answer for YOURSELF ONLY, not for other members of your household. Feel free to use page margins for any additional comments or feedback you have about the questions in this section.

Section B, Part 1: Participation in Your Previous Neighborhood

Please refer to the examples below when asked about your participation in community activities:

- HOA (homeowner association) activities: holding office, attending meetings, supportive functions
- Neighborhood activities: block parties, barbecues, community garage sales
- Children’s school activities: parent-teacher organizations, field trips, school plays, fundraising
- Youth sporting activities: attending games/practices, coaching, fundraising
- Faith-based activities: attending services, study groups, choirs, event coordination/planning
- Civic activities: political rallies, local government meetings, election day activities
- Other activities: other organized group activities, including but not limited to scouting, 4-H, and clubs/leagues

23. When you lived in your PREVIOUS neighborhood, how much did you agree or disagree with the statements below? Please select ‘N/A’ if a statement is not applicable.

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Not sure	N/A
I enjoyed participating in HOA and/or neighborhood activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoyed participating in children’s school activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoyed participating in youth sporting activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoyed participating in faith-based activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoyed participating in civic activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I enjoyed participating in other activities (specify):	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

24. When you lived in your PREVIOUS neighborhood, how many times in a typical week did you participate in the activities below? Please select ‘N/A’ if an activity is not applicable.

Activity	Never	Less than once	Once or twice	Three or four times	Five or six times	Seven or more	N/A
HOA and/or neighborhood activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Children’s school activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Youth sporting activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Faith-based activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Civic activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9
Other activities (specify):	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 9

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25. When you lived in your PREVIOUS neighborhood, what three factors (i.e. finding time, money, distance to venue, lack of activities, etc.) most influenced your frequency of participation in the above activities? Please list factors in order of influence, with the most influential first).

1) _____ 2) _____ 3) _____

Section B, Part 2: Travel in your Previous Neighborhood

26. When you lived in your PREVIOUS neighborhood, how many times in a typical week did you **drive or ride as a passenger in a private vehicle** from your home to the places below for purposes other than work?

Destination	Never	Less than once	Once or twice	Three or four	Five or six	Seven or more
Grocery store	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's school	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's activities	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Place of worship	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Restaurant or coffee place	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
A place to exercise	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Other destination (specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

27. When you lived in your PREVIOUS neighborhood, how many times in a typical week did you **walk or ride a bicycle** from your home to the places below for purposes other than work?

Destination	Never	Less than once	Once or twice	Three or four	Five or six	Seven or more
Grocery store	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's school	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Children's activities	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Place of worship	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Restaurant or coffee place	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
A place to exercise	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆
Other destination (specify):	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	<input type="checkbox"/> ₆

28. When you lived in your PREVIOUS neighborhood, approximately how many **miles per week** did **you** drive (including weekends)?

_____ miles

Community Participation and Travel Choice Survey

29. When you lived in your PREVIOUS neighborhood, how many **vehicles and bicycles** were owned and/or leased by your household?

_____ vehicles _____ bicycles

30. When you lived in your PREVIOUS neighborhood, how much did you agree or disagree with the statements below? Please select 'N/A' if a statement is not applicable.

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Not sure	N/A
I preferred to walk or ride a bicycle rather than drive whenever possible	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Traveling by car was safer overall than walking or bicycling	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I preferred to organize my errands so that I make as few trips as possible	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
My household could have managed with one fewer car than we had (or with no car)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

31. When you lived in your PREVIOUS neighborhood, how difficult was it **for you** to **walk or ride a bicycle** from your home to the destinations below? Please select 'N/A' if a statement is not applicable.

Destination	Very easy	Easy	Hard	Very hard	Not sure	N/A
Grocery store	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Children's school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Children's activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Place of worship	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Restaurant or coffee place	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
A place to exercise	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
Other destination (specify):	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

32. Please tell us about your **commute** (trip from home to your place of work) when you lived in your PREVIOUS neighborhood. **If you were not employed then, please skip to the next question.**

- a. How often did you **drive** to work? _____ days/week
- b. How often did you **walk or ride a bicycle** to work? _____ days/week
- c. How **far** was it from your home to work? _____ miles
- d. How long did it usually take to **drive** to work? _____ minutes
- e. How often did you **work at home instead** of making the trip to work? _____ days/week
- f. How often did you **travel overnight** for work (on average)? _____ days/month

33. When you lived in your PREVIOUS neighborhood, how many times in a typical week did you **exercise** for health/fitness purposes (excluding exercise gained while traveling to/from destinations)?

_____ times/week

Community Participation and Travel Choice Survey

Section B, Part 3: Characteristics and Preferences in Your Previous Neighborhood

34. When you lived in your PREVIOUS neighborhood, how true were the following statements? Please select 'N/A' if a statement is not applicable.

Characteristic	Not true at all	Somewhat true	True	Entirely true	Not sure	N/A
I lived near family and/or friends	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I lived near my place of employment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
I could easily access to shopping and/or services	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There were abundant sidewalks and/or bike lanes/paths	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There were quality schools nearby	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
The neighborhood was safe	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
My neighbors were friendly	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There were plenty of children in the neighborhood	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
The quality of homes and overall neighborhood appearance was acceptable	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9
There were front/back yards large enough for outdoor activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 7	<input type="checkbox"/> 9

The following question asks about the TYPE of your PREVIOUS neighborhood. Please refer to the descriptions and images below to classify your PREVIOUS neighborhood TYPE:

- **Traditional neighborhood:** older (pre-1950s) neighborhood located in or very close to urban areas; straight, grid-like street layout; embedded retail/service venues, sometimes with retail/service and residential units in the same building; small lot sizes (homes very close together); small or non-existent set-backs (distance) from streets; mix of residential property values
- **Conventional suburban neighborhood:** typically built in the 1950s or later; located on the periphery of urban areas; winding streets, often with cul-de-sacs; no or very few embedded retail/service venues; medium to large lot sizes (homes far from each other); medium to large set-backs (distance) from streets; residential property values similar throughout
- **New urban neighborhood:** typically built in the last twenty years; located on the periphery or within urban areas; semi-grid or grid street layout; embedded retail/service venues, sometimes with retail/service and residential units in the same building; smaller lot sizes (homes closer together than in conventional suburban neighborhoods); smaller set-backs (distance) from streets; mix of residential property values
- **Rural/non-neighborhood:** home located in a rural area or otherwise not in a neighborhood
- **Apartment:** multi-family residential structure

Community Participation and Travel Choice Survey

Image 1: Traditional neighborhood - grid street layout, row houses, traditional mixed-use (retail/services on ground floor, residential on upper floors) structure



Image 2: Conventional suburban neighborhood - winding street layout, home with large lot and street-facing driveway, separate shopping/service area



Image 3: New urban neighborhood - semi-grid street layout, homes with small lots, and modern mixed-use structure



35. Given the above descriptions, how would you classify your PREVIOUS neighborhood?

- ₁ Traditional
 ₂ Conventional suburban
 ₃ New urban
 ₄ Rural/non-neighborhood
₅ Apartment
 ₆ Not sure

Section C: Demographic Information

Your completion of this section will assist us in analyzing the demographic makeup of your neighborhood and how these characteristics relate to the variables measured in this study. Demographic information will ONLY be used for purposes of this analysis and will remain completely CONFIDENTIAL. If you prefer not to provide any of the information requested below, please leave respective fields blank.

36. What is your gender? 1 Male 2 Female
37. What is your marital status? 1 Married 2 Single 3 Other
38. What is your highest level of education **completed**?
1 High school 2 College 3 Advanced degree
39. What is your race? (please check all that apply) 1 White 2 Black or African American
3 American Indian 4 Asian 5 Native Hawaiian/Pacific Islander 6 Other: _____
40. What was your 2008 household income?
1 Less than \$25,000 2 \$25,000 to \$49,999 3 \$50,000 to \$74,999 4 \$75,000 to \$99,999
5 \$100,000 to \$149,999 6 \$150,000 to \$199,999 7 \$200,000 to \$299,000 8 \$300,000 or more
41. Please describe the people in your household. If there are more than six people in your household, please describe them in the page margins.
- a. **You:** Age: _____
Employment status: 1 Not employed 2 Employed part-time 3 Employed full-time
- b. **Person 2:** Age: _____
Relationship to you: 1 Spouse/partner 2 Child 3 Other relative 4 Not related
Employment status: 1 Not employed 2 Employed part-time 3 Employed full-time
- c. **Person 3:** Age: _____
Relationship to you: 1 Spouse/partner 2 Child 3 Other relative 4 Not related
Employment status: 1 Not employed 2 Employed part-time 3 Employed full-time
- d. **Person 4:** Age: _____
Relationship to you: 1 Spouse/partner 2 Child 3 Other relative 4 Not related
Employment status: 1 Not employed 2 Employed part-time 3 Employed full-time
- e. **Person 5:** Age: _____
Relationship to you: 1 Spouse/partner 2 Child 3 Other relative 4 Not related
Employment status: 1 Not employed 2 Employed part-time 3 Employed full-time
- f. **Person 6:** Age: _____
Relationship to you: 1 Spouse/partner 2 Child 3 Other relative 4 Not related
Employment status: 1 Not employed 2 Employed part-time 3 Employed full-time

APPENDIX D: HOA ATTENDANCE REQUEST LETTER

[Date]

Dear Sir or Madam:

I am contacting you to request permission to attend one or more upcoming [Celebration/Sweetwater] HOA meetings in order to interview residents of your neighborhood. As a student in the Ph.D. in Public Affairs Program, College of Health and Public Affairs, at the University of Central Florida, I am researching the impact of neighborhood type on community participation and daily travel. Because of its unique characteristics, [Celebration/Sweetwater] is one of two central Florida neighborhoods that have been selected for analysis.

Most data will be collected from surveys mailed to select [Celebration/Sweetwater] households, whose addresses were obtained from publicly available county property appraiser databases. In addition to this survey data, I would like to conduct short interviews with neighborhood residents to learn additional information about the impact of the physical design characteristics of [Celebration/Sweetwater] on community participation and daily travel. These interviews should take no more than 20 minutes to complete.

Please rest assured that participation in the survey and interview is completely voluntary and confidential. Addresses of households selected for survey mailings were obtained from publicly-available county property appraiser information and will not be linked in any way to responses. Likewise, interview participant names and other identifying information will not be with associated survey responses. No information collected for this research will be distributed or utilized for any purpose outside of the study.

Please indicate your approval or disapproval of my attendance of one or more upcoming HOA meetings to recruit focus group participants via reply to this email. For reference purposes, please provide your name and position with respect to the [Celebration/Sweetwater] HOA. If you approve, I ask that you also provide the dates and locations of upcoming meetings that I have your permission to attend.

Please do not hesitate to contact me if you have any questions or concerns about the nature of this study or the types of questions that will be asked of focus group participants. You are also welcome to contact my faculty adviser who is supervising this research, Dr. Larry Martin, of the UCF Ph.D. in Public Affairs Program, whose contact information is provided below.

Thank you for your willingness to contribute to this study. I look forward to hearing from you soon!

Sincerely,

Laura Mikovsky, Primary Investigator, Public Affairs Ph.D. Candidate

College of Health and Public Affairs
University of Central Florida
3280 Progress Drive
Orlando, FL 32816
Phone: 407.342.3435
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Lawrence L. Martin, Ph.D.
Professor, Ph.D. in Public Affairs Program
College of Health and Public Affairs
University of Central Florida
3280 Progress Drive
Orlando, FL 32816
Phone: 407.823.5731
Email: martinl@mail.ucf.edu

APPENDIX E: INTERVIEW RECRUITMENT EMAIL

Dear Sir or Madam,

I am a UCF Public Affairs Ph.D. student studying two central Florida neighborhoods--one new urban (Celebration) and one conventional suburban (Sweetwater)—to assess factors influencing neighborhood selection, community involvement, and transportation choices. As part of the research I am conducting interviews of residents of the studied neighborhoods to learn more about these variables.

Interviews take about 20 minutes to complete. Phone interviews seem to be the best fit for participants as they allow the most flexibility in scheduling, but I am also available to meet somewhere near Sweetwater, such as Starbucks at 434/Wekiva Springs Rd., for in-person interviews (coffee and food will be my treat!). Both individual and small group formats work, so if you have neighbors or friends/family living in Sweetwater that are interested in participating we can meet together for a group interview.

Confidentiality and Consent to Participate

If you would like to participate in an interview, please review, sign, and return the attached consent form, which is required by the University for all research participants. This document also describes how information shared during interviews will remain confidential and be used only for purposes of this research. The signature page (last page) can be scanned and returned by email to lauramikovsky@gmail.com or faxed to (321) 396-7948. If you prefer to interview in person I will bring a printed copy of the document when we meet.

If you have any questions about the research or interview, please feel free to contact me by phone or email.

Thank you for considering participation in this research. I look forward to talking with you.

Sincerely,

Laura Mikovsky

**APPENDIX F: INTERVIEW INSTRUCTIONS AND INFORMED
CONSENT FORM**



Interview Informed Consent Instructions and Form

Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being invited to take part in a study that will include about 500 people living in the greater Orlando area. You can ask questions about the research. You can read this form and agree to take part right now, or take the form home with you to review before you decide. You will be told if any new information is learned which may affect your willingness to continue taking part in this study. You have been asked to take part in this research study because you reside in one of two central Florida neighborhoods being queried for this study. You must be 18 years of age or older to be included in the research study and sign this form.

The person doing this research is Laura Mikovsky, a Ph.D. candidate in the Public Affairs doctoral program, College of Health and Public Affairs, at the University of Central Florida. Because the researcher is a graduate student, she is being guided by Lawrence Martin, Ph.D., a UCF faculty supervisor in the Public Affairs doctoral program.

Study title: Community Participation and Travel Choice—An Analysis of Central Florida New Urban and Conventional Suburban Residents

Study purpose: The purpose of this study is to gain a better understanding of the impact of the built environment—the structures, streets, and spaces that comprise the areas in which we live, work, and conduct business—on social and travel patterns. Specifically, the researcher is interested in learning:

1. How frequently you participate in community activities;
2. How frequently you walk or ride a bicycle to destinations for non-recreational purposes;
3. How many miles per week you drive in a private vehicle;
4. How the above factors have changed (if at all) compared to your previous neighborhood; and
5. Your preferences with respect to community involvement and travel mode in your current and previous neighborhoods.

Your role in this study: Two hundred and fifty single-family households from your neighborhood were randomly selected from online county property appraiser sales databases to participate in a survey for this study. The households living at these addresses have been mailed a survey packet including a paper survey to be mailed back to the researcher and the address of an online version of the survey should they prefer to submit feedback online.

In addition to survey feedback, the researcher seeks to gather unstructured information from residents of the two target neighborhoods through a series of small focus groups. These groups will engage in an informal discussion about their community involvement and travel behaviors and preferences. The researcher will query focus group participants with a prepared list of questions that you are welcome to review prior to participating.



Interview Informed Consent Instructions and Form

If you reside in a household that was targeted for survey participation and would like to also participate in a focus group, please let the researcher know so you can be grouped accordingly.

Voluntary participation: You are welcome and encouraged to participate in both the survey (if recruited) and focus group, but are not obligated to participate in either. You should take part in this study only because you want to. There is no penalty for not taking part, and, as a resident of this neighborhood, you will be provided access to study findings upon request.

If you choose to participate, you have the right to stop at any time—just tell the researcher that you want to stop. You will be told if any new information is learned which may affect your willingness to continue taking part in this study.

Location: Focus groups will be held at facilities utilized for Homeowner Association (HOA) or other activities at which residents of your neighborhood are being recruited, or an alternate location agreed upon by the researcher and study participants. If the facility where the HOA or other neighborhood activities being held is not available for focus groups to meet, the researcher may suggest meeting at a nearby public place, such as a coffee shop, at a time that is convenient for all involved parties.

Time required: Focus group discussions will take approximately 20-30 minutes, and each participant will be asked to attend only one discussion.

Risks: There are no expected risks for taking part in this study. You do not have to answer every question asked or contribute to each idea discussed by the focus group. You do not have to answer any questions that make you feel uncomfortable. You will have complete access to study findings even if you do not fully participate.

Benefits: It is anticipated that residents of the two neighborhoods being targeted for this study will directly benefit from an enhanced understanding of the general behaviors and preferences with respect to community involvement and travel patterns of other members of your neighborhood. This knowledge may influence you to become more engaged in community activities and/or to alter your travel patterns for the good of the neighborhood as a whole.

Indirectly, this study has the potential to benefit you through its impact on urban planning community, including academics and practitioners in central Florida, elsewhere in the United States, and around the world. Results from studies such as this are frequently referenced to guide urban planning practitioners, and are often the driving force behind broad-scale changes in the field.

Compensation or payment: There is no compensation or other payment to you for taking part in this study.

Confidentiality: Surveyed households and residents, including yourself, targeted to participate in this study were selected solely on a basis of your living in this neighborhood. No other personal



Interview Informed Consent Instructions and Form

information about these households and residents, including you, was gathered, and all identifying information, including names and addresses of survey and focus group participants, will not be utilized in any way in this study.

Your feedback will be assigned a unique code to prevent any unauthorized linkage between personal identifying information and your responses. Once a code is assigned, the researcher will not refer to you by any means other than this code. Any documentation linking your personal information to this code will be destroyed after the study is complete and data have been analyzed.

Your information will be combined with information from other people who took part in this study. When the researcher writes about this study to share what was learned with other researchers, she will write about this combined information. Your name will not be used in any report, so people will not know how you answered or what you did.

Study contact for questions about the study or to report a problem:

Principal Investigator:

Laura P. Mikovsky
Student, Public Affairs Ph.D. Program
University of Central Florida
3280 Progress Drive
Orlando, FL 32816
Phone: 407.342.3435
Email: lpmikov@mail.ucf.edu

Research/Dissertation Supervisor:

Lawrence L. Martin, Ph.D.
Professor, Public Affairs Ph.D. Program
University of Central Florida
3280 Progress Drive
Orlando, FL 32816
Phone: 407.823.5731
Email: martinl@mail.ucf.edu

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). For information about the rights of people who take part in research, please contact:

Institutional Review Board
University of Central Florida
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, FL 32826-3246
(407) 823-2901



Interview Informed Consent Instructions and Form

Informed Consent Form

- I have read the procedure described above
- I voluntarily agree to take part in a focus group for this study
- I am at least 18 years of age or older

Signature of participant Printed name of participant Date

Signature of principal investigator (PI) Printed name of PI Date

APPENDIX G: INTERVIEW QUESTIONNAIRE

General/Demographic Questions

Celebration		Sweetwater	
Q##	Question	Q#	Question
D1	Gender	D1	Gender
D2	Marital status	D2	Marital status
D3	# kids, ages	D3	# kids, ages
D4	What year did you move to NH?	D4	What year did you move to NH?
D5	What year did you move to central FL?	D5	What year did you move to central FL?
D6	Previous residence location	D6	Previous residence location
D7	Is this NH your first place of residence in central FL?	D7	Is this NH your first place of residence in central FL?
D8	Employment status	D8	Employment status
D9	Employment industry	D9	Employment industry
D10	Employed in community?	D10	Employed in community?
D11	Self-employed?	D11	Self-employed?
D12	Distance from home to downtown Celebration		
		D13	Which Sweetwater NH?
		D14	How far is it from your home to place of employment?
		D15	Do you drive to work?

*D = Demographic
D12 posed to Celebration residents only
D13, D14, D15 posed to Sweetwater residents only

Neighborhood Selection Questions

Celebration		Sweetwater	
Q#*	Question	Q#	Question
S1	Why did you choose this NH?	S1	Why did you choose this NH?
S2	Was the social environment or the ability to walk or bicycle to destinations in the neighborhood a factor in your selection?	S2	Was the social environment or the ability to walk or bicycle to destinations in the neighborhood a factor in your selection?
S3	Currently, favorite things about the NH?	S3	Currently, favorite things about the NH?
S4	What are your least favorite things about the NH?	S4	What are your least favorite things about the NH?
S5	Additional comments on NH selection?	S5	Additional comments on NH selection?

*S = Selection

S3, S4 added to questionnaire beginning with interviewee C5

Participation Questions

Celebration		Sweetwater	
Q#*	Question	Q#	Question
P1	Do you like participating in NH/community activities?	P1	Do you like participating in NH/community activities?
P2	What type of activities do you participate in?	P2	What type of activities do you participate in?
P3	What factors contribute to your participation?	P3	What factors contribute to your participation?
P4	What factors keep you from participating?	P4	What factors keep you from participating?
		P5	How would you describe the social atmosphere in the NH?
P6	Does the NH social atmosphere influence you to participate?	P6	Does the NH social atmosphere influence you to participate?
P7	Do you think you would participate at the same or different level in a different (CS) neighborhood?	P7	Do you think you would participate at the same or different level in a different neighborhood?
		P8	Are you more, less, or equally active in NH and community activities in this NH as your last NH?
P9	Has your attitude toward participation changed since living here? How?	P9	Has your attitude toward participation changed since living here? How?
P10	Additional comments on participation?	P10	Additional comments on participation?

*P = Participation

P2—P7 added to questionnaire beginning with interviewee C5

P5, P8 added to questionnaire beginning with interviewee S3. These questions posed to Sweetwater residents only.

Transportation Questions

Celebration		Sweetwater	
Q#*	Question	Q#	Question
T1	Do you like walking or bicycling to places rather than driving?	T1	Do you like walking or bicycling to places rather than driving?
T2	Walk/bike to work?	T2	Walk/bike to work?
		T3	Are there any restaurants or destinations in walking distance that you walk/bike to?
T4	What factors contribute to you choosing to walk/bike rather than drive?	T4	What factors contribute to you choosing to walk/bike rather than drive?
T5	What factors prohibit you from walking/biking rather than driving?	T5	What factors prohibit you from walking/biking rather than driving?
T6	Are there any factors about the NH itself (design, people) that influences your transportation mode choices?	T6	Are there any factors about the NH itself (design, people) that influences your transportation mode choices?
T7	What types of places do you walk/bike to?	T7	What types of places do you walk/bike to?
T8	Do you think you would make the same or different transportation mode choices if you lived in a CS neighborhood?	T8	Do you think you would make the same or different transportation mode choices if you lived in a more walkable neighborhood?
T9	Has your attitude toward walking/bicycling rather than driving changed since living here? How?	T9	Has your attitude toward walking/bicycling rather than driving changed since living here? How?
T10	What are your thoughts on using public transportation in central Florida? In major metro areas?	T10	What are your thoughts on using public transportation in central Florida? In major metro areas?
T11	Additional comments on transportation/mode choice?	T11	Additional comments on transportation/mode choice?

*T = Transportation

T8, T9 added to questionnaire beginning with interviewee C5

T10 added to questionnaire beginning with interviewee C8

T3 posed to Sweetwater residents only

REFERENCES

- Allison, G. (1971). *Essence of decision: Explaining the Cuban missile crisis* (1st ed.). Boston, MA: Little Brown.
- Alwin, D. E. (1997). Feeling thermometers versus 7-point scales: Which are better? *Sociological Methods and Research*, 25(3), 318–340.
- American Community Survey, U.S. Census Bureau. (2011). Retrieved from <http://factfinder.census.gov/>
- Andrews, F. M. (1984). Construct validity and error components of survey measures: A structural modeling approach. *Public Opinion Quarterly*, 48, 409-422.
- Bartling, H. (2002). Disney's Celebration, the promise of new urbanism, and the portents of homogeneity. *The Florida Historical Quarterly*, 81(1), The Best Laid Plans: Community, History, and Urban Development in Central Florida (Summer, 2002), pp. 44-67.
- Bartling, H. (2004). The Magic Kingdom Syndrome: Trials and tribulations of life in Disney's Celebration. *Contemporary Justice Review*, 7(4), 375–393.
- Berry, M. (1990). Sweetwater Oaks sues for sole use of parks. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1990-03-15/news/9003153263_1_sweetwater-oaks-sweetwater-club-sweetwater-country
- Berry, M. (1993). Communities win access to recreation. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1993-09-02/news/9309010783_1_sweetwater-oaks-oaks-homeowners-sweetwater-country-club
- Bickman, L., and Rog, D. J. (1998). *Handbook of applied social research methods*. Thousand Oaks, CA: Sage.
- Brownson, R. C., Baker, E. A., Housemann, R. A., Brennan, L. K., and Bacak, S. J. (2001). Environmental and policy determinants of physical activity in the United States. *American Journal of Public Health*, 91(12), 1995–2003.
- Burden, D. (1999). Street design guidelines for healthy neighborhoods. Local Government Commission's Center for Livable Communities.
- Calkins, K. G. (2005). Applied statistics, Lesson 13: More correlation coefficients. Retrieved from <http://www.andrews.edu/~calkins/math/edrm611/edrm13.htm>

- Cao, X., Handy, S. L., and Mokhtarian, P. L. (2006). The influences of the built environment and residential self-selection on pedestrian behavior: Evidence from Austin, TX. *Transportation*, 33(1), 1–20.
- Celebration Community Development District (CCDD). (n.d.-a). “Services”. Retrieved May 26, 2011 from http://www.celebrationcdd.org/?page_id=7
- Celebration Community Development District (CCDD). (n.d.-b). “What is a CDD?”. Retrieved May 26, 2011 from http://www.celebrationcdd.org/?page_id=70
- Celebration Community Development District (CCDD). (2010). Celebration ownership map. Retrieved from <http://www.celebrationcdd.org/wp-content/uploads/2010/07/Celebration-ownership-2010.pdf>
- Celebration Incorporation Task Force (CITF). (2006). Celebration incorporation feasibility study. Presented to State of Florida Legislature November 20, 2006. Unpublished.
- Central Florida Regional Transportation Authority (CFRTA). (2011). Facts at a glance. Retrieved from <http://www.golynx.com/about-lynx/facts-at-a-glance.shtml>
- Choocharukal, K., Tan Van, H., and Fujii, S. (2008). Psychological effects of travel behavior on preference of residential location choice. *Transportation Research Part A*, 42, 116–124.
- City of Orlando. (2005). Baldwin Park/NTC Main Base—A brief history. Retrieved from <http://www.cityoforlando.net/planning/ntc/ntcclos.htm>
- Community of Celebration. (2011a). Celebration map. Retrieved from <http://www.celebration.fl.us/town-info/maps/>
- Community of Celebration. (2011b). Community Groups”. Retrieved October 3, 2011 from <http://www.celebration.fl.us/community-groups/>
- Community of Celebration. (2011c). Community profile. Retrieved from <http://www.celebration.fl.us/town-info/community-profile/>
- Community of Celebration. (2011d). Entities. Retrieved from <http://www.celebration.fl.us/community-entities/>
- Community of Celebration. (2011e). Events. Retrieved from <http://www.celebration.fl.us/celebration-events/upcoming/>
- Community of Celebration. (2011f). Facilities. Retrieved from <http://www.celebration.fl.us/community-2/facilities/>

- Community of Celebration. (2011g). Welcome center. Retrieved from <http://www.celebration.fl.us/community-2/welcome-center/>
- Congress of the New Urbanism (CNU). (2001). Charter of the New Urbanism. Retrieved from <http://www.cnu.org/charter>
- Congress of the New Urbanism (CNU). (2011). "CNU History". Retrieved from <http://www.cnu.org/history>
- Corbin, J., and Strauss, A. (2008). *Basics of qualitative research: The techniques and procedures for developing grounded theory* (3rd ed.). Los Angeles, CA: Sage.
- Council for Educational Change (CEC). (2009). Peter S. Rummell. Retrieved from http://www.changeeducation.org/peter_s_rummell
- Couper, M. P. (2000). Web surveys: A review of issues and approaches. *The Public Opinion Quarterly*, 64(4), 464–494.
- Creswell, J. W., and Plano Clark, V. L. (2006). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications.
- Davis, B. (1997, April/May). New urbanism: Cause for celebration?" *Impact Press*. Retrieved from <http://www.impactpress.com/articles/aprmay97/celebrat.htm>
- DeCarlo, L. T. (1997). On the meaning and use of kurtosis. *Psychological Methods*, 2(3), 292–307.
- Deutskens, E., De Ruyter, K., Wetzels, M., and Oosterveld, P. (2004). Response rate and response quality of Internet-based surveys: An experimental study. *Marketing Letters*, 15(1), 21–36.
- de Vaus, D. (2002). *Surveys in social research* (5th ed.). London, England: Taylor and Francis.
- Dill, J. (2006). Evaluating a new urbanist neighborhood. *Berkeley Planning Journal*, 19, 59–78.
- Dillman, D. A. (1991). The design and administration of mail surveys. *Annual Review of Sociology*, 17, 225–249.
- Dillman, D. A. (2000). *Mail and Internet surveys: The tailored design method* (2nd ed.). New York, NY: Wiley.
- Enterprise Community Development District (ECDD). (n.d.). What is a CDD? Retrieved from http://www.enterpriseccd.org/?page_id=2

- Ewing, R., Pendall, R., and Chen, D. (2003). Measuring Sprawl and its Transportation Impacts. *Transportation Research Record*, 1831: 175-183.
- Ewing, R., Schmid, T., Killingsworth, R., Zlot, A., and Raudenbush, S. (2003). Relationship between urban sprawl and physical activity, obesity, and morbidity. *American Journal of Health Promotion*, 18(1), 47-57.
- Finstad, K. (2010). Response interpolation and scale sensitivity: Evidence against 5-point scales. *Journal of Usability Studies*, 5(3), 104-110.
- First Baptist Sweetwater. (n.d.). History and vision. Retrieved from <http://www.fbsweetwater.org/WelcomeAboutUsHistory.htm>
- Florida Department of Education (FLDOE). (2005). Public schools/districts. Retrieved from http://www.fldoe.org/schools/schoolmap/flash/schoolmap_text.asp
- Florida State Parks. (n.d.). *About Wekiwa Springs State Park*. Retrieved from <http://www.floridastateparks.org/wekiwasprings/aboutthepark.cfm>
- Frank, L.D., Andresen, M.A., and Schmid, T.L. (2004). Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars. *American Journal of Preventive Medicine*, 27(2): 87-96.
- Frank, L.D., and Engelke, P.O. (2001). The Built Environment and Human Activity Patterns: Exploring the Impacts of Urban Form on Public Health. *Journal of Planning Literature*, 16(2): 202-218.
- Frank, L. D., Engelke, P. O., and Schmid, T. L. (2003). *Health and community design: The Impact of the built environment on physical activity*. Washington, DC: Island Press.
- Frantz, D., and Collins, C. (1999). *Celebration U.S.A.: Living in Disney's brave new town*. New York, NY: Henry Hold.
- Fricker, R. D., and Schonlau, M. (2002). Advantages and disadvantages of Internet research surveys: Evidence from the literature. *Field Methods*, 14, 347-367.
- Frumkin, H. (2002). Urban Sprawl and Public Health. *Public Health Reports*, 117: 201-217.
- Fulton, W. (1996). *The new urbanism: Hope or hype for American communities?* Cambridge, MA: Lincoln Institute of Land Policy.
- Galea, S., and Ahern, J. (2005). Distribution of education and population health: An ecological analysis of New York City Neighborhoods. *American Journal of Public Health*, 95(12), 2198-3205.

- Gerstman, BB. (2011). StatPrimer (Version 6.4). Retrieved from <http://www.sjsu.edu/faculty/gerstman/StatPrimer/>
- Gliner, J. A., and Morgan, G. A. (2000). *Research methods in applied settings: An integrated approach to design and analysis*. Mahwah, NJ: Lawrence Erlbaum.
- Goffman, E. (1959). *The presentation of self in everyday life*. Garden City, NY: Doubleday.
- Greater Celebration Chamber of Commerce (GCCC). (2011). "Celebration, Florida." Retrieved May 29, 2011 from <http://www.greatercelebrationchamber.com>
- Hamilton, R. J., and Bowers, B. J. (2006). Internet recruitment and e-mail interviews in qualitative studies. *Qualitative Health Research*, 16(6), 821—835.
- Handy, S. (2005). *Critical assessment of the literature on the relationships among transportation, land use, and physical activity*. Department of Environmental Science and Policy, University of California, Davis. Prepared for the Committee on Physical Activity, Health, Transportation, and Land Use. Washington, DC: Transportation Research Board.
- Handy, S., Cao, X., and Mokhtarian, P. (2005). Correlation or causality between the built environment and travel behavior? Evidence from Northern California. *Transportation Research Part D*, 10, 427–444.
- Handy, S. (1996a). Methodologies for Exploring the Link Between Urban Form and Travel Behavior. *Transportation Research Part D*, 1(2): 151-165.
- Handy, S. (1996b). Understanding the Link Between Urban Form and Nonwork Travel Behavior. *Journal of Planning Education and Research*, 15: 183-198.
- Hatzipanagos, R. (2006). Gooding's supermarket prepares to exit Chapter 11 today. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/2006-10-03/business/GOODINGS03_1_reorganization-supermarket-bankruptcy
- Haughton, B. (2006). Applying the social-ecological model to nutrition issues that promote health and prevent disease. *Family and Community Health*, 29(1), 3–4.
- Howard, E. (1946). *Garden cities of to-morrow*. London, England: Faber and Faber. (Original work published 1902)
- Jackson, J. W. (2007). "Mr. Real Estate" E. Everette Huskey, Orlando-area real-estate magnate, dead at 81. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/2007-11-24/news/huskey24_1_sweetwater-club-huskey-sweetwater-oaks

- Kaplowitz, M. D., Hadlock, T. D., and Levine, R. (2004). A comparison of web and mail survey response rates. *Public Opinion Quarterly*, 68(1), 94-101.
- Khattak, A. J., and Rodriguez, D. (2005). Travel behavior in neo-traditional neighborhood developments: A case study in USA. *Transportation Research Part A*, 39, 481–500.
- Kilsheimer, J. (1989). Letting go: A homeowners association comes of age. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1989-02-12/business/8902140006_1_homeowners-association-sweetwater-oaks-association-dues
- Kilsheimer, J. (1993). State-of-the-art havens for high-tech maven. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1993-06-13/business/9306100688_1_sweetwater-oaks-wekiva-subdivisions
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York, NY: The Guilford Press.
- Knowlton, K. (2001). Urban history, urban health. *American Journal of Public Health*, 91(12), 1944–1946.
- Knox, C. C. (2008, September). *Passing the Northern Everglades Bill: A case study applying theories of policy change*. Paper presented at the Southeastern Conference on Public Administration, Orlando, FL.
- Lamont, J. A. (2001). Where do people walk? The impacts of urban form on travel behavior and neighborhood livability. (Doctoral dissertation, University of California, Berkeley, 2001). *Dissertation Abstracts International*. (AAT 3044549)
- Lassell, M. (2004). *Celebration: The story of a town*. New York, NY: Disney Editions.
- Lawhon, LL. (2009). The Neighborhood Unit: Physical Design or Physical Determinism? *Journal of Planning History*, 8(2): 111-132.
- Levy, J. M. (2006). *Contemporary urban planning*. Upper Saddle River, NJ: Pearson Education.
- Lexin Capital. (2011). Celebration Town Center. Retrieved from http://www.lexincapital.com/usa_celebration.php
- Leyden, K. M. (2003). Social capital and the built environment: The importance of walkable neighborhoods. *American Journal of Public Health*, 93(9), 1546–1551.
- Lijphart, A. (1975). The comparable-cases strategy in comparative research. *Comparative Political Studies*, 8(2), 158–177.

- Litman, T. (2008). Land use impacts on transport: How land use factors affect travel behavior. A paper written for the Victoria Transport Policy Institute. Retrieved from <http://www.vtpi.org>.
- Lund, H. (2001). *Local accessibility, pedestrian travel, neighboring and community sentiment in middle-class neighborhoods*. (Unpublished doctoral dissertation). Portland State University, Portland, OR.
- Lund, H. (2003). Testing the claims of new urbanism: Local access, pedestrian travel, and neighboring behaviors. *Journal of the American Planning Association*, 69(4), 414–429.
- LYNX. (2011). TripPlanner. Retrieved from <http://www.golynx.com/plan-trip/trip-planner.shtml>
- McLeroy, K. R., Bibeau, D., Steckler, A., and Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly*, 15(4), 351–377.
- Melosi, M.V. (2000). *The sanitary city*. Baltimore, MD: Johns Hopkins University Press.
- Meredith, J.R. (2003). Sprawl and the New Urbanist Solution. *Virginia Law Review*, 89(2): 447-503.
- Metroplan Orlando (2010). *Connections 2013: Optimizing rail investments in Central Florida*. Presented to the Metroplan Orlando Board on April 14, 2010. Retrieved from <http://www.metroplanorlando.com/files/view/connections-2013.pdf>
- MIT Press, The. (2011). The CIAM discourse on urbanism, 1928–1960. Retrieved from <http://mitpress.mit.edu/catalog/item/default.asp?tid=3529&ttype=2>
- National Highway Traffic Safety Administration (NHTSA), Department of Transportation. (1998). Federal Motor Vehicle Safety Standards - 49 CFR 571.500. Retrieved from <http://www.nhtsa.gov/cars/rules/rulings/lsv/lsv.html>
- National Oceanic and Atmospheric Administration (NOAA) National Data Centers. (n.d.). Comparative climatic data. Retrieved from <http://ols.nndc.noaa.gov/plolstore/plsql/olstore.prodspecific?prodnum=C00095-PUB-A0001#TABLES>
- Nemes, S., Jonasson, J. M., Genell, A., and Steineck, G. (2009). Bias in odds ratios by logistic regression modelling and sample size. *BMC Medical Research Methodology*, 9:56. doi:10.1186/1471-2288-9-56
- Newes-Adeyi, G., Helitzer, D. L., Caulfield, L. E., and Bronner, Y. (2000). Theory and practice: Applying the ecological model to formative research for a WIC training program in New York State. *Health Education Research*, 15(3): 283–291.

- Njoh, A. J. (2009). *New urbanism, an alternative to traditional urban design: The case of Celebration, Florida, USA*. Unpublished case study prepared for the Global Report on Human Settlements 2009. Retrieved from <http://cn.unhabitat.org/downloads/docs/GRHS2009CaseStudyChapter03Celebration.pdf>
- Norusis, M. J. (2004). *SPSS 12.0 guide to data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Orange County Property Appraiser. (2006). Available online at <http://www.ocpafl.org>
- Orange County Public Schools (OCPS). (n.d.). Find a school. Retrieved from <https://www.ocps.net/Parents/Pages/FindaSchool.aspx>
- Orlando Business Journal. (2007). E. Everette Huskey dies. Retrieved from <http://www.bizjournals.com/orlando/stories/2007/11/19/daily29.html>
- Osceola County Property Appraiser. (2007). Data requested via email.
- Pallant, J. (2005). *SPSS survival manual* (2nd ed.). Berkshire, UK: McGraw-Hill Education.
- Podobnik, B. (2002). New urbanism and the generation of social capital: Evidence from Orenco Station. *National Civic Review*, 91(3), 245–255.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of american community*. New York, NY: Simon and Schuster.
- Reedy Creek Improvement District (RCID). (2011a). About us. Retrieved from http://www.rcid.org/AboutUS_main.cfm
- Reedy Creek Improvement District (RCID). (2011b). History. Retrieved from http://www.rcid.org/AboutUS_History.cfm
- Renner, L. (1987). Developer Huskey puts man's priorities above nature's. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1987-12-06/news/0160370006_1_huskey-sweetwater-wekiva
- Ross, A. (1999). *The Celebration chronicles: Life, liberty, and the pursuit of property value in Disney's new town*. New York, NY: Ballantine Books.
- Ryan, S, and McNally, MG. (1995). Accessibility of Neotraditional Neighborhoods: A Review of Design Concepts, Policies, and Recent Literature. *Transportation Research Part A*, 29(2): 87-105.
- Saab, A. J. (2007). Historical amnesia: New urbanism and the city of tomorrow. *Journal of Planning History*, 6(3): 191–213.

- Sallis, J.F., and Owen, N. (1999). *Physical activity and behavioral medicine*. Thousand Oaks, CA: Sage Publications.
- Sampson, R.J., and Sharkey, P. (2008). Neighborhood Selection and the Social Reproduction of Concentrated Racial Inequality. *Demography*, 45(1), 1-29.
- Sander, T. H. (2002). Social capital and new urbanism: Leading a civic horse to water? *National Civic Review*, 91(3), 213–234.
- Schilling, J, and Linton, LS. (2005). The Public Health Roots of Zoning: In Search of Active Living's Legal Genealogy. *American Journal of Preventive Medicine*, 28(2S2), 96-104.
- Scholz, R. W., and Tietje, O. (2002). *Embedded case study methods: Integrating quantitative and qualitative knowledge*. Thousand Oaks, CA: Sage Publications.
- Schwanen, T., and Mokhtarian, P. L. (2007). Attitudes toward travel and land use and choice of residential neighborhood type: Evidence from the San Francisco Bay area. *Housing Policy Debate*, 18(1), 171–207.
- Seaside Institute, The. (n.d.). About Seaside. Retrieved from <http://seasideinstitute.org/about.php>
- Seminole County Property Appraiser. (2006). Retrieved from <http://www.scpafl.org>.
- Seminole County Public Schools (SCPS). (n.d.). School Zone Search. Retrieved from <http://www.scps.k12.fl.us/Schools/SchoolInformation/SchoolZoneSearch.aspx>
- Seminole County Public Schools (SCPS) Choices. (n.d.). What is school choice? Retrieved from <http://choices.scps.k12.fl.us/>
- Snyder, J. (1991a). Developer Huskey puts estate on block. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1991-04-24/business/9104240372_1_huskey-sweetwater-oaks-sweetwater-club
- Snyder, J. (1991b). Sweetwater Club changes hands. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1991-04-24/business/9104240858_1_sweetwater-club-sweetwater-country-sweetwater-oaks
- Snyder, J. (1998). 30-year-old land buy was seed that became Sweetwater Oaks. *The Orlando Sentinel*. Retrieved from http://articles.orlandosentinel.com/1998-04-13/business/9804110620_1_sweetwater-oaks-huskey-sweetwater-club
- Soper, D. S. (2011). “Post-hoc statistical power calculator for multiple regression”. Retrieved from <http://danielsoper.com/statcalc3/calc.aspx?id=9>

- Spatz, C. (2005). *Basic statistics: Tales of distributions* (8th ed.). Belmont, CA: Wadsworth Thomson Learning.
- Spradley, J. (1979). *The ethnographic interview*. Belmont, CA: Wadsworth/Thomson Learning.
- Sully, N. (2004). "An everyday nostalgia: Memory and the fictions of belonging". Paper presented at Cultural Studies Association of Australasia (CSAA) Annual Conference, Perth, Australia, (1-20). 6-9 December 2004.
- Sweetwater Club Homeowners Association (HOA). (2002). Sweetwater Club HOA map. Retrieved from <http://sweetwaterclubestates.com/modules.php?name=Documents&targetcat=6>
- Sweetwater Club Homeowners Association (HOA). (2008, October/November). SWCHOA newsletter, Oct./Nov. 2008. Retrieved from <http://sweetwaterclubestates.com/modules.php?name=Documents&doc=Doc60.pdf>
- Sweetwater Club Homeowners Association (HOA). (2010, February). Sweetwater Club neighborhood news, February 2010. Retrieved from <http://sweetwaterclubestates.com/modules.php?name=Documents&doc=Doc93.pdf>
- Sweetwater Club Homeowners Association (HOA). (2010, April). Sweetwater Club neighborhood news, April 2010. Retrieved December 10, 2011 from <http://sweetwaterclubestates.com/modules.php?name=Documents&doc=Doc104.pdf>
- Sweetwater Country Club Homeowners Association (HOA). (n.d.). Meeting schedules. Retrieved September 20, 2011, from <http://www.sweetwatercchoa.com/meetings.htm>
- Sweetwater Country Club Homeowners Association (HOA). (2009a). Area map. Retrieved from <http://www.sweetwatercchoa.com/map.htm>
- Sweetwater Country Club Homeowners Association (HOA). (2009b). Our neighborhood. Retrieved <http://www.sweetwatercchoa.com/neighborhood.htm>
- Sweetwater Country Club Homeowners Association (HOA). (2011a). Board of Directors. Retrieved from <http://www.sweetwatercchoa.com/board.htm>
- Sweetwater Country Club Homeowners Association (HOA). (2011b). Committees. Retrieved September 20, 2011 from <http://www.sweetwatercchoa.com/committees.htm>
- Sweetwater Golf and Country Club. (2006). Good taste. fine cuisine. Retrieved from <http://sweetwater-countryclub.com/Dining.cfm>
- Sweetwater Oaks Homeowners Association (HOA). (2011). Retrieved December 10, 2010 from <http://sweetwateroakshoa.com/>

- Talen, E. (1999). Sense of community and neighbourhood form: An assessment of the social doctrine of new urbanism. *Urban Studies*, 36(8), 1361–1379.
- Talen, E. (2002). The social goals of new urbanism. *Housing Policy Debate*, 13(1), 165–188.
- Taylor, R., Reeves, B., Mears, R., Keast, J., Binns, S., Ewings, P., and Khan, K. (2001). Development and validation of a questionnaire to evaluate the effectiveness of evidence-based practice teaching. *Medical Education*, 35(6), 544–547. doi:10.1046/j.1365-2923.2001.00916.x
- United States Department of Housing and Urban Development (HUD). (2008). HUD historical background. Retrieved from <http://www.hud.gov/offices/adm/about/admguides/history.cfm>.
- University of California at Los Angeles, Academic Technology Services (UCLA ATS), Statistical Consulting Group. (2011). Statistical computing. Retrieved from <http://www.ats.ucla.edu/stat/>
- University of Kentucky, Social Science Teaching and Research Statistics (UK SSTARS). (2011). Multicollinearity in logistic regression. Retrieved from <http://www.uky.edu/ComputingCenter/SSTARS/MulticollinearityinLogisticRegression.htm>
- University of North Texas, Computing and Information Technology Center (UNT CITC) Research and Statistical Support. (2011). SPSS short course. Retrieved from http://www.unt.edu/rss/class/Jon/SPSS_SC/
- Urban Land Institute (ULI). (n.d.). Peter S. Rummell. Retrieved from <http://www.uli.org/LearnAboutULI/WhoWeAre/FromtheChairman/PeterRummell.aspx>
- von Hoffman, A. (2000). A Study in contradictions: The origins and legacy of the Housing Act of 1939. *Housing Policy Debate*, 11(2), 299–326.
- WESH-TV (Orlando Hearst Television, Inc.). (2004). Seminole County considers high school rezoning. Retrieved April 9, 2011 from <http://www.wesh.com/education/3851297/detail.html>
- WFTV (Cox Media Group). (2005). Seminole County students go back to school amidst rezoning. Retrieved from <http://www.wftv.com/education/4794435/detail.html>
- Whyte, W. F. (1943). *Street corner society*. Chicago, IL: University of Chicago Press.

- Wright, J. D., and Jasinski, J. L. (2005). *The ties that bind: The Central Florida social capital survey*. Retrieved from <http://www.workforcecentralflorida.com/core/file.php?loc=C:/Solodev/clients/solodev/Enterprise%20Main/Documents/Employer/employer-research-research-center/research-statistics/florida-economic-employment-reports/central-floridas-future/TheTiesthatBind-Nov2005.pdf>
- Wright, J. D., Jasinski, J. L., Donley, A. M., and Truman, J. T. (2009). *Transportation issues in Central Florida: 2009 survey of public opinion*. Institute for Social and Behavioral Science, Department of Sociology and Anthropology, University of Central Florida. Retrieved from <http://www.metroplanorlando.com/files/view/public-opinion-research-2009.pdf>
- Wright, J. D., Jasinski, J. L., and Morgan, R. E. (2011). *Transportation issues in Central Florida: 2011 survey of public opinion*. Institute for Social and Behavioral Science, Department of Sociology and Anthropology, University of Central Florida. Retrieved from http://www.metroplanorlando.com/files/view/public_opinion_research_2011.pdf
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.