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Walkability and Accessibility: Users' Perspectives of a Planned Neighborhood

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WALKABILITY AND ACCESSIBILITY:
USERS' PERSPECTIVES OF A
PLANNED NEIGHBORHOOD

by

Nancy S. Chu

A Dissertation Submitted in
Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy
in Architecture

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ABSTRACT

WALKABILITY AND ACCESSIBILITY: USERS' PERSPECTIVES OF A PLANNED NEIGHBORHOOD

by

Nancy S. Chu

The University of Wisconsin-Milwaukee, 2017
Under the Supervision of Professor Josef Stagg

The transformation of the Westlawn Housing Development, one of the largest housing projects in Wisconsin, has led to this research. The old development, which was modeled after the military barracks style for its uniformity and practicality, is in extreme contrast to the new design influenced by the Traditional Neighborhood Development (TND). TND was well received by the middle class as an alternative to the suburban sprawl sweeping the nation in the 1980s. However, research suggests that most TND's are premised on upper-middle-class preference and do not focus on the housing needs of the general population.

This research will explore if the fundamental TND design principle is applicable to different neighborhoods, particularly in a low-income neighborhood such as the Westlawn Housing Development, located on the northwest side of the City of Milwaukee. This public housing development was built in the 1950s. In 2012, one-half of the development (Phase 1) received a comprehensive revitalization. This created two planned residential neighborhoods, one was completely redone in 2012 and one to be completed in the future.

Many New Urbanism supporters have continued to advocate for the TND concepts into the 21st century. However, this raises the question: can the TND beneficial elements and performance that were developed for the middle-class decades ago transfer to a different neighborhood in the 21st century? While many studies emphasized physical elements and the mechanics of the development, they failed to address people's needs and their personal experience. This research studies the interplay of people, their activities, and the physical settings, and documents people's experience regarding the walkability and accessibility to neighborhood resources.

For this research, residents and non-residents were approached between 2013 and 2015 for semi-formal and informal interviews, plus conversations. Two sets of surveys based on the TND design principles were sent to all 644 households in the old and new developments. This process, using participant observations research, provides a detailed interpretation of a real-life setting through interactions, actions, and behaviors. The collected data was based on 86 survey participants. Twenty of those agreed to an interview. While the small sample size limits the quantitative analysis, the responses from participants are a significant indication of the residents' ease of walking and accessing the facilities and services provided by the community. As the data collection ended at the end of 2015, the development was not complete because there was no progress in the sections that are zoned for a supermarket and market-rate buildings. The results suggest that the ability of this development to provide access for one's everyday needs with a minimum amount of distance, travel and the cost was not met. Further studies may benefit the community when the entire development, including Phase 2, will be completed in 2021.

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LIST OF ABBREVIATIONS

AASHTO – American Association of State Highway Transportation Officials

CNU – Congress for the New Urbanism

CNI – Choice Neighborhoods Initiative

FHA – Federal Housing Administration

GED – General Educational Development

GIS – Geographic Information System

HACM – Housing Authority of the City of Milwaukee

HUD – Department of Housing and Urban Development

LA – Low-Access tract

LI – Low-Income tract

LIHTC – Low-Income Housing Tax Credits

NHIS – National Health Interview Survey

NU – New Urbanism

QOL – Quality of Life

SSNC – Silver Spring Neighborhood Center

TND – Traditional Neighborhood Development

USDA – United States Department of Agriculture

USHA – U.S. Housing Authority

WHEDA – The Wisconsin Housing and Economic Development Authority

WWII – World War II

CHAPTER ONE: INTRODUCTION

Introduction

“Better now than the ‘90s.” A non-resident’s comment sums up what most people think about the transformation of Phase I of this largest public housing project in Wisconsin. The first impression of this site is the polarized transformation of the façade. The contrast between the old development, which was modeled after military barracks, and the new design, influenced by the Traditional Neighborhood Development (TND), is astounding. (Fig. 1, 2, and 3).



(Fig. 1) Westlawn West – built in the 1950s



(Fig. 2) Phase I - Westlawn Gardens – built in 2012



(Fig. 3) Contrast between the old (Westlawn West) and the new (Westlawn Gardens)

<https://www.google.com/maps/place/Westlawn+Housing+Project>

This raises several questions: 1) Who is the developer and why was this TND design concept chosen to revitalize this neighborhood? 2) How would the TND concept that was introduced for the middle class during the '70s transfer its beneficial elements and performance to a different demographic, a low-income neighborhood, in the 21st century? and 3) How would residents adapt to change with the design of physical environments that has not yet been thoroughly observed nor researched? To determine if it is a successful planned neighborhood, one must understand the fundamental process of collaboration and commitment from all stakeholders before developing the design of a planned neighborhood.

TND is a specific type of planned community that embraces the traditional ideals of residential estates and promotes walkable neighborhoods. A walkable neighborhood enables activities to be easily accessible from any place within a certain system of transportation (Morris J. M., 1979) (Johnston R. J., 2000). However, research suggests that most TND's are premised on upper-middle-class preference (Derienzo, 2007) (Talen, 2010) (Kim, 2004).

This dissertation examines whether TND design principles can be effectively applied to a planned neighborhood with a different population. It will present the users' perspectives on walkability and accessibility to neighborhood resources in this Westlawn area. It is the largest public housing project in Wisconsin.

The concepts of TND date back to the early 1900s.

The first "TND Ordinance" was ultimately passed in the 1990s and created a regulatory precedent (Nasar, 2003). Subsequently, numerous communities used this as a

starting point and many New Urbanism¹ supporters have continued to advocate for the concepts (Moudon A. V., 2006) into the 21st century.

¹ New Urbanism arose in the US in the early 1980s in response to the sprawling suburban American development to foster compact, efficient, and appealing patterns of development and maximizing walkability (Steuteville, 2003).

Planned Community – Traditional Neighborhood Development (TND)

TND is a specific type of planned community that promotes walkable neighborhoods, where activities are easily accessible from any place within a certain system of transportation (Morris, 1979) (Housing Authority of the City of Milwaukee, 2010). This was introduced as an alternative to the suburban sprawl across the nation. Andrés Duany and Elizabeth Plater-Zyberk, two of the founders of the Congress for the New Urbanism (CNU), were critical of the suburban development. They claimed that the suburban development led to an uncoordinated accumulation of standardized single-use zones with little community life and the inability to deliver a better quality of life. Duany characterized and redefined the term ‘neighborhood’ with six fundamental rules to distinguish TND (Steuteville, 2003).

It was well received by numerous organizations, including the CNU (Stoller, 2000) (Clarke, 2005) (Byrne, 2009). Many recommendations using those six fundamental rules have been established as principles (Steuteville, 2003) (Lennertz, 2006). Duany and Plater-Zyberk claimed that these rules provide a fully valid framework for the design and redesign of our communities today (Duany, 2000) (Plater-Zyberk, 2003).

These are the six rules that distinguish the Traditional Neighborhood pattern from sprawl:

- 1) *The Center* – a clear center that is focused on common activities of commerce, culture, and governance;
- 2) *The five-minute walk* – walking distance for local residents to access daily needs to live, work, shop, worship, and recreate;

- 3) *The street network* – street pattern in the form of a continuous web with numerous paths connecting one location to another;
- 4) *Narrow and versatile streets* – smaller streets to slow down traffic and to accommodate a pedestrian-friendly environment;
- 5) *Mixed use* – collaborate diverse building types with regard to the size of the building and its relationship to the street, and
- 6) *Special Sites for special buildings* – structures that are given unique sites which represent the collective identity and aspirations of the community.

Traditional Neighborhood Development uses various development concepts such as higher residential densities than usual in the suburbs, pedestrian orientation, and the accommodation of retail and office uses (Nasar, 2003). This is a model that integrates a progression of private and public architecture and spaces, (Clarke, 2005) including *spatial properties* (such as sidewalks layouts, swales, and narrow street networks) and *group characteristics* (such as age, gender, and ethnicity), displaying a strong link between structural form and social behavior which could guide people's daily lives (Whyte, 1980).

Purpose of the Study

A community is defined as a group of people with something in common, interdependence, and a collective capacity to accomplish agreed-on goals in order to exist (Derienzo, 2007). For the objective of sustainability in a state of continual transition, stakeholders' participation must be involved (Morse, 2008), and self-determination from local residents is required (Rohe, 2009). Based on the evidence, commitment from every level of government, administration, and confident residents is essential (Brown, 2004)). Using these researchers' information, stakeholders could combine human behavior with the design of physical environments. However, very few studies have been done on how relationships are being built between the stakeholders, with the aim to implement the design guidelines to the fullest, and how its design will have an impact on the residents. Critics argue that planned communities impose new exteriors or façades to mask the underlying social and economic problems which are not easily traceable through political reform or from a direct infusion of resources. Rather, they argue that the concept of a good community is the state of mind and body of its populace and not the physical elements (Sultana, 2009).

Critics point out that the planned communities are exclusive and expensive, and were built based on the design principles of New Urbanism (NU) and Traditional Neighborhood Developments (TND). TND is a specific type of planned community that promotes walkable neighborhoods that enable activities to be easily accessible from any place within a certain system of transportation (Morris J. D., 1979) (Johnston R. J., 2000). Walkability and accessibility are often declared as beneficial assets for residents among Traditional Neighborhood Developments (TND). A model that integrates private

and public architecture and spaces (Clarke, 2005) including *spatial properties* (such as footpaths and intersections) and *group characteristics* (such as age, gender, and health condition) demonstrates a strong connection between structural form and behavior which could influence people's daily lives (Whyte, 1980).

Spatial properties and group characteristics play a vital role in achieving a quality walkable and accessible living environment. The purpose of this study is to determine how group characteristics and spatial properties in two planned neighborhoods affect walkability and accessibility to neighborhood resources. It focuses on whether TND design principles serve disadvantaged populations. While many studies emphasized physical elements and the mechanics (Rohe, 2009) of the development, they fail to address the group's needs and their personal experience. The experience is the link between people, activities, and the physical setting (Weisman, 2001).

Revitalization of neighborhoods is likely to affect only a few neighborhoods directly and significantly, but its presence is likely to set the tone for a much larger area in terms of encouraging the maintenance of the housing stock. With reinvestment taking place in a community, there is some hope that a future, if modest, remains, and that hope can stimulate continued housing maintenance and other forms of investment and reinvestment. Specific areas of revitalization do hold some hope for giving low-income households some real gains such as an improved neighborhood (White, 1980).

This raises the question of how TND, introduced for the middle class in the 1970s, would transfer its beneficial elements and performance to a low-income neighborhood in the 21st century. Another issue is how residents would adapt to change with the design of physical environments that had not yet been thoroughly observed nor

researched. The purpose of this study is to determine how group characteristics and spatial properties between the two planned neighborhoods, the Westlawn Gardens (built in 2012) and Westlawn Housing Development (built in 1952), affect walkability & accessibility to neighborhood resources.

Westlawn Housing Development

Westlawn Housing Development was built in 1952 by the Housing Authority of the City of Milwaukee (HACM). The original development contained 726 family housing units and was modeled after military barracks. It was well suited to address the housing need for workers commuting to Milwaukee. However, decades of severe physical distress and challenges, including many structural and design deficiencies, left an uninhabitable condition in the neighborhood and has resulted in a complete revitalization to the distressed site (Housing Authority of the City of Milwaukee, 2012).

a) Demographics

During the 1950s, industrialization and urbanization changed job structure and triggered people to move out of the neighborhood to outlying areas or to suburbs. This increased their commuting time and energy consumption to get to jobs, shopping and needed services, which were not likely to be located nearby. For the most part, automation has created jobs and destroyed others, and the jobs destroyed have been unskilled jobs held by lower-income people. In Milwaukee, when plants and related businesses closed in the Menomonee River Valley and along Fond du Lac Avenue, the black poverty rate rose to 28 percent and climbed to 42 percent by 1990 (Gurda, 1999). In the early 1950s, the ethnic background of the Westlawn Housing Development neighborhood was primarily white and 18% were African American. The population of African American has increased to 98% by the year 2012 (Housing Authority of the City of Milwaukee, 2012).

b) Housing Authority of the City of Milwaukee (HACM)

HACM proposed a total budget of \$255 million for the revitalization, partnering with the City of Milwaukee Charter School Review Committee and the City's Department of City Development. They created a new mixed-use and mixed-income planned community, Westlawn Gardens. It is a 10-year Transformation Plan with the support of a \$30 million Choice Neighborhoods Initiative (CNI) grant², \$225 million from a variety of public and private sources, and an array of strongly supportive community-based organizations and other stakeholders (Housing Authority of the City of Milwaukee, 2012). With the approved funding and promised investors, organizers began to develop a master plan in 2009.

² The Choice Neighborhoods program supports locally driven strategies to address struggling neighborhoods with distressed public or HUD-assisted housing through a comprehensive approach to neighborhood transformation. Local leaders, residents, and stakeholders, such as public housing authorities, cities, schools, police, business owners, nonprofits, and private developers, come together to create and implement a plan that transforms distressed HUD housing and addresses the challenges in the surrounding neighborhood. The program is designed to catalyze critical improvements in neighborhood assets, including vacant property, housing, services, and schools <http://www.enterprisecommunity.com/servlet/servlet.FileDownload?file=00Pa000000USvQIEAL>

HACM staff also carried out an assessment of Westlawn residents in March 2012.

The survey was taken orally and in person. It provides basic demographic information about the community and is provided in the following table.

Summary of Westlawn – Assessment via survey results as of August 2013 [Database demographic]		
TOTAL Residents	962	
Race*	African American 98%	*based on 962 current residents [940 African American, 21 White, 1 Asian]
	White 2%	
Marital Status*	Single Mother 61%	*based on 380 current households
	Single Father <1%	
	Married Couple 2%	
	Unmarried Couple 1%	
	Single 36%	
Age Range *	0-18 51%	*based on 962 current residents
	19-41 46%	
	62+ 3%	
Adult Education	H/S or GED 62%	
	Lack H/S or GED 28% *	*38% interested in getting GED
	Higher education	6-Bachelor, 9-Associate, 19-Certification
Employment (19-62 of age)	Employed 46% *	*30% work >30 hours/week
	Unemployed 54%	
Physical Health*	Excellent 15%	* significant adult medical problems are: high blood pressure 50%, asthma, 32%, overweight 30%, diabetes 21%, depression 20%
	Good 40%	
	Fair 30%	
	Poor/very poor 14%	
Transportation	>50%	Rely on bus or other means of transportation
Bank Account	have bank account 64%	
	do not have bank account 36%	
Computer	have a computer 50% *	*only 36% hooked up for internet access 43% adults have no knowledge of computers

(Table 1) Summary of Westlawn Assessment via survey results as of August 2013 (Housing Authority of the City of Milwaukee, 2010)

c) Westlawn Gardens (2012)

Westlawn Gardens is a planned community and a comprehensive revitalization housing project. It transformed an outdated and distressed family housing complex into the largest mixed-income community development on the west side of Milwaukee. The goal is to support diverse populations at different income levels to help stabilize and develop the community at large via design guidelines from NU & TND. These objectives were strongly emphasized by the HACM's revitalization proposal through HOPE VI, a plan administered by the US Department of Housing and Urban Development. Its philosophy is largely based on New Urbanism and is meant to revitalize the worst public housing projects in the United States into mixed-income developments (HOPE VI, 2002) (Fluit, 2015).

Based on one of the design ideas from Clarence Perry's Neighborhood Unit principles, C.I. Alexander suggests that a community is made up of neighborhoods. The population of an identifiable neighborhood should range from 500 to 1,500 to coordinate, organize, and reach decisions of their own interests (Alexander, 1977).



(Fig. 4) Westlawn Housing Development - <https://www.google.com/maps/search/westlawn+housing+development+milwaukee>

In the case of Westlawn Gardens, Phase I was built in 2012 with 250 units and currently occupied by 598 residents ^(Fig. 4) (Housing Authority of the City of Milwaukee, 2012). Its current population fits Alexander's definition of an identifiable neighborhood. It provides a precise environment for its neighborhood inhabitants, and they should be able to organize themselves and look after their own interests. Moreover, they can envision their own future, work towards their goal, and can gradually implement it by modifying their own environment to help make it happen within their own neighborhood (Alexander, 1977).

In order to determine whether it is a successful planned community, one has to understand the fundamental process of collaboration and commitment from all stakeholders before analyzing the element of human behavior on the design of a planned community.

Housing Authority of the City of Milwaukee (HACM)

HACM was appointed as the Housing Implementation Entity and developer for the revitalization of Westlawn. Housing authorities are mandated to use the federal grants to leverage private investment dollars for new construction under the HOPE VI program (Williams, 2003). They are also encouraged to build mixed-income development with higher density. The public policies led to the Housing Authority of the City of Milwaukee emphasizing the design in the revitalization proposal models in the traditional American town. In addition, HACM proposed a total budget of \$255 million for the revitalization, PNC Bank purchased \$76 million in tax credits, the Low Income Housing Tax Credit (LIHTC), and was awarded to HACM with the development of Phase I (Westlawn Gardens) which consists of 250 affordable housing units. The development is to improve Westlawn's public infrastructure and incorporate environmentally sustainable design.

This revitalization program is a 10-year Transformation Plan with the support of a \$30 million Choice Neighborhoods Initiative (CNI) grant, \$225 million from a variety of public and private sources, and an array of strongly supportive community-based organizations and other stakeholders (Housing Authority of the City of Milwaukee, 2012). With the approved funding and promised investors, organizers began to develop a master plan in 2009. The group decided HACM's Community Services staff would provide overall planning, coordination, and implementation of the People component for the Westlawn Choice Neighborhood Initiative. The development of the Master Plan included preliminary site studies and critical processes such as the Westlawn Charrette. The NU movement advocates the charrette which is an intense design workshop requiring

an interactive, multidisciplinary, and participatory process to facilitate citizen-based planning. It is a critical function in the design process because consensus building is based on feedback from residents and stakeholders alike (Bond, 2007) (2009). In the case of Westlawn Gardens, the research site results influenced the planning and finalization of the architectural design. The Housing Authority offers over 4,000 affordable apartments and homes dedicated to low-income families, seniors and disabled adults in Milwaukee. HACM has done research on other family housing projects including Berryland, Parklawn, and Hillside Terrace. These properties have the highest number of family units in Milwaukee but not as many units as those in Westlawn .

Housing Authority Property Category	Berryland 6089 N. 42 nd Affordable Market-Rate	Parklawn 4434 W. Marion St. Family Housing	Hillside Terrace 1419 W. 8 th St. Family Senior & Disabled	Westlawn Garden 5555 N. 62 Family Senior & Disabled
Year Built (original)	1952 ³	1937	1949	1952
# Units	391	518 ⁴	n/a	332 ⁵
Year Renovated	2002	1999	2014	2012
Architectural Style	2 story row-house	2 story row-house	2 story row-house, and high-rise	Traditional Neighborhood Development (TND)
# Units	391	380	470	250 ⁶

(Table 2) HACM Housing Projects in the City of Milwaukee (See Appendix B for a summary of each property)

³ <https://www.historypin.org/en/berryland-housing-development-1952/geo/43.12853,-87.964702,5/bounds/32.523054,-97.764507,52.170124,-78.164897>

⁴ <https://livingnewdeal.org/projects/parklawn-housing-development-milwaukee-wi/>

⁵ <http://www.hacm.org/about-us/initiatives/milwaukee-s-choice-neighborhood>

⁶ <http://www.hacm.org/about-us/initiatives/milwaukee-s-choice-neighborhood>

Significance of the study

This research will reveal to what extent the three-decades-old, six fundamental design rules of TND fit the conditions and benefit the residents of Westlawn in the 21st century. Although many good communities are dependent upon good design including walkability and accessibility in their neighborhood (Kim, 2004) (Talen, 1999) (Rodrigue, 2013) (George, 2005) (Rogers, 2011) (Pivo, 2011), the results are significant to other communities with diverse and changing needs (Rowe, 2011) (Riley, 1989) (Fisher, 2004) (Mather, 2013) (Scommengna, 2013) (McHugh, 2005). These six rules are a valid framework for design but can cause more harm to the community if the context and demographics are not truly understood. The needs of each community should be acknowledged. These needs are entitled to the direction of change for the future housing development of the nation.

At the national level, based on the 2010 US census, the projection of the aging population turning sixty-five and above by 2030 will be one out of five (Ortman, 2014). At a local level, in addition to the 17% of disabled bodies, there will be 17-20% of the population in Westlawn who will have trouble accessing the Center and other local services. This population will have access to fewer resources that can accommodate their needs, which also change over time. If this is the case, does that mean the TND principles are still valid? Should there be an alternative to this particular population in response to the needs of the residents in Westlawn? TND supporters claimed that the TND model has evolved organically as a response to human needs. Has the Westlawn model achieved that if the design of Westlawn fits all six criteria of the TND principles?

Predominantly, it is in lower-income neighborhoods where residents' incomes do not keep pace, that displacement can occur. They are pushed out or prevented from moving into certain geographic areas because of the prohibitive costs and limited household earnings (Levy, 2007).

The research outcomes are fundamental to help improve the community design for the aging population and remodel existing communities to better support the aging population, as well as for those who prefer to stay in the community (Kennedy, 2010). It is also important to inform how designs can be inclusive to differently abled populations. The results will likely create a new paradigm as an alternative to provide for those who have challenges in mobility and thus have even fewer places from which to choose. The importance of this research is to determine how to improve the design. Planners, in the future, should make a greater effort to plan for all inhabitants. The findings will also provide others with a clearer perspective of applying TND in any future development. These could include government agencies, developers, architects, planners, and various organizations related to gerontology and other social science disciplines. Specifically, with the aging population and the rising disability level, the results may inspire policy makers to consider modifying building requirements, including planning and design, for future developments in Milwaukee and other cities across the nation.

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CHAPTER TWO: HISTORY OF HOUSING IN AMERICA

This chapter presents an outline of modern day neighborhood living environment since the beginning of the 20th century. The information offers a contextual association between the history of housing, the progression of policymaking and its influences on housing development through the 20th into the 21st century.

Modern Day Neighborhood Living

a) The 1900s – Living Conditions of the Working Class in America

At the turn of the 19th century, the Industrial Revolution spawned opportunity in America. Cities such as Chicago, Detroit, Cleveland, and St. Louis arose faster than anybody could imagine. As the scale of larger factories expanded, job opportunities grew and required more workers. Employment attracted an influx of immigrants from Western and Eastern Europe and migrants from America's countryside who required more housing (Kunstler, 1996). America's burgeoning cities were bursting with people and it became difficult to accommodate waves of immigrants and their large families. There was no prior experience in such hyper-rapid development and commercial corruption was rampant. Estate owners and property agents converted houses and blocks into barracks and partitioned large rooms into smaller ones without any regard to light or ventilation. Ramshackle housing with dark, damp basements and filthy yards were situated next to decaying and refuse-filled streets sprouting across cities, some just a short distance away from well-established affluent homes (Johnson, 2002). Some cheap apartment buildings were often built to a great height without regard to the strength of the foundation walls. Living conditions were

especially harsh and most people suffered from social, psychological, and physical distress (Riis, 1971). As part of the larger progressive and reformist era during that time period, the slums were viewed as a consequence of corruption and exploitation and many believed that could be overcome through local political activism (Johnson, 2002).

b) The 1910s – The Birth of the “Neighborhood Unit”



(Fig.5) https://en.wikipedia.org/wiki/Chicago_Loop#/media/File:Chicago-Loop-1900.jpg

The First World War¹ had slowed transatlantic immigration. Despite a steady influx of workers from rural areas and other parts of the country, local employers faced a serious shortage of unskilled workers. Manufacturers were forced to find help closer to home; thus, began the first Great Migration² of African American families³ who came north in large groups seeking freedom from the rural south, with the promise of industrial jobs in cities such as Chicago, Philadelphia, and Milwaukee (Gurda, 1999).

As agrarian families were driven from the land to increasingly congested cities (Desmond, 2016), the electric streetcar systems and commercially available

¹ The First World War (WWI) – began in Europe on July 28th, 1914 and lasted until November 11th, 1918 (Willmott, 2012)

² First Great Migration (1916–1930), about 1.6 million people move from mostly rural areas to northern industrial cities, and a Second Great Migration (1940–1970), which began after the Great Depression and brought at least 5 million people — including many townspeople with urban skills — to the north and to California and other western states (Frey, 2004).

³ In 1919, 19% of Milwaukee’s black males held industrial jobs (Gurda, 1999)

automobiles flooded the streets and contributed to the filthy urban living conditions. There was a shortage of postwar housing, and American city life deteriorated sharply (Kunstler, 1996)^(Fig. 5). As a result, the City Beautiful and City Practical movements had emerged.

The need to address the poor urban living conditions and the urgent need for good housing for the affluent were energized by the 1913 National Housing Conference in

Origin of the Neighborhood Unit

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Figure 5. 'Plan of a Typical Quarter Section in the Outskirts of Chicago' (Source: A. B.Yeomans, *City Residential Land Development*, Chicago, 1916).

Chicago. The Chicago City Club held national competitions in 1912 and 1914. The Illinois Chapter of the American Institute of Architects prepared the program and called for proposals for a 'quarter-section' site south of central Chicago. This was one-quarter of a mile square with a normal grid street pattern on its periphery, see Fig. 6.

(Fig. 6) 'Plan of a Typical Quarter Section in the Outskirts of Chicago'

(Source: A. B.Yeomans, *City Residential Land Development*. Chicago, 1916).

All submissions were assessed according to six criteria on an imaginary site with a quarter section. The six criteria for the competition assessment were economy and practicality, provision for health and sanitation, beauty and originality, comfort and convenience of residents, provision for social activities including education and recreation, and commerce (Johnson, 2002). William E. Drummond, a central architect in Frank Lloyd Wright's studio from 1899 to 1909, was influenced by

notable sociologist Charles Cooley, who defined the “Neighborhood Unit” within his submission to the Chicago City Club’s planning competition of 1912. Drummond’s substantive and prophetic submission addressed the theoretical and practical parameters (social and physical of a micro-community in a suburban context), with a focus on housing and a community center. Drummond’s plan advocated for the neighborhood unit (the smallest local unit) to be the organizing basis of the whole city and to be viewed as a unit in the social and political structure of the city. He defined his ideal as units that could co-exist in a city’s physical and social fabric by

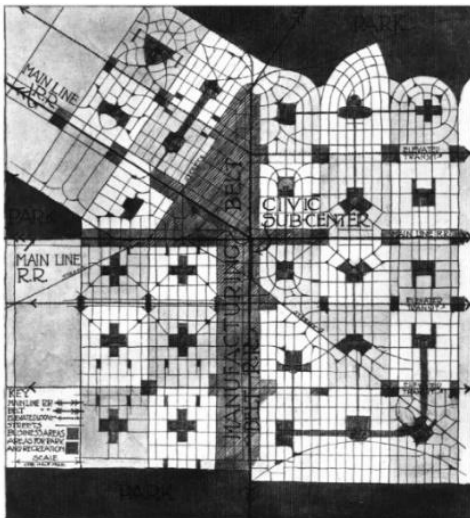


Figure 3. 'A City Area Developed on the "Neighborhood Unit" Plan. (Using a Quarter-section as the Approximate Unit Area)', William E. Drummond, Architect. (Source: A. B. Yeomans, *City Residential Land Development*, Chicago, 1916).

identifying their relationship to each other, to transportation, local social activities, commerce, and parks (Fig. 7). He also proposed low-rise apartment buildings to embrace central recreational areas (Fig. 8).

(Fig. 7) 'A city Area Developed on the "Neighborhood Unit" Plan. (Using a Quarter-section as the Approximate Unit Area). William E. Drummond, Architect. (Source: A.B.Yeomans, *City Residential Land Development*, Chicago, 1916)



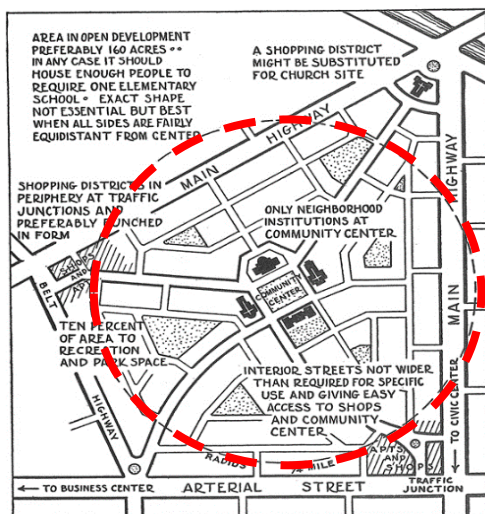
Figure 5. 'Court View' of 'Attached Dwelling' of an 'Ordinary City Block'. William E. Drummond, Architect. (Source: *Western Architect*, 1915).

(Fig. 8) 'Court View' of 'Attached Dwelling' of an 'Ordinary City Block', William E. Drummond, Architect. (source: *Western Architect*, 1915).

His ideas derived from Cooley were intended to comprise an area which will permanently exist. Due in part to WWI, which broke out in Europe in 1914, his inventive and imaginative concept of Neighborhood Unit was not put into practice (Johnson, 2002). Meanwhile, a distinct metropolitan vision, the progressive movement, began to emerge in Milwaukee, Wisconsin. The movement broke ground for a cooperative development called Garden Homes to ease a severe postwar housing shortage.

c) The 1920s – Established Physical Standards of the “Neighborhood Unit”

Clarence Arthur Perry, an American planner and an advocate of the Neighborhood Unit, defined and promoted the unit as a product of a variety of institutional, social, and physical design forces of the era. He represented the ideal neighborhood through a monograph in the 1929 Regional Plan of New York and Its Environs. (Fig. 9). It was a physically defined unit with school, churches, and recreational areas at its center. He titled the monograph “The Neighborhood Unit, a Scheme of Arrangement for the Family-Life Community” (Lawhon L. , 2009).



(Fig. 9). A diagram of Clarence Perry's neighborhood unit, illustrating the spatiality of the core principles of the concept, from the New York Regional Survey, Vol. 7. 1929.
http://en.wikipedia.org/wiki/File:New_York_Regional_Survey,_Vol_7.jpg

Perry further organized and established physical standards that encourage interaction, reducing the impact of the automobile on the safety of residents, and providing for schools, open space, and institutional and commercial uses. He initiated the planning of walkable neighborhoods and further explained the concept in detail in many of his publications since 1929 (Moudon, 2006)

i. Walkable neighborhoods

The design allowed residents to walk no more than a quarter-mile to reach these features and nearby commercial areas – all without having to cross a major arterial street. Arterial streets were relegated to the perimeter, thus enabling pedestrians to move freely within the neighborhood without interference from vehicular traffic (Lawhon L. , 2009).

ii. Accessible to services

Perry recommended further that ten percent of the neighborhood land area be set aside for parks and open space for the enjoyment of the residents. His concept also promoted a school with an adjacent major play area, a community center with various institutional uses, and churches. All these elements emphasized the physical nature of the concept. The neighborhood unit has been virtually the sole basis for formally organizing residential space (Lawhon L. , 2009).

iii. Garden Homes

The progressive movement in Milwaukee, Wisconsin, broke ground for a cooperative development called Garden Homes to ease a severe postwar housing

shortage. Completed in 1923, Garden Homes was an initial success of affordable working-class housing (Gurda, 1999). The design concept was influenced by the Garden City movement, a method of urban planning. The goal was to prevent the creation of tenement apartments and to promote Garden City living as endemic to the highest quality of community life. Milwaukee planners feared congestion and looked to the urban periphery where land was less expensive for civic salvation (McCarthy, 2009). It was completed with ample green space, uniform heights, and setbacks. The orderly development fulfilled the scientific city planning (Gurda, 1999) (Fig.10).



(Fig. 10) Aerial view of Garden Homes development as it was being developed. Credit: Milwaukee Public Library

However, the progressive movement was halted by the sudden devastating collapse of US stock market prices on October 29, 1929.

d) The 1930s – Federal Housing

i. The Great Depression

The unprecedented crisis, the Great Depression, shook the nation. Many consumers suffering from the losses in the stock market cut back their expenditures. Then a severe drought ravaged the agricultural heartland of



(Fig. 11) USA annual real GDP from 1910 to 1960, with the years of the Great Depression (1929–1939) highlighted the U.S. in the the mid-1930s. The Great Depression lasted a full decade from 1929 to 1939 (Fig. 11).

To address the hardship of the Depression and in response to the severe postwar housing problems, a long-term program, the National Housing Act, was signed into law on June 27, 1934. It was designed to stop the tide of bank foreclosures on family homes and stimulate home building. The act created the Federal Housing Administration (FHA) and was aimed to pump life back into the housing market by restructuring its financial foundations. Under a series of programs in the *New Deal*⁴, three “Greenbelt Towns” were planned and built by the federal government (in Greenbelt, Maryland; Greenhills, Ohio; and Greendale,

⁴ The New Deal was a series of programs enacted in the United States between 1933 and 1938 during the first term (1933–1937) of President Franklin D. Roosevelt. The programs were in response to the Great Depression, and focused on what historians refer to as the “3 Rs,” Relief, Recovery, and Reform: relief for the unemployed and poor, recovery of the economy to normal levels, and reform of the financial system to prevent a repeat depression (Berkin, C., 2012).

Wisconsin). The Greenbelt Towns program sought to provide work for the unemployed, to offer affordable housing, and to demonstrate principles of suburban town planning. The designs were influenced by the “Neighborhood Unit” idea with community centers, commercial functions, and residential areas surrounded by a green belt (Bauman, 2000).

In September, the Housing Act of 1937 was signed into law to assist with housing for low-income families and endorse slum-clearance projects. The legislation mandated distinctly diminished physical standards, established the framework for the development of the U.S. housing system for the next several decades and led to the development of Queensbridge Houses in Queens, NY. The monotonous barracks-like development was opened in 1939 and is one of the largest public housing projects in the nation. (Bauman, 2000).

ii. World War II

When World War II broke out in 1939, workers⁵ migrated from rural to urban areas in search of employment in defense industries. The population of many cities and towns on the East, West, Gulf Coasts, and in the upper Midwest doubled and, in some cases, tripled within a year. Despite the fact that public housing projects had been racially segregated as whites fled the projects, and African Americans made up the vast majority of residents since the 1930s, the stigma of public housing temporarily subsided during the war. Providing housing for workers in defense industries was regarded as a way of contributing to the war

⁵ By 1930, Milwaukee’s black males holding industrial jobs had risen to 80 percent (Gurda, 1999).

effort. Nevertheless, the shortage of housing for middle-class and working-class families increased (Biles, 2000). With funds originally appropriated for low-income public housing, Congress authorized the U.S. Housing Authority (USHA) to develop public housing for civilian employees of the armed forces and defense contractors (McCarthy, 2009).

e) The 1940s – Defense and Postwar Housing (Dawn of Planned Community)

The lack of proper housing continued to be acute. To set a pattern for the future development of housing, USHA hired leading International Style architects who were sympathetic to modern housing goals. Architects such as Eliel and Eero Saarinen, and Louis I. Kahn, presented postwar urban housing plans and featured comprehensive site planning facilities, designed to promote community interaction. In 1942, a comprehensively planned community with a day care center, a supermarket, and a gardening education center, was developed and constructed in San Pedro, California by the Federal Public Housing Authority (FPHA)⁶ (Szylvian, 2000).

Large-scale public housing was anticipated to expand to ease unemployment and

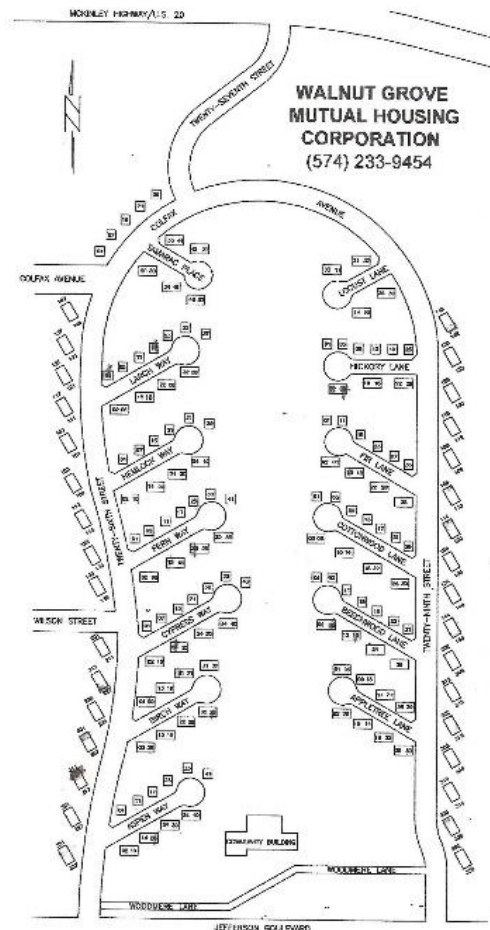


the postwar housing needs when the economy converted back to peacetime production. The general public overwhelmingly supported government-built housing for war veterans. Walter Gropius, Frank Lloyd Wright, and

⁶ The Federal Public Housing Authority (FPHA) was assigned to build the necessary public housing for the war effort, while the Federal Housing Administration (FHA) provided mortgage underwriting.

Richard J. Neutra accepted the challenge of designing low-cost pre-fabricated housing for defense workers for patriotic and economic reasons. They were intrigued with the prospect of developing a prefabricated housing system that might ultimately revolutionize the entire field of housing development. In 1947, in response to the housing needs facing defense workers and developing housing projects for middle-income families, one of the eight projects⁷, Walnut Grove in South Bend, IN was built (Fig.12).

(Fig.12) <http://walnutgrovemha.org/wp-content/uploads/2012/02/Photo.jpg>



The development allows pedestrians to reach the community center, a cooperative grocery store, and nursery school by traveling through an interior park (Fig.13) (Bauman, 2000) (<http://walnutgrovemha.org>, 2016).

By the end of the 1940s, the role of the federal government in the field of housing provision was extended. The Housing Act of 1949 was passed to help eradicate slums and promote community development and redevelopment programs (HUD.GOV, 2016). City governments launched a media campaign

⁷ The eight projects were built by the Mutual Ownership Defense Housing Division: Audubon Park, Audubon, NJ, 37Avion Village, Grand Prairie, TX, Bellmawr Park, Bellmawr, NJ, Dallas Park, Dallas, TX, Pennypack Wood, Philadelphia, PA, Greenmont Village, Dayton, OH, Walnut Grove, South Bend, IN, and Winfield Park, Winfield Township, NJ.

to gain citizen support for slum clearance and planned public housing.

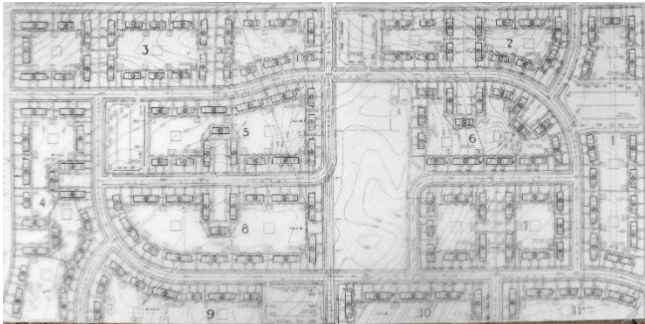
(Fig.13) <http://walnutgrovemha.org/wp-content/uploads/2012/02/New-Schematic.jpg>

f) The 1950s – Urban Renewal and the Dawn of Suburbanization

Enacted with the middle-class homeownership program, a generous federal mortgage interest tax deduction supported the sprawling postwar suburbanization (Bauman, 2000). The Housing Act of 1954 provided federal funding to cities to cover the cost of acquiring areas of cities perceived to be "slums." It mandated that new construction of public housing units be limited to communities with existing slum clearance and urban renewal projects (Biles, 2000). Those sites were then given to private developers to construct new housing, thus providing cities with greater freedom to spend urban renewal dollars on commercial enterprises (Biles, 2000).

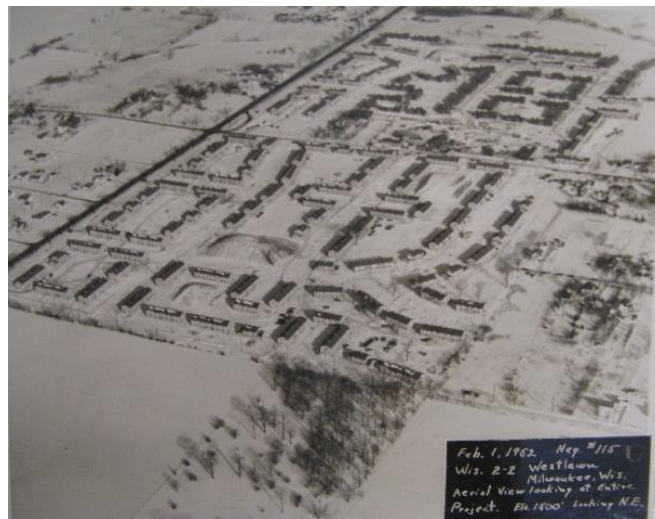
Ira Robbins, president of the National Housing Conference, noted that slum clearance did not necessarily result in the construction of more low-income dwellings but created the problem of relocating uprooted slum dwellers (Biles, 2000). Urban renewal prompted the commotion with public housing on deteriorating inner-city neighborhoods. The business practices of redlining, mortgage discrimination, and racially restrictive covenants contributed to the overcrowding and physical deterioration of areas where minorities chose to congregate (Kruse, 2007). Many whites defended their space with violence, intimidation, or legal tactics, and triggered measurable white flight (Seligman, 2005) (Hanchett, 2000). With the influence of the Federal Housing Administration (FHA) in the private sector and the public housing program, and the passing of the Housing Act in 1956, mass-produced housing and racially homogeneous communities were consciously constructed (Hirsch, 2000) (Bullard, 2007).

On the urban fringe of Milwaukee, Wisconsin, two sites on the North Side and a third on the South Side (Southlawn) were selected for low-density housing projects for war veterans. On the far northwest side of Milwaukee, the city also built one new



and the largest public housing project for low-income residents, Westlawn (Fig. 14).

(Fig. 14) 1951 Westlawn Site Plan. Source: Housing Authority of City of Milwaukee

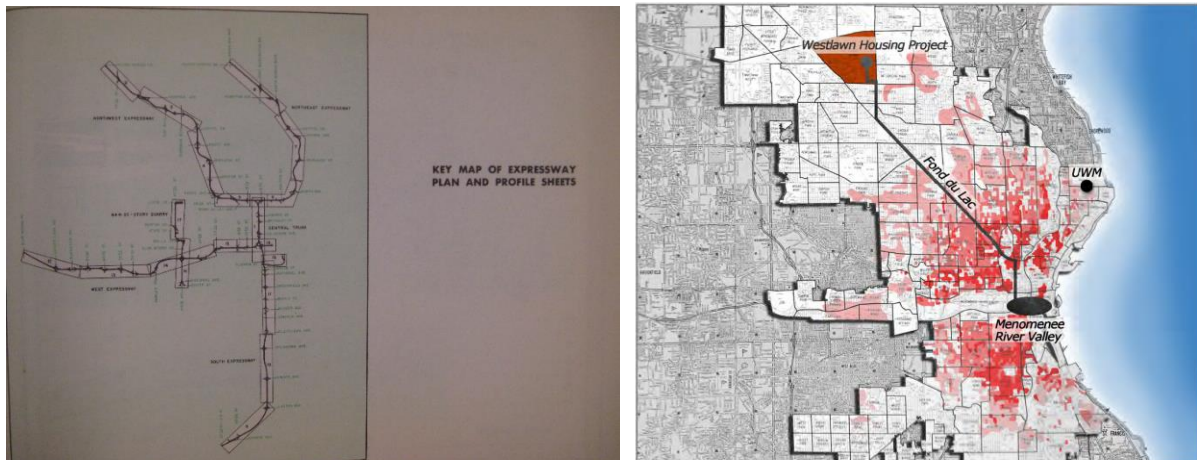


(Fig. 15) 1952 Westlawn Housing Project – looking towards NE Source: Housing Authority of City of Milwaukee

The development broke ground in 1949 and was completed in 1951. This was the newest low-income housing project in the city of Milwaukee. It was racially integrated with only 18 percent of its residents being African American. However, the annexation of Westlawn (Fig. 15) in 1951 had frightened suburban whites who particularly feared the idea of building low-income public housing in the formerly rural territory (McCarthy, 2009).

i. Federal-Aid Highway Act of 1956

The Act authorized appropriations for continuing the construction of highways for national defense to transport troops across the country efficiently by using the funds diverted from defense reserves. The American Association of State Highway Transportation Officials (AASHTO) was a dominant force and the focus of the program was to expedite traffic through the central cores of cities. It required wider streets to facilitate evacuation and cleanup in the event of a ground invasion. Old streets were therefore widened (from nine feet or less to twelve-foot lanes, which take longer for pedestrians to cross) and often routed directly through vibrant urban neighborhoods (Duany, Suburban Nation, 2000) (Powell,



2008). The program also provided up to 90 percent of funding for each mile of highway construction. Local government had virtually no expenditures for embracing the extensive expressway construction (Fig.16). Due to the fact that building freeways would create thousands of jobs for local labor and construction firms, suburban municipalities extended developments into the periphery and converted more farmlands to housing tracts and contributed to sprawling suburbs in following decades (Hanchett, 2000).

(Fig. 16) 1950s Expressway Plan vs Urban Renewal in Milwaukee . Source: Housing Authority of City of Milwaukee

Other neighborhoods were also subjected to urban renewal, but with mixed results. The projects shifted traffic patterns, blocked streets to vehicular traffic, isolated or divided neighborhoods with highways, and removed large numbers of ethnic and minority residents.

In 1956, the Federal-Aid Highway Act gave state and federal government complete control over new highways, and often isolating or destroying many vibrant urban neighborhoods. The focus of the program was to bring traffic in and out of the central cores of cities as expeditiously as possible, and 90 percent spent came from the federal government. This resulted in a serious degradation of the tax bases of many cities, isolated entire neighborhoods, and many existing commercial districts were bypassed by the majority of commuters. Segregation continued to increase as communities were displaced and many African Americans and Latinos chose to move into public housing while some whites moved to the suburbs (Bauman, 2000).

ii. Beginning of Suburbanization

The Housing Act of 1954 set up tax shelters for any income-producing buildings and forbade write-offs for depreciation of land. It enabled developers investing in new construction, rather than renovation, to avoid urban projects with high land cost. Suburbanization transformed farmland into cities, highways were built for faster movement between cities, and the efficient mode of automobile transportation made it indispensable as part of modern American daily life (Frumkin H. , 2002) (Krieger, 2006).

iii. New Landscape

The bonds which tied urban populaces together were stretched, causing isolation among residents and pulling apart the social nature of the community (Krieger, 2006). The role of traditional urban design in American life had diminished by a complex pattern of land use and fostered auto-dependent development on rural land (Frumkin H. , 2002). It contributed to the sharp increase in developments such as Levittown in Pennsylvania (Fig. 17) (Hanchett, 2000).



(Fig. 17) https://en.wikipedia.org/wiki/Levittown,_Pennsylvania#/media/File:LevittownPA.jpg

The development was a comprehensive plan to include overall road systems, elementary schools, playgrounds, recreational facilities, and the mixing of housing types. It was the major prototype of mass-produced housing and typified the planned suburban communities into the next few decades (Gans, 1967). Moreover, these modern amenities contributed to the expansion of auto-oriented, low-density development and unplanned suburban sprawl occurred at an

alarming rate (Krieger, 2006). The traditional pattern of walkable, mixed-use neighborhoods was disfigured by the expansion of suburban development (Lennertz, 2006), and led to cars taking priority over pedestrians (Duany, 2000). At this same time, many public housing residents were either disabled or elderly (Vale, 2000) (Desmond, 2016). Policymakers in Washington, D.C. began to embrace very different varieties of housing reform and devoted more resources to shelter for older people (Biles, 2000). The Housing Act of 1959 allows funds for elderly housing.

g) The 1960s – Criticism of Urban Renewal

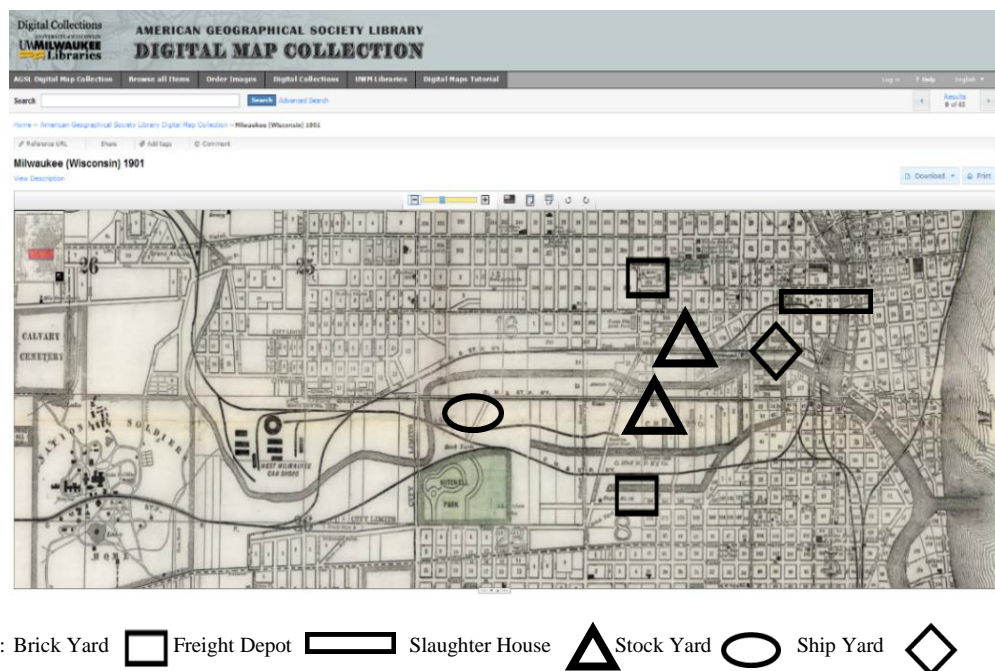
Jane Jacobs, one of the strongest critics of urban renewal, critiques the contemporary large-scale urban renewal, saying it continued to cause suburban sprawl and energy waste. Shopping malls such as Brookfield Square and Southridge enjoyed financial success but failed the city socially (Jacobs, 1961). The movement of people via automobile transportation resulted in a colossally inefficient, but thoroughly American, traffic pattern (Gurda, 1999).

i. ‘White Flight’

Before WWII in Milwaukee, African Americans occupied a small and clearly defined section on the northwest side of the city. Due to the expansion of the defense industries during the war and high wage metal-working industrial jobs after WWII, their population grew by over 50,000 residents (Table 3) (Fig. 18). The population tripled in just one decade and the northwest side began changing demographically (McCarthy, 2009).

Milwaukee's African American Population by Decade, 1910-1960			
Year	African American Population	Total Population	Percentage of Total Population
1910	980	373,857	0.26%
1920	2,229	457,147	0.50%
1930	7,501	578,249	1.30%
1940	8,821	587,472	1.50%
1950	21,772	637,392	3.40%
1960	62,458	741,324	8.40%
Source: Milwaukee Metropolitan Area Fact Book: 1940, 1950, 1960. Madison: University of Wisconsin Press			

Table 3: Milwaukee's African American Population by Decade, 1910-1960



(Fig. 18) Menomonee River Valley, 1910 <http://collections.lib.uwm.edu/cdm/singleitem/collection/agdm/id/334/rec/9>

With the beginning of the outward migration of residents to newer suburban communities, suburbs grew along with the growth of minority communities in the City of Milwaukee. Many families, almost exclusively Caucasian, began to move to the suburbs such as New Berlin. As whites fled Milwaukee in droves to suburbs, thousands of working class African Americans found housing within the city limits on the northwest side neighborhoods including Arlington Heights and

Havenwoods. The latter has the largest government housing project, Westlawn, with a mix of strip malls, older retail buildings, and townhouses (Gurda, 1999). It was primarily white families in the beginning, and workers commuted to industrial jobs and other manufacturing jobs located in the Menomonee River Valley and along the Fond du Lac Avenue commercial corridor.

ii. Automation

By the mid-60s, the job structure changed due to automation, acquisition, and globalization. Many companies in search of cheap labor moved plants overseas or to Sun Belt⁸ communities, where unions were weaker or non-existent (Gurda, 1999) (White S. , 1988). Milwaukee also became part of the Rust Belt⁹ as the recession set in. Many jobs eliminated were unskilled jobs, which were held by lower-income working class people, and almost half of Milwaukee's black workers held manufacturing jobs. In addition, the economics declined due to a shift from rail and ship transportation to the interstate highways. Milwaukee used to be flush with good jobs along the banks of the Menomonee River Valley (as shown in Fig. 12). That situation changed, with half the working-age black men being unemployed (Wilson, 1987) (Levine, 2008). The demand for public housing resurfaced among governmental discussion.

iii. U.S. Department of Housing and Urban Development (HUD)

In 1965, the U.S. Department of Housing and Urban Development (HUD) was created as a cabinet-level agency by the Department of Housing and Urban

⁸ The Sun Belt is a region of the United States generally considered to stretch across the Southeast and Southwest (Benfield, 2012).

⁹ The Rust Belt is a term for the region straddling the upper North-Eastern United States, the Great Lakes, and the Midwest States, referring to economic decline, population loss, and urban decay due to the shrinking of its once-powerful industrial sector. The term gained popularity in the U.S. in the 1980s. (Crandall, 1993)

Development Act. HUD's mission was to create strong, sustainable, inclusive communities and quality homes for all (HUD.GOV, 2016). This was at a time when "public housing" evoked images of bleak, crime-ridden projects (Turner, 2004) (NARPAC, Inc. , 2002).

h) The 1970s – Suburban Sprawl

Due to automation, acquisition, and globalization, whites began to relocate to suburbs and middle-class African Americans began to move into the northwest side of Milwaukee, matching the suburban sprawl phenomenon across the nation. California architect and planner, Peter Calthorpe, said the suburban sprawl was incoherent, brutal, ugly, and depressing, and that the developers did not care about what they were building (Kunstler, 1996). In response, New Urbanism supporters advocated walkable and accessible traditional American neighborhoods characterized alternatively as Traditional Neighborhood Development (TND) (Moudon, 2006).

Traditional Neighborhood Development (TND) also known as Neo-Traditional Development (NTD) should not be confused with New Urbanism (NU). NU is an urban design movement that encompasses all scales of planning and development (Steuteville, 2003). It supports regional planning for open space, context-appropriate architecture and planning, and the balanced development of jobs and housing (Clarke, 2005) (Forsyth & Crewe, 2009) (Bond, 2007) . TND, however, is limited to the scale of a neighborhood or town and is a planning movement begun at the height of suburban development in the 1980s.

i) The 1980s – Low-Income Housing Tax Credits (LIHTC)

The economic interruptions of the 1980s set in because of globalization and deindustrialization, causing steep decline for American capital goods. The recession nearly leveled Milwaukee's largest manufacturers. Thousands of local families felt the crisis and high unemployment was inevitable. Most African Americans males with manufacturing jobs thus bore a disproportional unemployment rate, more than triple the metropolitan figure. The poverty rate of African Americans increased from 28.4 percent in 1980 to 41.9 percent in the next decade (Gurda, 1999). While many white families moved to residentially exclusive suburbs for industrial service jobs, most African American stayed within the city limits (McCarthy, 2009).

HUD expanded its enforcement responsibilities to include the fair housing provisions of the Civil Rights Act of 1968. Also, the Low-Income Housing Tax Credits (LIHTC) program was created, providing affordable housing opportunities for low-income families, particularly those struggling with issues such as the crack cocaine epidemic of the mid-'80s (Gurda, 1999).

(https://www.huduser.gov/portal/hudtimeline_1980.html, 2016).

j) The 1990s – Mixed-Income Developments (TND as precedent)

The first "TND Ordinance" was passed in Bedford, NH and subsequently copied and used as a starting point by many communities. It created a regulatory precedent and captured the attention of planners, architects, and developers. The various kinds of development under this label claim to replace the traditional auto-dependent suburb with pedestrian-oriented mixed-use development that builds a sense of community (Nasar, 2003).

In 1992, HOPE VI was created as part of the Departments of Veterans Affairs and Housing and Urban Development by Independent Agencies Appropriations Act (Public Law Number 102-389) (<http://www.enterprisecommunity.com/policy-and-advocacy/issues/holistic/placed-based>, 2014). The program funds new urban neighborhoods, making use of New Urbanism concepts to restore failed modernist public housing projects into mixed-use and mixed-income communities (<http://bettercities.net>, 2002). It adopted the NU concept which favors duplexes and row houses that stand close to the street with small front yards. It also prefers low-rise building. These concepts are believed to encourage residents to have direct interaction with the street to reduce vandalism, as in traditional American neighborhoods (Kunstler, 1996), i.e. the Traditional Neighborhood Development (TND).

Under HOPE VI, housing authorities are mandated to use the federal grants to leverage private investment dollars for new construction (Williams, 2003). They are encouraged to build mixed-income development, higher density with more houses per acre, and believed that communities must be dense, pedestrian-friendly, and transit-accessible. This pattern models the traditional American town (Kunstler, 1996).

Developers have also come to embrace the HOPE VI program.

k) The 2000s – Redevelopment of Distressed Public Housing

The Obama administration proposed the Choice Neighborhoods Initiative (CNI) as a successor to the HOPE VI program for the redevelopment of severely distressed public housing. It is part of a broader movement to think more holistically and comprehensively about affordable housing and concentrated poverty. It provides

competitive grants to rebuild both public and assisted housing into mixed-income communities with access to quality schools, transportation, and other vital community services. One of the notable features of Choice Neighborhoods¹⁰ is its preference for funding housing redevelopment that is coordinated with local school improvements so that children may simultaneously benefit from improved housing and schools (1998).

Choice Neighborhoods is focused on three core goals:

1. Housing: Replace distressed public and assisted housing with high-quality mixed-income housing that is well managed and responsive to the needs of the surrounding neighborhood;
2. People: Improve educational outcomes and intergenerational mobility for youth with services and support delivered directly to youth and their families; and;
3. Neighborhood: Create the conditions necessary for public and private reinvestment in distressed neighborhoods. This will bring the kinds of amenities and assets that are important to families' choices about their community, such as safety, good schools, and commercial activity.

After the comprehensive revitalization in 2012, the current population in Westlawn Gardens is 598 residents. Based on one of the design ideals from Clarence Perry's Neighborhood Unit principles, Christopher Alexander promoted a community that is made

¹⁰ The Obama Administration is highly committed to the Choice Neighborhoods Initiative, which represents an essential component of the larger Neighborhood Revitalization Initiative. The Administration has proposed robust funding for Choice Neighborhoods every year since 2010, including a proposal for \$400 million for the program in FY 2014. In the FY 2015 proposal, the Administration requested \$120 million, which more closely aligns with historical funding levels for the program. Although the Choice Neighborhoods Initiative has been operational since 2011 with over 50 grantees across the country, the program has yet to receive Congressional authorization. (<http://www.enterprisecommunity.com/policy-and-advocacy/issues/holistic/placed-based>, 2014)

up of neighborhoods. He suggests that the population of a neighborhood should range from 500 to 1,500, a model size to coordinate, organize, and reach decisions of their own interests (Alexander, 1977). In the case of Westlawn Gardens, it fits the definition of an identifiable neighborhood and provides an ideal environment for its people. The residents should be able to organize themselves, look after their own interests, envision their own future, and work towards their goals. Gradually modifying their own environment can help make it happen within their own neighborhood (Alexander, 1977) (Kimmel, 2010).

Chapter Summary

This chapter provided an outline of the neighborhood living environment in America since the beginning of the 20th century. The relationships were explored between the history of housing, the progression of policymaking, and the influences on housing development into the 21st century. It leads to the search of literature in the next chapter with various topics including architecture, urban planning, community design and community planning, environment and public health, and research on Quality of Life.

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CHAPTER THREE: LITERATURE REVIEW

A comprehensive literature review helps develop a framework and prepares for the questionnaire survey as part of the research process.

The literature review began with articles that were written about the physical and social issues related to the living environment. The six rules of TND design focus on the physical and social elements of a specific living environment: *The Center*, *Five-minute walk*, *Street network*, *Narrow and versatile streets*, *Mixed use*, and *Special sites for special buildings*.

The remainder of this chapter is organized with tables of summaries, representing a consolidation of articles from various perspectives and of research findings about walkability and accessibility.

Abstracts of these articles are listed alphabetically under Tables of Citation in Section C of this chapter.

A. Walkability

Assumptions are often made that improvements in the physical environments are associated with improvements in quality of life for the individuals (Evans S. H., 2002) (McCrea, 2006). Traditional Neighborhood Development (TND) promotes walkable neighborhoods that enable activities to be easily accessible from any place within a certain system of transportation (Morris, 1979) (Housing Authority of the City of Milwaukee, 2010). TND was well received by numerous organizations including the Choice Neighborhoods Initiative (CNI), a successor to the HOPE VI program. The Department of Housing and Urban Development (HUD) began HOPE VI to redevelop severely distressed public housing (1998) (Housing Authority of the City of Milwaukee, 2012). Every trip begins and ends with walking and is the cheapest form of transport for people (Burden, 2008). Abley defined walkability with five specific walking conditions: streets are connected, pedestrian friendly (pleasant experience), visible, comfortable and convenient (Abley, 2005). In addition, the purpose for walking (recreation or necessity) could play a role in people's perceptions, as could their health conditions (Kunstler, 1996) (Ewing R. H., 2006).

This research investigates the participants' perceptions of the quality of the walkable experience in their neighborhoods. This is especially interesting since one-half of the development received a comprehensive revitalization in 2012, thus creating two planned residential neighborhoods. The literature review included architecture, urban planning, community design, environmental health, environmental behavior, and social and mobility issues as part of components of quality of life.

Topic	Author(s)	Summary
Environment and Behavior	(Kim, 2004)	Higher satisfaction on walking trips with visual attraction found in the upper-middle-class neighborhoods
	(Brown, 2007)	Subjective experiences of walkability should be the additional focus of urban design
Aging	(Fisher K. J., 2004)	Socially cohesive neighborhoods with more facilities produce higher levels of neighborhood walking
Different gender perception in walking behavior	(Clifton K. &, 2005)	Gender differences regarding behavior and attitudes towards walking and perceptions of the environments – a study of three Maryland communities with different walkability and socioeconomic characteristics.
Physical Health	(Moudon, 2006)	Higher residential density, smaller street-blocks around home, shorter distances to food and daily retail facilities from home promote sufficient walking
Community Design	(Tilt, 2007)	Mechanical measurements led to variation among walking trips to different destinations
Research on Quality of Life (QOL)	(Rogers S. H., 2011)	Living in a walkable community as an important component of QOL Levels of social capital are higher in more walkable neighborhoods
Real Estate Economic	(Pivo, 2011)	Walkability associated with high incomes Desire for and the availability options of pedestrian-friendly neighborhoods resulted in unmet demand
Environmental and Public Health	(Rundle, 2009)	Neighborhood walkability increases healthy food availability and limits unhealthy food outlets
	(Duncan, 2011)	Mechanical measures of neighborhood walkability between distances and destinations based on GIS indicators

Table 4.1 – Summary of articles (Walkability)

Based on some of these articles, research suggests that by improving the physical and mechanical elements, a walkable community is an important component to improving the quality of life for the individuals. The type of facilities and services in the neighborhood are important in the TND neighborhood unit concept, but the results vary in different developments with different socioeconomic classes.

The research will study if the development is a walkable community, as well as raise awareness of strengths and areas for improvement. It is essential to collect feedback from people who associate with the residents, such as local workers, neighboring residents, and residents in that particular community.

a) Group Characteristics

Group characteristics, including age, gender, ethnicity, and health condition, have an impact in accessing a range of community resources in a neighborhood. These characteristics are critical in shaping behavior and conduct in peoples' daily activities, which in turn influence travel preferences to certain social activities (Vojnovic, 2013).

The following table provides a summary of numerous articles about people as a group in this society:

Topic	Author(s)	Summary
Social and Political Science	(Riley & Riley, 1989)	The support from various social structures could gradually improve and benefit the life course and wellbeing of all ages.
Aging	(Stoller E. P., 2000)	Illustrates how gender, race, class, and age have a huge impact in our society, especially the effect on low-income minority females.
Planning and Politics	(McCarthy, 2009)	Planning and metropolitan development on housing deficiencies and policies have an impact on producing proper housing accommodations of Milwaukee, WI
History	(Gurda, 1999)	Covering history of Milwaukee from 1800s – 1990s

Table 4.2 – Summary of articles about Group Characteristics

Research suggests that a strong support from public policies and various social structure is eminent. The life course perceptions of the society and the low-income minority such as economic conditions, physical conditions, and life skills, are often intertwined (Stoller E. P., 2000).

b) Physical Settings

Most literature about physical settings focuses on the relationship between various physical elements and not much on people experience in relation to their physical environment.

Topic	Author(s)	Summary
Urban Planning	(Lynch, 1960)	Emphasizes interrelations: how an observer adjusts to the shifting images around him in a large-scale urban design. Individuals' perception and experience in their surroundings are not within the scope of this study.
	(Kelbaugh, 1989)	Proposes a new suburban design strategy Does not expand on the people experience in relation to the built environment
Environmental Health	(Foster, 2008)	Perceived crime-related safety issues may reduce physical activity by women and older adults in public spaces
Social	(Desmond, 2016)	Uses ethnographic approach to studying people's daily activities in Milwaukee

Table 4.3 – Summary of articles about Physical Settings

Physical setting affects activities and services, as well as influences the behaviors and attitudes of how people shape their overall experiences (Geboy, 2001). Changing the context could provide an ideal setting for people to perceive their living conditions. One might reject the trip entirely when experiencing physical features that might jeopardize perceived safety.

c) Mobility / Disability

This criterion focuses on mobility issues: people and their walking experience within their physical environment which includes physical layout and locations of spaces.

Topic	Author(s)	Summary
Aging and Population	(Rosso, 2011)	Inconsistencies of walking frequency Not all built environment characteristics affect all neighborhoods in the same manner
	(Scommengna, 2013)	Baby boomers are experiencing disability at an earlier age, and living longer. Families provide most of the care for individuals with disabilities
Urban Mobility	(Rodrigue, 2013)	Personal mobility is a symbol of status & economic success Mobility varies per age, gender, income, and disability

Table 4.3 – Summary of articles about Mobility

Research suggests that mobility challenges increase as people go through the aging process. A walkable community should consider the aging population and plan accordingly. Not all built environments affect all neighborhoods in the same manner (Rosso, 2011).

d) Geographic Information System

Geographic Information System (GIS) technology was used to support the research process. This tool will enhance the visualization of the process and the experience by showing social demographic change of the site and adjacent area over time.

Topic	Author(s)	Summary
Validation of Walk Score	(Duncan D. A., 2011)	A valid measure of estimating certain aspects of neighborhood walkability, particularly at the 1600-meter buffer (approx. 1 mile)
Urban Environment	(Evans, 2009)	Using GIS mapping of local routes and neighborhoods Mobility and journey needs of users, perceptual and safety issues, are major barriers to transport access for vulnerable groups

Table 4.4 – Summary of articles about Technology Equipment used to measure Walkability

The process is to identify whether the research site meets the walkable feature under TND design principles.

e) Quality of Life (QOL)

Quality of life is subjective and multidimensional. Any features can change one's definition of "quality of life" rather quickly and dramatically. Often researchers using QOL as an indicator find it encompasses multidimensional factors from physical health, education, psychological state, level of independence, local services and transport, housing, and the environment. It has the ability to regulate thought and emotions of a negative condition (Baraccia, 2013). The emotional state refers to the emotional quality of an individual's everyday experience and is assessed by the respondents' report of the time spent in certain positive and negative emotional states the previous day (2010).

Topic	Author(s)	Summary
Study on Quality of Life	(McCrea, 2006)	Subjective evaluations are more suitable to overall subjective urban QOL Objective evaluations should continue to measure, monitor, and improve the urban QOL
	(Magee, 2012)	A community-centered approach to develop a perspective on psychosocial needs such as social health
	(Frank, 2009)	Built environment correlates to adults' physical activity including walkability
Community Psychology	(Renzaho, 2012)	Positive relationship between life satisfaction and community connections with residents' well-being, quality of community services and safety
Behavioral Science	(Heylighen, 1992)	A review and criticisms of Maslow's theory

Table 4.5 – Summary of articles about Quality of Life

The research criterion under this category is to study the relationship between participants' perception of safety and their walking environment because life satisfaction is associated with community connections, quality of community services and safety of the neighborhood (Renzaho, 2012).

B. Accessibility

The importance of accessibility continues to focus on people with disabilities and refers to the design of products, devices, services, or environments. Accessibility in architecture refers to the ease in physical locomotion through and use of a given environment (Geboy, et al., 2001). On an urban scale, it is the ability to satisfy one's ordinary needs with the minimum amount of travel and cost (Duany, 2010). People expect to have an effective and efficient transport system providing safe and equitable access to a variety of basic services. That is the relationship between the group characteristics (age, gender, and their health condition) and the physical environment, how distance between users and facilities should be considered, and if the accessibility is acceptable within their neighborhood settings (Banergee, 1984) (Scharlach, 2016) (Talen E. A., 1998).

Topic	Author(s)	Summary
Transport and Infrastructure Research	(Ryan, 2016)	Evaluating the different accessibilities to facilities between age groups
Housing Policy	(Koschinsky, 2015)	The existence of spatial inequalities for tenants to access amenities in HUD ¹ -Assisted Housing
Urban Environment	(Vojnovic, 2013)	Explore the impact of socio-economic and racial variables on accessibility and travel behavior to urban amenities

Table 4.6 – Summary of articles about Accessibility

Built environment research seldom regards the various social condition such as poverty, crime, and race, and thus fails to address the fundamental issue that concerns the quality of life issues in the built environment (Koschinsky, 2015).

¹ HUD – U.S. Department of Housing and Urban Development

a) Group Characteristics

The group characteristics in this context play a vital role within the two planned neighborhoods, affecting the accessibility for residents to local resources.

Topic	Author(s)	Summary
Environment and Planning	(Talen E. &., 1998)	The distribution of accessibility to services, whether high access or low access, can vary significantly
Public Health	(Pearce, 2005)	GIS methodology offers the opportunity to accurately measure accessibility to community resources
Urban Environment	(Evans, 2009)	Mobility and journey needs of users, perceptual and safety issues, are major barriers to transport access for vulnerable groups
Social Issues	(Desmond, 2016)	Irregular transit system poses an enormous impact on accessibility to facilities and services for low-income families in low-income neighborhoods

Table 4.7 – Summary of articles about Group Characteristics relate to Accessibility

Due to the complexity and variation of methods, researchers encounter challenges using mechanical methods to measure the accessibility of neighborhoods and seldom study the quality of accessibility from the users' perspectives.

b) Geographic Information System (GIS) and Walk Score

This criterion explores the effectiveness of GIS and Walk Score methodology to measure the accessibility of individuals to local and community resources.

Topic	Author(s)	Summary
Public Health	(Pearce, 2005)	GIS methodology offers the opportunity to accurately measure accessibility to community resources
Urban Environment	(Evans, 2009)	Using GIS mapping on local routes and neighborhoods. Mobility and journey needs, as well as perceptual and safety issues, are major barriers to transport access for vulnerable groups
Geographical Analysis	(Kwan, 2003)	The complexities of accessibility include variables of urban form and social aspects, posing challenges to many methods of geographical analysis

Table 4.8 – Summary of articles about Technology Equipment to measure Accessibility

Although accurately measuring the walkability and accessibility to resources, the complications of geographical analysis often overlook some of the major barriers such as the perception of safety from vulnerable groups including low-income families, people with mobility challenges, and older adults.

c) Planned Community

TND is a specific type of planned community that promotes walkable neighborhoods, enabling activities to be easily accessible from any place within a certain system of transportation (Morris, 1979) (Housing Authority of the City of Milwaukee, 2010). This research criterion focuses on findings from various settings of planned communities.

Topic	Author(s)	Summary
Urban Planning	(Allaire, 1960)	Perry's Neighborhood Theory has been applied continuously with minor modifications and serves as a development module that the end products are so standardized
	(Sirianni, 2007)	Positive progress on planning, to address shared citywide concepts, can find common ground in diverse neighborhoods if the work is provided with funds and supported with guidance by cities
	(Rohe, 2009)	The 6 TND principles provided the mechanics of ongoing citizen involvement to addresses global issues including social equity issues such as poverty and social alienation
New Urbanism	(Sander, 2002)	A controlled analysis should be conducted after individuals move into an NU development to see how their behavior differs after three to five years
Social Psychology	(Alcock, 2011)	Community-based intergenerational practice may be able to promote social inclusion and increase sense of community
Architecture	(Clarke, 2005)	Appropriate planning should be local with significant participation in the development process The amenities should be carefully sized and crafted
Aging Studies	(McHugh K. E.-K., 2005)	Master-planned lifestyle communities result in both resident well-being and social fragmentation in metro America
Environment	(Karuppannan, 2011)	Similar socio-economic groups from various types of cities to formulate design guidelines and planning policy
Environment and Behavior	(Brown, 2004)	Examined neighborhood confidence and place attachment towards neighborhood revitalization. Different perspectives between newcomers and old-timers towards surrounding neighborhoods

Geriatrics	(Keyes, 2011)	Emphasized physical elements with the support by codes (in a zoning framework) that address accessibility continuously throughout the community reflects greater influence than building codes
Population and Housing	(Mather, 2013)	Low-income families struggle to pay for food, transportation, child care, and health expenses

Table 4.9 – Summary of articles about Planned Community

In addition to apply proper building codes, facilities and services in the community, various socio-economic issues such as social equity should be studied cautiously in order to meet the ultimate goal of residents' well-being in the community.

C. Tables of Citation

The following is arranged alphabetically by author's surname. The purpose of this table of citation (Table 4.10) is to provide an easy reference to locate the objectives and the results of the author(s) in comparison to the researcher's criteria of this study.

(Alcock, 2011) Intergenerational practice in the community: A focused ethnographic evaluation	
Abstract	An inner-city housing estate (youth center and community center), London, UK attitudes between children and older adults and how they react towards each other
Results	Positive attitude change in community-level participation between older adults and the children Younger people demonstrated a sense of responsibility and caring towards the older people (social contact – place experience) community-based intergenerational practice may be able to promote social inclusion and increase sense of community
Research criteria	Other than it is an inner-city housing estate, the context of the Youth/Community Center is unknown; it is important to know the Spatial/Built environment because it plays as an important part of people experience in a place

(Allaire, 1960) Neighborhood Boundaries	
Abstract	Report for the Planning Advisory Service – Chicago, IL Gather a single reference and examine how and to what extent the most important methods of neighborhood delineation are used in the field
Results	Perry's Neighborhood Theory has been applied continuously with minor modifications and served as a development module in which the end products are too standardized. Emphasis on physical elements –housing type, major streets, and physical boundaries ... talked about the impact of organizations and groups
Research criteria	Individuals / personal experience from the people side is not within the scope of this literature

(Brown G. B., 2004) New housing as neighborhood revitalization: Place attachment and confidence among residents	
Abstract	Critically examine the arguments of community to achieve the goal of diversity and equity that New Urbanism advocates
Results	Examined neighborhood confidence and place attachment among residents of a neighborhood revitalization, and compared to newcomers and old-timers in the surrounding neighborhood. Newcomers had higher place attachments and more confidence in the new neighborhood than those to the surrounding neighborhood, subsequently newcomers may become important neighborhood contributors.
Research criteria	Two different populations (newcomers in Westlawn Gardens and old-timers in Westlawn West) yield different results in regard to their perception of walkability and accessibility.

(Brown, 2007) Walkable route perceptions and physical features	
Abstract	Examine three different walkable routes near a light rail stop in relation to urban design, aesthetic and physical amenities in Salt Lake City (n = 73, 18-51 years of age – both M & F)
Results	Three different methods to collect data. Trained raters confirmed that walkable segments had more pleasing aesthetics, pedestrian amenities, and superior social ambiance rating. Tape recorded open-ended segments confirmed that university student participants experienced walking route segments have fewer social & physical incivilities, and more attractive natural features. Closed-ended scales revealed that walkable route segments had more pleasant social and better traffic safety. Few gender differences were found in regard to safety concern. Revealed the importance of subjective experiences of walkability and suggest that these experiences should be an additional focus of urban design.
Researcher criteria	Diversity of race was not mentioned, and in particular, the low-income minority woman(*) is more concerned about safety (Warr, 1990) (Loukaitou-Sideris, 2006) and may impose mobility constraints because race and economic status play an important role in our society (Golant, 1990) (Iutovich & Iutovich, 1988) (Jette, 1992) (Smith B. H., 1988) (Stamatiadis, 1996) (*) Westlawn (98% African American) and majority of the Westlawn Resident Council attendants for the monthly meetings (between 2013– 2016) are women, only <6% of male attendants on an average (2015).

(Clarke, 2005) The ideal of community and its counterfeit construction	
Abstract	Critically examine the arguments of community to achieve the goals of diversity and equity that New Urbanism advocates
Results	Deceptive that design professions can design a 'community' but to establish a picturesque consistency dictated by guidelines and covenants (organization + group + indiv = people) Appropriate planning should be local with significant participation in the development process – the amenities should be carefully sized and crafted – decent paying jobs are viable (socioeconomic – independence) – part of place experience
Research criteria	A different perspective that town centers should be allocated to periphery share w/other zones and accommodate diversity – cause 'security' is the new status of isolation and also 'celebrate the presence of strangers' (Jacobs, 1993)

(Clifton K. &, 2005) Gender differences in walking behavior, attitudes about walking, and perceptions of the environment in three Maryland communities	
Abstract	Gender differences regarding behavior and attitudes towards walking and perceptions of the environments – a study of three Maryland communities with different walkability and socioeconomic characteristics.
Results	This study emphasis was on subjective factors. Women tend to be more concerned and more sensitive to safety risks in the environment thus more likely to alter their walking behavior. Behaviors and reasons are also differing between two sexes in walking towards destinations. Women are not a homogenous group and the analysis of their perceptions by age, race, and life cycle is needed.
Research criteria	Women, specifically older women in a lower-income bracket, tend to walk more due to necessity, such as grocery shopping, than walk for health or recreation.

(Desmond, 2016) Evicted	
Abstract	The author follows eight families between May 2008 and December 2009 describing all events about eviction which took place throughout the City of Milwaukee.
Results	Due to the lack of affordable housing in this city, the ethnography approach to collect data in this project reveals people's vulnerability and desperation, as well as their imagination and braveries to survive. Robust sociology of housing that reaches beyond a narrow focus on policy and public housing is needed.
Research criteria	This is the only project in recent years that studies the people and their living conditions in the City of Milwaukee. Most projects were done using mechanical systems to study people's daily activities which could be very disconnected with reality. For instance, the irregular transit system poses an enormous impact on low-income families when they need to search for their next dwelling during their eviction process.

(Duncan, 2011) Validation of walk score for estimating neighborhood walkability: An analysis of four US metropolitan areas	
Abstract	An analysis based on GIS indicators of neighborhood walkability and addresses from families of children (n = 733) and their families, to study the after-school obesity prevention intervention program, using 4 different U. S. metropolitan areas - Pacific NW; Midwest; South and East – with buffer distances ranging from 400 to 1,600 meters (approx.. 0.25 to 1 mile)
Results	Using Walk Score to measure neighborhood walkability based on GIS indicators of neighborhood walkability. The result indicated that Walk Score is a valid measure of estimating certain aspects of neighborhood walkability (particularly at the 1,600-meter buffer or approx. 1 mile) in multiple geographic locations and at multiple spatial scales. Walking destinations include retail stores, drug stores; services: banks, post office; cultural/educational: schools, libraries.
Researcher criteria	Emphasis on the mechanical measures between distances and destinations but did not consider any obstruction of routes and walking experience of the users.

(Evans, 2009) Accessibility, urban design, and the whole journey environment	
Abstract	U.K. Mobility and journey needs of users, perceptual and safety issues, are major barriers to transport access for vulnerable groups
Results	Using GIS mapping local routes and neighborhoods
Research criteria	Fear of crime and other barriers conspire to restrict mobility and access to community resources for vulnerable groups such as the low-income families in the Westlawn Development

(Fisher K. J., 2004) Neighborhood-level influences on physical activity among older adults: A Multilevel analysis	
Abstract	The authors used a cross-sectional multilevel analysis to examine a range of neighborhood-level characteristics with variation in self-reported physical activity, neighborhood social cohesion, and perceptions of safety among older adults (age 65+) from 56 neighborhoods in Portland, OR (n=582)
Results	Senior residents associate higher levels of neighborhood walking in socially cohesive neighborhoods with more facilities such as parks and walking trails.
My research criteria	The study did not expand on other age group, i.e. those under the age of 64. It is important to include other age groups in the inter-generational communities, because social contact contributes as part of place experience in different levels of neighborhood physical activities.

(Frank, 2009) The Development of a Walkability Index: Application to the Neighborhood Quality of Life Study	
Abstract	A study investigating built environment correlates adults' physical activity between two regions, King County, Seattle and Baltimore in Washington, DC. It hypothesized the GIS-based walkability index would be related to household travel patterns such as levels of walking and driving. It also hypothesized individuals who live in higher 'walkable' neighborhoods will engage in more physical activity than those in lower 'walkable neighborhoods'.
Results	There are socioeconomic and racial/ethnic disparities in most health outcomes related to land use, and is important to understand the health effects of environmental variables in diverse populations.
Research criteria	This study was only based on median household income, which in this research, does not fit the criteria because Westlawn is a low-income housing development.

(Foster, 2008) The built environment neighborhood crime and constrained physical activity: An exploration of inconsistent findings	
Abstract	This paper reviews the inconsistencies of quantitative studies of personal safety, which is often cited in qualitative research as a barrier to local walking.
Results	The cross-sectional study showed that there is insufficient evidence to conclude that crime-related safety influences physical activity. However, the results suggest that it may constrain physical activity for women and older adults. Perceived neighborhood safety may constrain physical activity that takes place in public spaces.
Research criteria	Understanding the difference between the real and perceived crime-related safety and physical activity which pertain to the research process of Westlawn

(Gurda, 1999) The Making of Milwaukee	
Abstract	Describes the history of Milwaukee from 1800s into the 1990s
Results	This book provides a history on what makes Milwaukee by telling stories about the most foreign city in America in the 1800s, to the civil disturbance in 1967, and the social and economic problems.
Research criteria	How jobs brought large scale movement of African Americans into Milwaukee, their population growth, and the effect on local politics on housing

(Heylighen, 1992) A cognitive-systemic reconstruction of Maslow's theory of self-actualization	
Abstract	An evaluation of Maslow's theory – 1) a theory of human motivation, characterized by a hierarchy of needs; 2) a description of a particular type of maximally healthy personality, called "self-actualizing", which is supposed to emerge when all these needs are satisfied.
Results	Promoting in society with traditional socio-economic solutions is insufficient for self-actualization. Traditional educational programs should be stimulated by providing pupils with powerful methods and support systems for constructing more adequate distinction systems, thus enhancing their creative intelligence
Research criteria	Besides basic needs of food and water, people also need to feel safe and secure in their living environment in order to access their daily needs if the local shops do not provide the fundamental needs and quality goods.

(Karuppannan, 2011) Social sustainability and neighborhood design: An investigation of residents' satisfaction in Delhi	
Abstract	<p>- Delhi, India</p> <p>Study the relationship between design and social sustainability (*) – urban form influences social sustainability thru perceptions and sensitivities of individuals</p> <p>(*) process of relationship between society, built environment and QOL in neighborhood setting</p>
Results	<p>Need detailed study involving stakeholders, professionals and users from various types of cities to formulate design guidelines and planning policy</p> <p>Mixed-use housing and land use enhance interaction between various socio-econ and age groups – the closer physical distance, know more about each other and more friends; cluster housing better option than row housing re: social interaction</p>
Research criteria	<p>All are middle-income neighborhoods in Delhi – similar socio-economic for fair comparison</p> <p>*Westlawn also has similar socio-economic groups although low-income with two different housing types on the same site</p>

(Kelbaugh, 1989) The Pedestrian Pocket	
Abstract	The author examines the old suburban patterns of settlement since WWII and the post-industrial suburb development, and proposes a new suburban design strategy.
Results	The built environment and spatial design of the 'Pedestrian Pocket' have striking similarities to Ebenezer Howard's Garden City. As part of the physical setting, both spatial layouts are surrounded by greenbelts of permanent agricultural land, except 'The Pedestrian Pocket' is served by a system of light-rail transit connectors in place of railroad connection.
Research criteria	The new suburban design strategy does not expand on the people experience in relation to the built environment such as the sensory and spatial elements which play an important part of this research.

(Keyes, 2011) Creating communities: Atlanta's lifelong community initiative	
Abstract	Mableton, GA Examine the community of Mableton as a case study to implement a 'Lifelong Community'
Results	Rethink redevelopment opportunities to focus the coordination of housing location with new facilities and infrastructure for the needs of older adult population – apply local zoning ordinances than rely on building codes for accessibility for the entire community (organization - policy) Emphasis on physical elements with the support by codes (in a zoning framework) that address accessibility continuously throughout the community more than building codes.
Research criteria	The 'Lifelong Community' has no difference than the TND that DPZ (Duany et al) promoted – except this model combines the younger with the older (working + retired) population Emphasis on zoning vs building codes – individuals / personal experience is not the scope of this literature

(Kim, 2004) Physical and psychological factors in sense of community: New Urbanist Kentlands and nearby Orchard Village	
Abstract	The authors explore the sense of community between a traditional suburban development (Orchard Village) and neo-traditional development (Kentland) in Gaithersburg, MD (n=146)
Results	Greater sense of community due to walkability in Kentland - Higher satisfaction in terms of visual attraction and walking in the community, similar layout to Perry's 'Neighborhood Unit'. Lesser satisfaction in Orchard Village due to the lack of sidewalks and busy streets. Also, low in social interaction for the lack of ethnic diversity but with diversity of characteristics (i.e. porches, community center, parks, shops within walking distance).
Research criteria	Caucasian upper-middle-class neighborhoods (\$350,000 + for a single-family home in 2004) versus low-income neighborhood (Westlawn - 98% African American, \$16,161 annual income in 2000, 54% not employed). Different socioeconomic class using the same TND/neighborhood unit concept would not yield the same results.

(Kwan, 2003) Individual accessibility revisited: Implications for geographical analysis in the twenty-first century	
Abstract	Evaluate various analytical methods of accessibility and the increasing importance of Information and Communications Technologies (ICTs) in people's daily lives.
Results	Methods and measures formulated around the mid-twentieth century are increasingly inadequate to deal with the complexities of accessibility between urban form and individuals, posing challenges to many methods in geographical analysis. Modern GIS technologies and digital geographic data incorporate and model real-world complexities. They go beyond the simplifications necessitated using conventional urban models and proximity-based accessibility measures.
Research criteria	GIS is useful to measure accessibility in a localized area which supports the study of both walkability and accessibility of Westlawn

(Lynch, 1960) The Image of the City	
Abstract	The author proposes a new approach to city design with visual form by examining three cities, Boston, Jersey City, and Los Angeles, and classified the physical forms (contents of city images) into five types of elements – paths, edges, districts, nodes, and landmarks.
Results	Emphasized the interrelations of the five elements in a large-scale urban design and how the observer adjusts the shifting images around him using structural image quality (size/form) – static map organization (hierarchical) vs continuous organization (interconnections).
Research criteria	Components such as sizes, forms, and connections are important in any neighborhood development; however, people's perception and their experience in relation to these elements are the main focus in this research and is overlooked in this book.

(Rogers S. H., 2011) Examining walkability and social capital as indicators of quality of life at the municipal and neighborhood scales	
Abstract	A case study approach examines three communities in New Hampshire and compares between the more and less walkable neighborhoods if social capital is considered as indicator of Quality of Life (QOL) and pose important value to both individuals and communities.
Results	The generation and maintenance of social capital is one of the important components of QOL that may be facilitated by living in a walkable community. The comparisons show that levels of social capital are higher in more walkable neighborhoods (i.e. personal connections, involvement, safety and security, independence, privacy, social contact, familiarity)
Researcher criteria	Although gender or age are not specifically categorized, this study shared the similarity of social dynamic of building relationships with neighbors that plays an important part in the Westlawn research (Mather, 2013)

(Rundle, 2009) Neighborhood food environment and walkability predict obesity in New York City	
Abstract	New York City n = 13,102 The objective of this study was to examine the relationship between neighborhood food environment and obesity after control for neighborhood walkability with Body Mass Index (BMI)
Results	Using a ½ mile buffer around the study subjects' home addresses, a cross-sectional multilevel analysis of BMI and obesity from 13,102 adult residents of New York City. Food environment is significantly associated with body size, with the access to BMI, healthy food stores is associated with lower BMI and lower prevalence of obesity. Neighborhood characteristics and neighborhood walkability increase the availability of healthy food outlets more than unhealthy food outlets.
Researcher criteria	Some of the findings of this article validate the abundance of fast food chains, convenience and liquor stores in the lower-income bracket neighborhoods (such as Westlawn) instead of affordable, nutritious, and appropriate food sources (Vojnovic, 2013).

(Mather, 2013) The growing owner/renter gap in affordable housing in the U.S.	
Abstract	Various communities in the U.S. between 2007 & 2012 – Poverty rate for homeowners increased from 4% to 5%; renters increased from 18% to 25% – Low-income families struggle to pay for food, transportation, child care, and health expenses.
Results	Renters with high-cost burdens (insecurity) Renters are younger and have less income
Research criteria	Did not mention any gender difference nor specific age group in this article – low-income families, struggle to pay for food, transportation, child care, rely on local access more frequently (access to local grocery stores and reliable transit schedule, etc.) and vulnerable from crime and feelings of being safe

(McCarthy, 2009) Making Milwaukee Mightier: Planning and the Politics of Growth 1910-1960	
Abstract	A valuable study of planning and metropolitan development about housing deficiencies and the policies that promote proper housing accommodations of Milwaukee, WI.
Results	The impact on Milwaukee under socialism and how planners solved the social problem using unconventional planning goals
Research criteria	Suburbanization stunted the growth of the city, and observation on Milwaukee's relationship to its suburbs at the beginning of the 21 st century

(McHugh K. E.-K., 2005) These white walls: The dialectic of retirement communities	
Abstract	Three retirement communities in Phoenix, AZ Social and cultural significance of age-restricted retirement planned communities
Results	Master-planned lifestyle communities results in both resident well-being and social fragmentation in metro America Social separation from other ethnic group / culture – thus the social fragmentation
Research criteria	Differences: these 3 communities have 50+ residents and 98% are white middle class *Whereas Westlawn is 98% African American, a planned community –for intergenerational low-income

(Moudon, 2006) Operational definitions of walkable neighborhood: Theoretical and empirical insights	
Abstract	Authors review theories defining neighborhoods and offer an empirical approach to identify measurable attributes and thresholds of walkable neighborhoods via self-reported survey (telephone survey) from 608 adults in King County, WA
Results	Environmental attributes positively associated with walking sufficiently to meet health recommendations included higher residential density and smaller street-blocks around home, and shorter distances to food and daily retail facilities from home. Threshold distances for eating/drinking establishments and grocery stores were 860 and 1445 feet (i.e. 0.16 and 0.27 miles). Targeted recreational and educational uses in the neighborhoods: (1) smaller spatial units (approx. 1,150 feet or ¼ mile distance to eating/drinking establishment) promote neighborhood walkability (2) Walkable neighborhoods affect physical, mental, and spiritual health, enhance sociability between neighbors
Research criteria	Although health related mobility condition and people's experience to various activities was not the focus in their research, it is important to address the measurable distances between destinations and the impact on the users.

(Pearce, 2005) Neighborhoods and health: a GIS approach to measuring community resource accessibility	
Abstract	GIS methodology offers the opportunity to accurately measure accessibility to community resources in U.K.
Results	Clear regional variations in accessibility between neighborhoods to health-related community resources, in particular, within the urban areas
Research criteria	GIS computing capacity make it feasible to directly measure access to community resources at the neighborhood level

(Pivo, 2011) The walkability premium in commercial real estate investments	
Abstract	Examine the impact of walkability on market values and investment returns for office, retail, apartment and industrial properties
Results	Walkability associated with high incomes had no statistically significant effect on total returns. Walkability is in a much smaller area than local accessibility (1/4 to 1 square mile). The mismatch between the desire for pedestrian-friendly neighborhoods and the availability options resulted in an unmet demand
Researcher criteria	Population or gender is not particularly the focus in this article, and that the association between the built environment and people's experiences is being disregarded

(Riley & Riley, 1989) The lives of older people and changing social roles	
Abstract	Interventions are needed to address the predicament between the strengths and capacities of the increasing numbers of older people in the U.S. to enhance the quality of aging and acknowledge the inadequate social-role opportunities, because people's lives are embedded in individuals, families, work organizations, political institutions, health care systems, and all other social structures.
Results	A guide in designing small scale cumulative interventions and with the support from various social structures could gradually improve and benefit the life course and wellbeing for all ages.
Researcher criteria	This article emphasized individual and group roles with social structure. The society and the aging process are intertwined and in many cases, these changes are based on economic conditions, physical conditions, and life skills.

(Rodrigue, 2013) The Urban Mobility Challenge	
Abstract	Urban mobility and its evolution from walking/horse/streetcar era (1800-1890) to electric streetcar/transit era (1890-1920s) and to automobile era (1930 onward). Despite the increasing level of urban mobility, access to activities and services has become increasingly difficult. This report calls for a paradigm shift in transport policy.
Results	Personal mobility is a symbol of status & economic success; mobility varies per age, gender, income, and disability. The main objective is to reduce the need for mobility by reducing the number of trips and length of travel distance. Urban transport is socially sustainable when mobility benefits are equally distributed. The low-cost housing near large employment centers or public transport is a fundamental aspect of land-use planning.
Research criteria	Emphasis on the best use transportation: reduce trip frequency and increase alternative means of travel by walking, biking, or by transit. In Westlawn, 48% have access to a reliable vehicle, and 54% of adults have a valid driver's license. More than half of residents rely on the transit system or friends/family for their transportation (2012).

(Rohe, 2009) From local to global: One hundred years of neighborhood planning	
Abstract	Various forms of neighborhood planning These neighborhood plans focus on altering physical environment to larger social objectives
Results	Discussed the 6 TND principles. Municipal neighborhood planning provided the mechanics of ongoing citizen involvement to recently addresses global issues including social equity issues such as poverty and social alienation Emphasis on organizational strategies and community actions
Research criteria	Did not expand on individuals / personal experience of their neighborhood

(Rosso, 2011) The urban built environment and mobility in older adults: A comprehensive review	
Abstract	The effect of built environment on mobility limitations and disability in older adults is the focus of this article. Mobility often associated with safety measures of traffic conditions, street connectivity, and physical distances. The subpopulation such as older adults, women, minorities, and low-income families are more vulnerable to environmental factors.
Results	Inconsistencies of walking frequency (including exercise, recreation, or utilitarian purposes) because transportation, land use patterns, and urban design represent direct influences on disablement process. Not all built environment characteristics affect all neighborhoods in the same manner.
Research criteria	Westlawn is a low-income neighborhood and many people rely on local transportation. Their walking experience is not just the pace or distance of walking but their perception of safety from traffic and/or crime on their neighborhood streets.

(Sander, 2002) Social capital and New Urbanism: Leading a civic horse to water?	
Abstract	A discussion of research challenges and possible approaches to the complexity of reviewing the relationship between social capital and NU.
Results	The number of neighborhood-scale NU projects rose to 37% in 2001, with a 28% increase in 2000. The author suggests to individuals who move into a NU development to see how their behavior differs after three to five years. In order to receive the maximum benefits of NU design, researchers should look for a highly-regarded NU community that does not market itself as ‘community-oriented’ and conduct the same controlled analyses with a broad list of social capital questions.
Research criteria	As New Urban communities increase, so do the demographic differences, such as income, race, marital status, years lived in the community, all of which should be studied carefully in order to maximize the benefits from New Urban design.

(Scommengna, 2013) Aging U.S. baby boomers face more disability	
Abstract	U. S. National Health Interview Survey 2004-2010 revealed the rising disability levels between the age group 40-64. People need help with daily activities such as shopping, bathing, and dressing whilst the disability level continues to decline for ages 85 and older.
Results	Two types of disability – (1) inability to carry out daily tasks (shopping, cooking meals, and other instrumental activities of daily living), (2) need help with personal care activities, i.e. activities of daily living (bathing, dressing, etc.). 40% of the survey respondents have difficulty performing basic physical functions – cause more serious disabilities later in life. Baby boomers (not living in nursing homes or other institutions) are experiencing disability at an earlier age, and living longer. Families provide most of the care for individuals with disabilities. Disability rate was 1 % higher than previous decade (1% equivalent to 365,000 people).
Research criteria	In Westlawn, there are 17% (163) disabled residents – 8% (39) children, 22% (94 adults) and 73% (30) seniors (2012). Gender (female) and seniors play an important role in the Westlawn research.

(Sirianni, 2007) Neighborhood Planning as Collaborative Democratic Design	
Abstract	The author analyzes how local government can function as civic enablers and capacity builders for collaborative and accountable planning among neighborhood stakeholders and city government.
Results	Semi-structured interviews with 33 former and current planners, neighborhood activists, and other officials from Seattle, WA. This showed that positive progress on planning to address shared citywide concepts can find common ground in diverse neighborhoods if the work is provided with funds and supported with guidance by cities.
Research criteria	Relationship building did not always go smoothly; the director of the Center (SSNC) noted that the Westlawn Gardens residents might act superior to those from the older Westlawn West, hindering the progression towards a successful community development that the Housing Authority hoped for.

(Stoller E. P., 2000) Worlds of difference: Inequality in the aging experience	
Abstract	A total of 30 authors explored the diversity in the social and historical contexts and described the patterns of productive activity roles between gender based on class, race, and age across the life course from difference communities across the U.S.
Results	These articles provide views of social reality through the eyes of young and middle-aged adults in the 1930s-1950s. Gender, race, class, and age have a huge impact in our society and inequality seems unavoidable, especially the effect on low-income minority females.
Researcher criteria	Low-income minority, the life course perceptions from the female gender, fit the Westlawn research criteria.

(Talen E. &, 1998) Assessing spatial equity: An evaluation of measures of accessibility to public playgrounds	
Abstract	An evaluation of the methodology in assessing whether the distribution of accessibility to urban public playgrounds in Tulsa, OK is equitable.
Results	The 'traditional' measure (i.e. count of facilities in an <i>aerial unit</i>) and a potential measure (based on the gravity model), average travel distance, and distance to the nearest playground as indicators of accessibility. The characterization of access in which blocks with 'high access' and 'low access' are differentiated can vary significantly depending on how access is defined. The choice of access measure affects the conclusions and can lead to a narrow interpretation of access and therefore suggest potentially false conclusions about the existence of spatial mismatch and inequity.
Research criteria	There are similarities to some extent with the Westlawn research about the notion of access to services and facilities regardless of the social dynamics of people's perceptions and experiences.

(Tilt, 2007) Using objective and subjective measures of neighborhood greenness and accessible destinations for understanding walking trips and BMI in Seattle, WA	
Abstract	A team of researchers examine the influence of destinations within walking distance on walking trips and body mass index (BMI) by using cross-sectional analysis of data from residences in Seattle, WA (n = 529) with varying accessibility and green vegetation.
Results	Using Geographic Information System (GIS) Network Analysis and Normalized Difference Vegetation Index (NDVI) to measure objective accessibility. Subjective accessibility was measured through postal survey with self-reported destinations. The result led to an understanding of variation among walking trips and BMI in different neighborhoods.
Researcher criteria	Emphasis on mechanical measurements of accessibility which led to variation among walking trips to different destinations. Unfortunately, individuals' experience was not the focus of this piece of study.

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CHAPTER FOUR: CONCEPTUAL FRAMEWORK

The previous chapter presented a summary of articles and serves as the foundation to develop the conceptual framework of this research process.

In this chapter, the physical and social elements of Weisman's Place Model will be studied and its concept applied to the six TND design principles. The process is intended to extrapolate a new concept to assess the theory that TND is suitable to a low-income neighborhood such as Westlawn.

The nature of TND imposes a new façade to mask over economic and social issues that are not easily manageable (Grant, 2006). Critics argue that developers, using TND for redevelopment, dictate the planning and implementation. This has not been researched especially for low-income housing in the US (Thompson, 2013) (Talen, 2010).

A. Purpose Statement

TND design principles and research have been applied to homogeneous phenomena but overlooked the underserved population. The purpose of this study is to examine whether TND design principles could be effectively applied to a planned neighborhood with different population, particularly using the *group characteristics* and *spatial properties* in Weisman's Model, and their perspectives on walkability and accessibility to neighborhood resources. In this study, they are the residents and other users of this planned neighborhood, the Westlawn Housing Development.

In this context, walkability should have the walking conditions along specified streets that are well connected, pedestrian-friendly, visible, comfortable and convenient to a user (Abley, 2005). An accessible environment, in addition, to accommodate people with mobility challenges, should be able to provide people the ability to reach their

desired destination with the efficiency in time travel, a minimal amount of cost, and convenience (Karuppannan, 2011).

The *group characteristic* in this setting is the distinctive feature and appearance of a group of persons which could include gender, age, and ethnicity. These group characteristics can influence the productive activity role, including daily activities, within their living environment in society (Stoller, 2000). People engage in activities within the context of the physical setting (Geboy, 2001) (Moore K. G., 2001).

In architecture, physical setting is the structural shell, enclosure system, mechanical systems, finishes and furnishings including landmarks, and it creates spatial and sensory properties (Weisman, 2001).

Spatial properties include paths, edges, districts, nodes, and landmarks as part of the built environment in urban planning (Lynch, 1960). The spatial properties and built environment are emphasized in many studies on walkability and accessibility in various neighborhoods (Brown B. B., 2007) (Moudon, 2006) (Mumford, 1954) (Woshon, 1999). Many TND models study measurable features and thresholds of walkable neighborhoods (Moudon, 2006) (Tilt, 2007) while neglecting users' experience of the physical settings. They also examine transit connectors to serve pedestrians (Kelbaugh, 1989), as well as designing a planned community and establishing a picturesque consistency that is dictated by guidelines and covenants (Clarke, 2005) (McHugh, 2005).

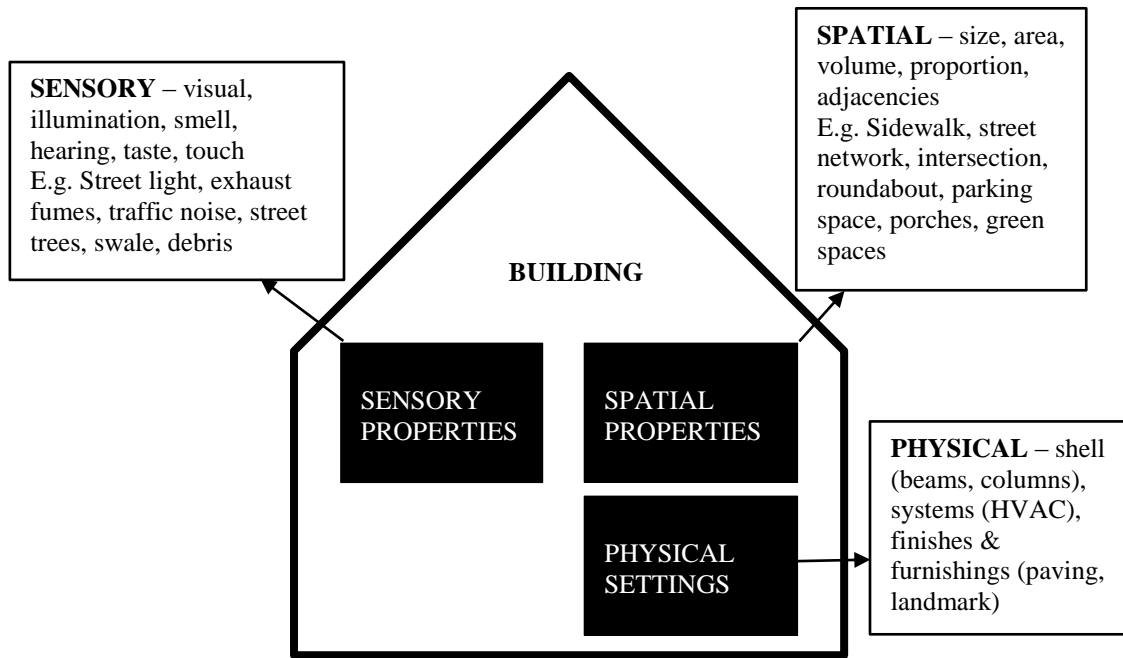
Spatial properties and *group characteristics* play a vital role in achieving a quality walkable and accessible living environment. While many studies emphasized physical elements and the mechanics (Rohe, 2009) of the development, they fail to address the group's needs and their personal experience. Personal experience and

perspectives are key as the interactions develop between people, activities, and the physical settings (Weisman, 2001). Therefore, Weisman's Place Model is the choice model to apply in this study with Westlawn using TND as a design engine.

B. Constructing the Conceptual Framework

a) Introducing Weisman's Place Model

In Weisman's Place Model, *Buildings* are often conceptualized in two complementary but quite distinct ways, each focusing on specific components or characteristics.



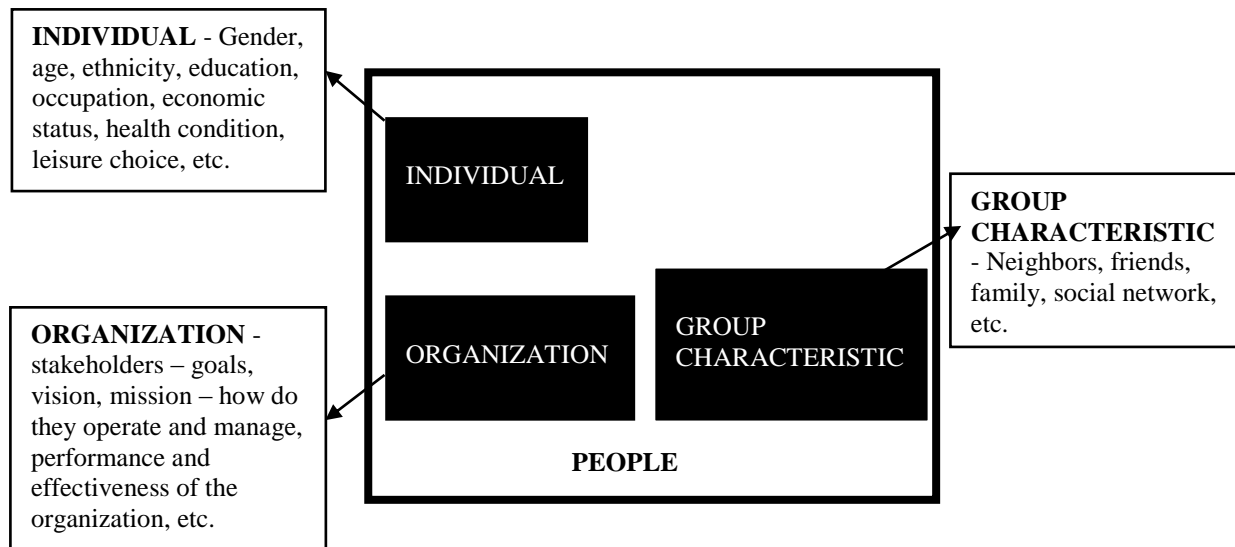
(Fig. 19) Weisman's Place Model - **BUILDING**

As shown in Fig. 19, the first approach in the Weisman's Place Model is the actual *physical setting*, in terms of 'bricks & mortar,' which includes the structural shell, enclosure system, mechanical systems, finishes, and furnishings. The second approach focuses on *Physical Setting* which creates *Spatial* and *Sensory Properties* (Weisman, 2001).

Spatial Properties include size, proportion, and location of spaces.

Sensory properties often relate to the six senses of seeing, hearing, smelling, touching, tasting and moving in and through a space (Moore, 2001). The most salient *Sensory Properties* are light and sound levels, temperature, odors, and textures (Weisman, 2001), as they can lead to psychological aspects of good design and have an impact on people's behavior in their living environment (Forsyth, 2009).

People engage in activities within the context of the physical setting. (Fig 20). It affects the activities and services offered, and influences the behaviors, attitudes, and overall experiences. It also translates people's needs and their activities into the design of the physical setting (Geboy, 2001) (Moore K. G., 2001).



(Fig. 20) Weisman's Place Model - **PEOPLE**

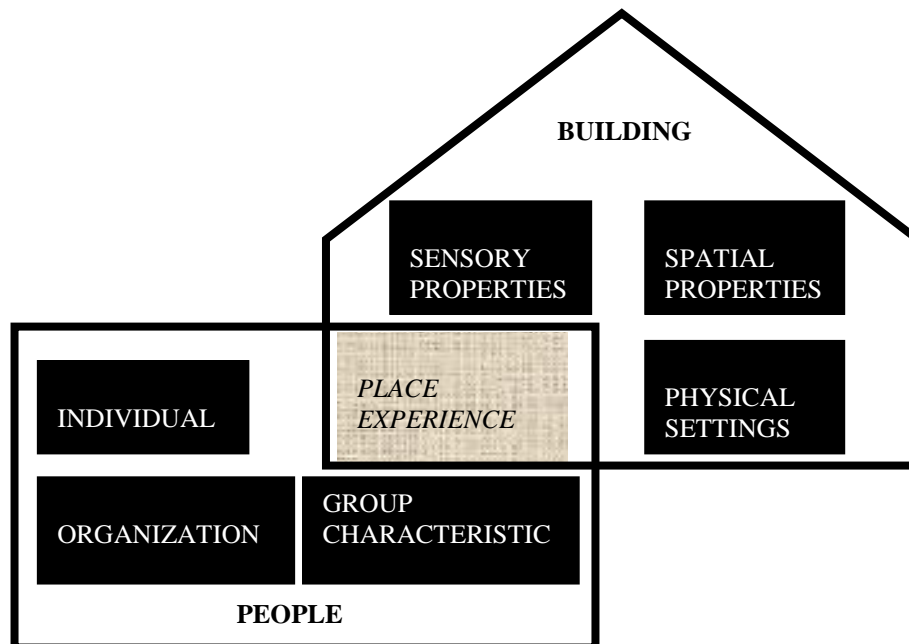
People may also be conceptualized at three levels of social aggregation: *individual, group, and organization*. *Individual* or *group characteristics* (such as age, gender, and ethnicity) display a strong link between structural form and

social behavior which could influence people's daily lives (Whyte, 1980). For example, older adults often perceived themselves as potential victims and consequently this restricts their activities.

Organizations which initiate projects and formulate plans, are the result of intense negotiation among government, groups, and individuals (Weisman, 2001).

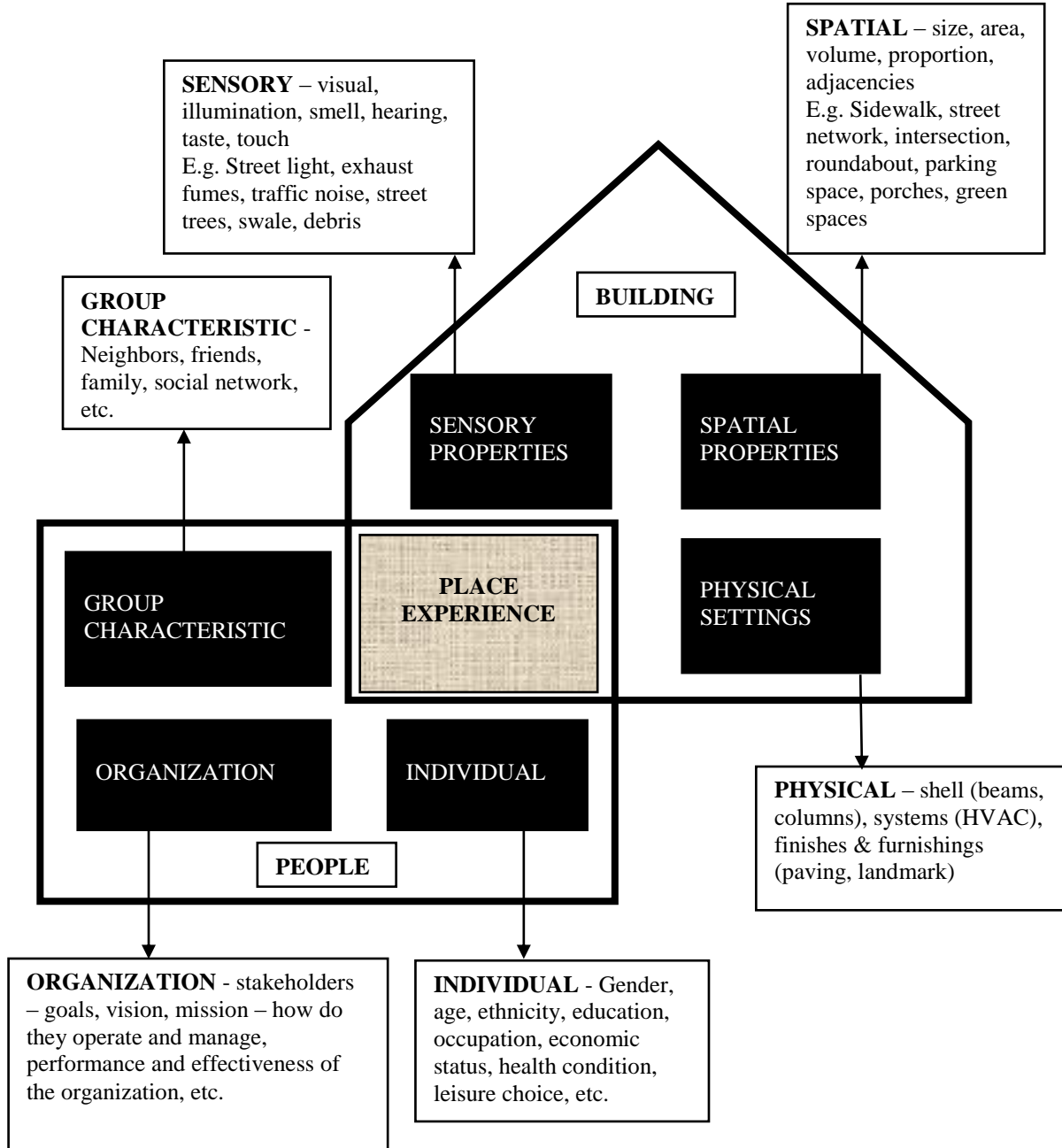
$$\text{Building} + \text{People} = \text{Place Experience} \quad (\text{Fig.21})$$

Place Experience is the link between people, activities, and physical setting. It is defined as a contextually-specific form of comprehension that emerges from the interaction of people, activities performed, and physical setting. Place experience can also be described when an individual or group understand what a place 'feels like' to them (e.g. comfortable, safety, fearful, etc.) (Geboy, 2001) (Moore K. G., 2001).



(Fig. 21) Place Experience in Weisman's Place Model

As shown in Fig. 22, there is a connection between the physical (*building*) and social (*people*) elements demonstrated in Weisman's Place Model. The *place experience* emerges to represent the interaction between the physical and social elements. Therefore, it is the choice model for the researcher to study and apply its comparative elements of the model to the Westlawn project.



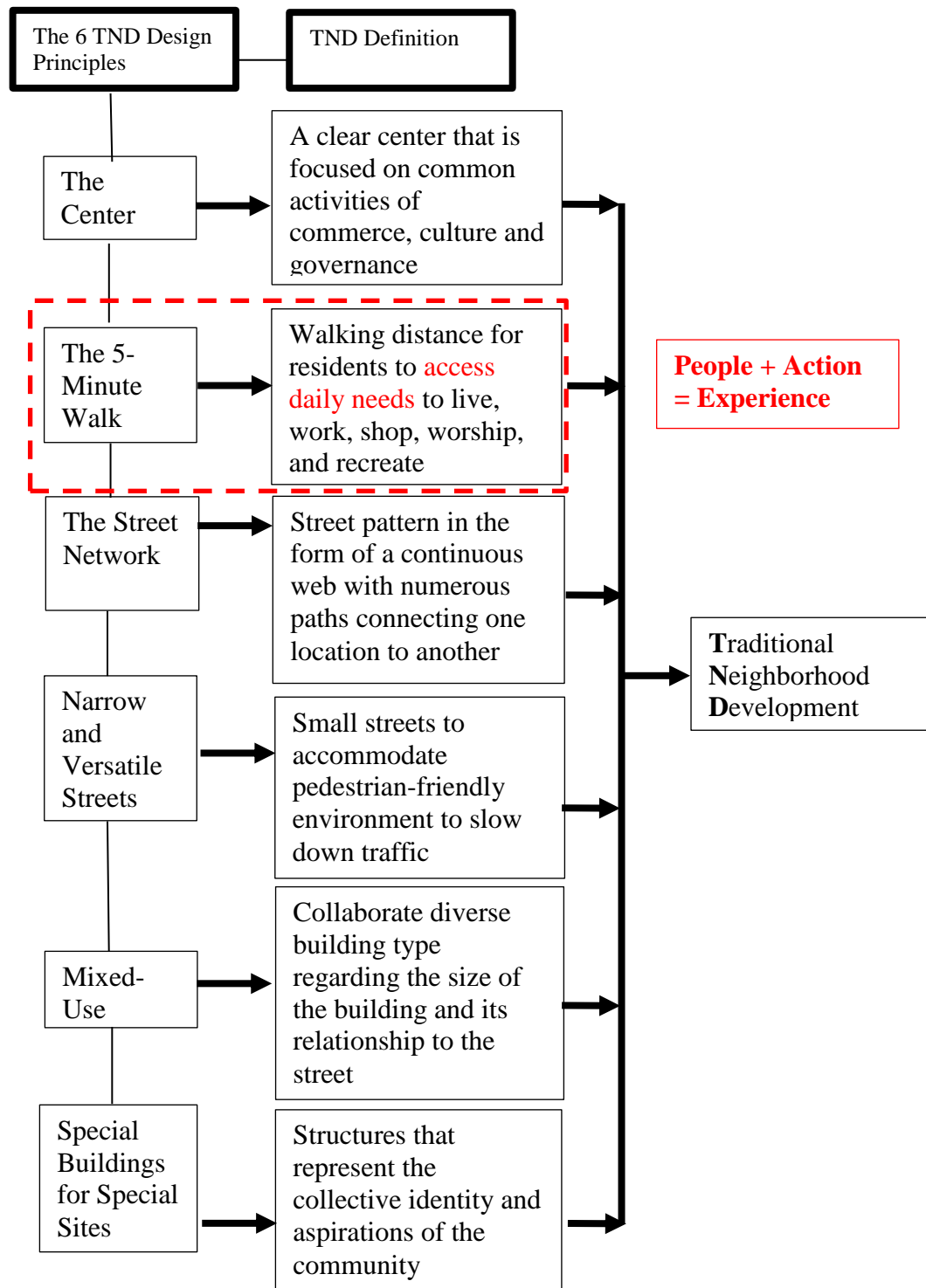
(Fig. 22) Physical and social elements in Weisman's Place Model

b) Traditional Neighborhood Development (TND) Concept Model

The six design principles under the TND are all structural design concepts; that is, they are stationary structures except the ‘5-Minute Walk’ which requires human action. The action then leads to how people generate experience as they walk through spaces and between locations.

$$\textit{People} + \textit{Action} = \textit{Experience}$$

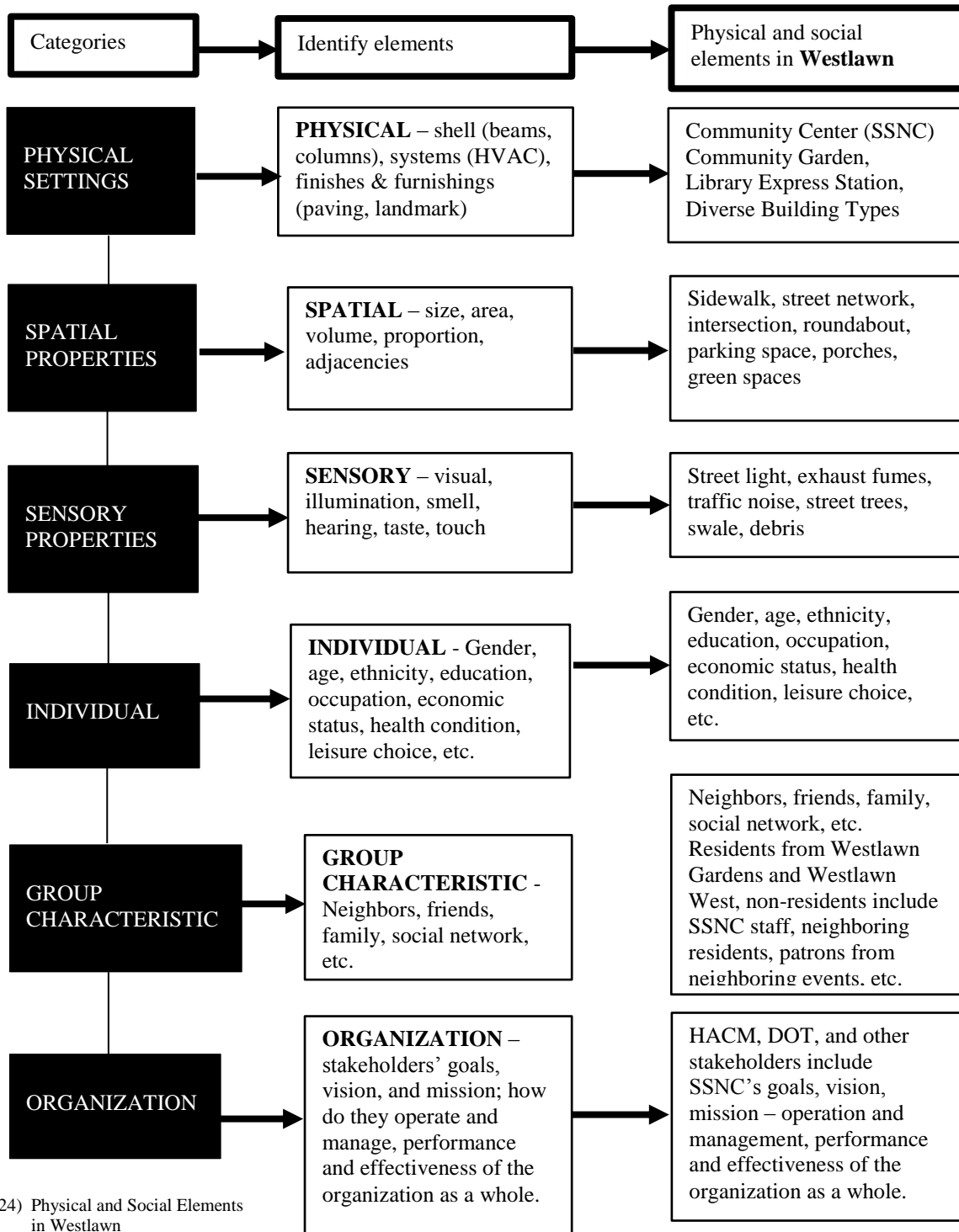
A conceptual diagram of the six design principles and their definitions to make up the Traditional Neighborhood Development is shown in Fig. 23.



(Fig. 23) Conceptual Diagram of the 6 TND Design Principles and its definitions

c) Physical and Social Elements in Westlawn

These are the physical and social elements in Weisman's model that act as a supportive tool to interpret the similar elements in the study of Westlawn^(Fig.24).



(Fig. 24) Physical and Social Elements in Westlawn

As shown in Fig. 24, *physical settings* represent a set of physical components including beams, columns, and landmark. In Westlawn, the physical presence of the Center (SSNC), the pavilions in the Community Gardens and the Library Express Station affects and influence the behaviors of the users. Sidewalks, street networks, intersections, parking spaces, porches, and the open green spaces in *spatial properties* were designed for users to experience the qualities of the sizes, areas, volumes, and proportions of the three-dimensional spaces. The presence of *sensory properties* in Westlawn including the street lights, exhaust fumes, traffic noise, street trees, bio-swale, and debris. Users are experiencing these senses as they are moving in and out, and through spaces between physical structures.

The social elements in Westlawn include *organization*, *group characteristic*, and *individual*. In this context, *organization* includes HACM, DOT, and other stakeholders. These stakeholders coordinate the goals, vision, mission, operation, management, performance and effectiveness of this Westlawn development. *Group characteristics* in this research are residents from Westlawn Gardens and Westlawn West, plus non-residents, including SSNC staff, neighboring residents, patrons from neighboring events, etc. *Individual characteristics* are gender, age, ethnicity, education, occupation, economic status, health condition, and their leisure choices -- in other words, the demographic of Westlawn and neighboring area. Both the physical and social elements in Westlawn present a strong link between people, activities, and the physical settings, similar to what was described in Weisman's Place Model. Therefore, this

is the proper choice model to serve as the foundation to interpret the social and physical elements in this site (the Westlawn Housing Development).

d) Westlawn Elements in TND Concept Model

To extrapolate the comparative elements of Westlawn into the six TND design principles, one has to separate the “5-Minute Walk” from the other five principles as it has different requirements.

Many architectural and urban planning studies emphasized physical elements but did not address a group experience in any given environment. Constant change of stimulation is essential for perception to occur (Rapoport, 1990). After applying the physical and social elements of Westlawn into the TND Model ^(Fig. 25), it is apparent that a good community is more than a planned community with orderly shape to its streets and squares (Grant, 2006). The 5-minute walk is the only principle under TND that requires human action which generates experience; the remaining principles provide the environment to generate such experience. A successful community needs to understand the unique interplay of aging, culture, and ethnicity (Rosenfeld, 2010) (Schoeni R. M., 2005) (Karuppannan, 2011), and particularly in a planned neighborhood such as Westlawn because of its demographic.

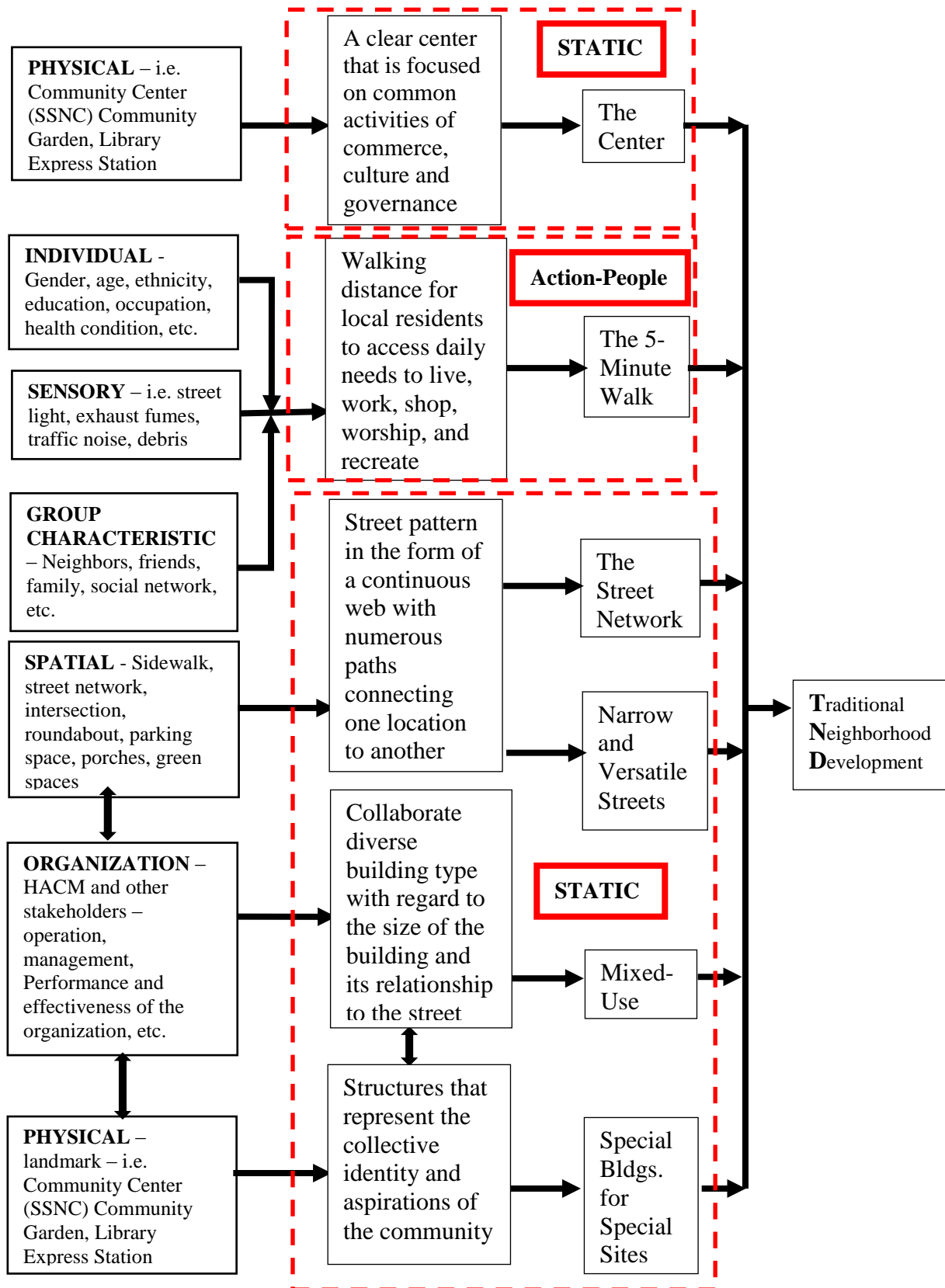


Fig. 25 Static vs Action Design Principles in TND

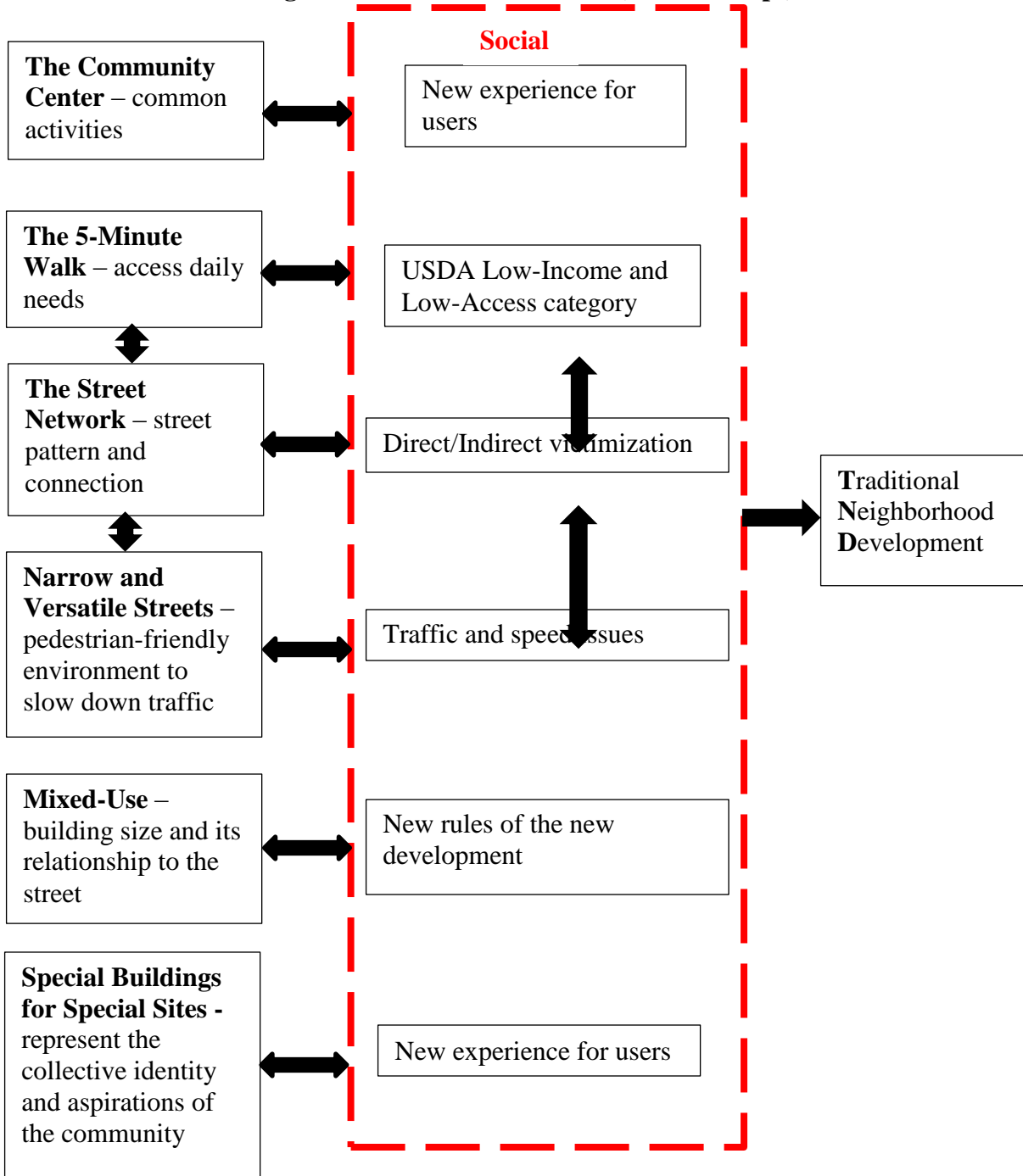
e) Intervening Variables

The application of the appropriate research method of this study illustrates the intervening variables ^(Fig. 26) that have causal links between TND design principles and the social elements in Westlawn. The intervening variables are not within the scope of the TND design principles but they are important for users in the Westlawn Housing Development. The complication of these social variables is an aspect of environmental quality leading to environmental preference. The social factors affecting the experience of the users in this context are:

- New rules are produced as part of the revitalization process and thus new experience emerges as they are implemented.
- USDA Low-Income and Low-Access category – to understand how residents in the neighborhood meet their daily needs under this category.
- Direct/Indirect victimization and Traffic Speed issues – safety is perceived as one of the major issues living in any neighborhood and community.

Due to the complexity of these intervening social variables and involvement of multiple perspectives with varying experiences stated in this diagram, a mixed qualitative and quantitative design is the appropriate method to study walkability and accessibility for the users to these physical elements in the Westlawn neighborhood.

Intervening Variables in the Westlawn (TND Concept) Model



(Fig. 26) Intervening Variables in the Westlawn/TND Concept Model

C. Key Research Questions

The presented framework, especially the TND model with the Intervening Variables, demonstrates the research questions as listed below:

- What are the effects of the TND design principles on the experience of residents living in this Westlawn Housing Development after the revitalization?
- What are the differences in experience between residents and non-residents resulting from this Westlawn revitalization regarding walkability and accessibility?
- Are the TND design principles suitable to this Westlawn Housing Development?

D. Chapter Summary

- Identified the physical and social elements in Weisman's Place Model
- Identified the physical and social elements in Westlawn
- Identified TND design principles in the TND Model
- Extrapolate the physical and social elements of Westlawn (TND Concept) Model
- Identified the intervening variables in the Westlawn (TND Concept) Model
- A mixed qualitative and quantitative design method is employed

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CHAPTER FIVE: METHODOLOGY

The previous chapter described the process of applying and theorizing the physical and social element of Weisman's Place Model into Westlawn, extrapolated them into TND design principles, and determined a mixed qualitative and quantitative design method.

This chapter presents the research site, the methodology, identifies the data source, and the various methods of data analysis.

A. Introduction

This study seeks to describe relationships and the impact of walkability and accessibility to neighborhood resources between built form and human experiences (Groat, 2002). In this study, there are two planned neighborhoods, both are situated in the same community known as the Westlawn Housing Development, which is located on the west side of the City of Milwaukee. This public housing development was built in the 1950s. In 2012, one-half of the development received a comprehensive revitalization thus creating two planned residential neighborhoods.

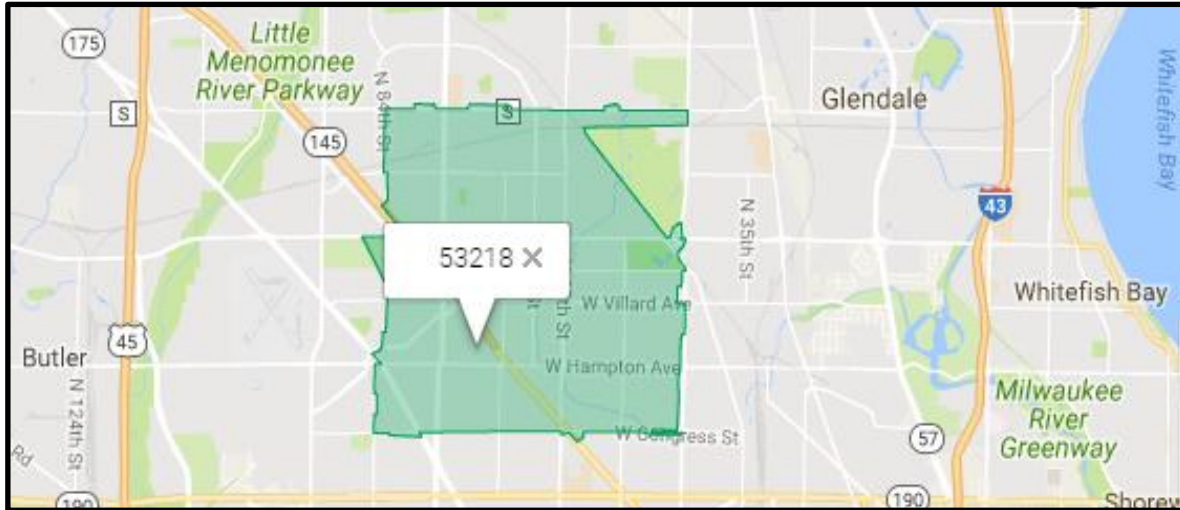
This study observes and provides a detailed description and interpretation of 1) a real-life setting of people's interactions, actions, and behaviors (Robson, 2011) (Stake, 2000), 2) the variables which influence people's perceptions in their walking environment (Abley, 2011), and 3) their experience accessing neighborhood resources.

B. Study Site

Westlawn Housing Development is in the center of Zip Code

53218. Below is a summary of demographics based on the 2010 Census under Zip Code

53218 (Fig. 27).



(Fig. 27) Zip code 53218 Location (2016)

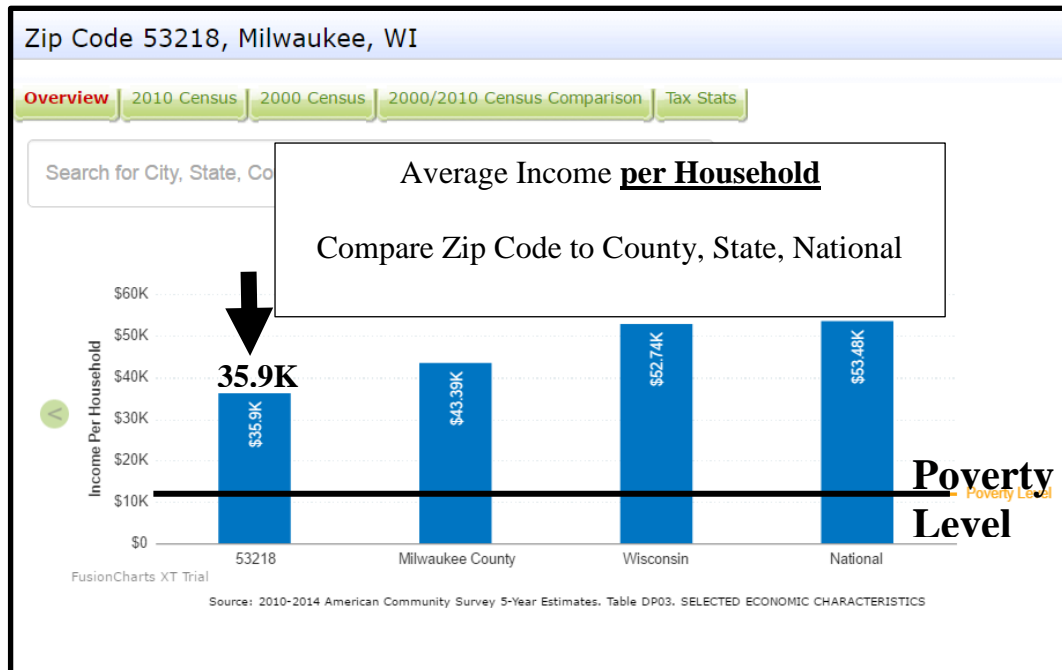
a) Demographics

A brief summary of the demographics is listed in Fig. 28.

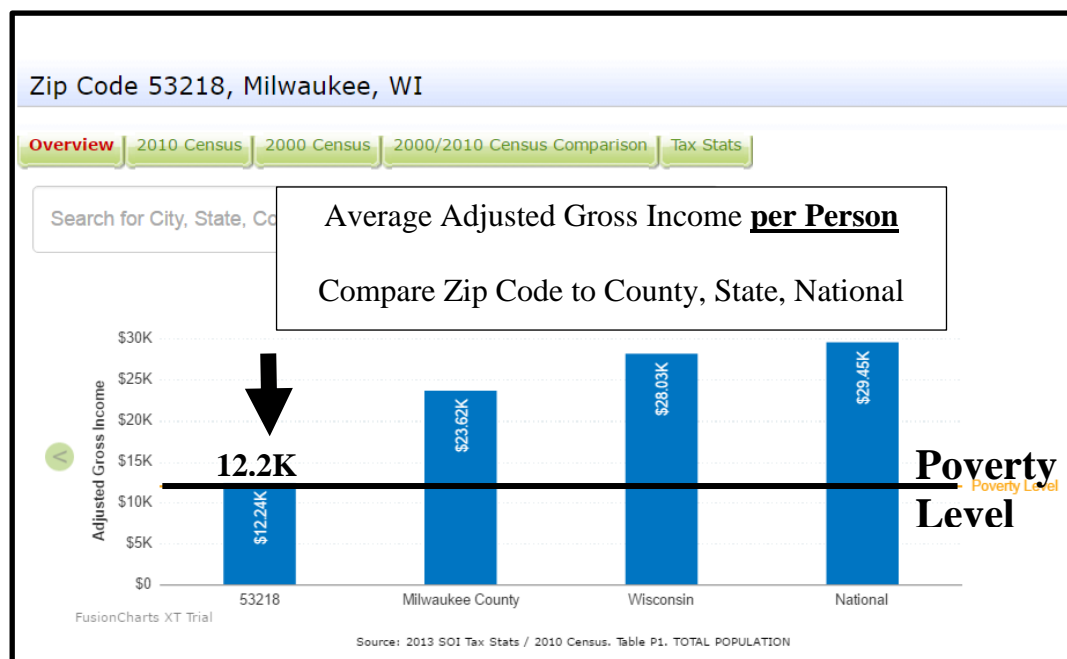
Average Income per Household	\$35,901
White Population:	7,246
Black Population:	29,579
Hispanic Population:	1,452
Asian Population:	3,919
American Indian Population:	438
Hawaiian Population:	66
Other Population:	689
Male Population:	18,547
Female Population:	22,078
Median Age:	28.60 years
Male Median Age:	25.80 years
Female Median Age:	30.60 years

(Fig. 28) Zip Code 53218 Demographics (2016)

Based on the 2010 Census, the average income per household in zip code 53218 was \$35,901. Almost one-third fall below the national poverty level. As shown in Fig. 29 and Fig. 30, 81% fall below the poverty level under the category of the average adjusted gross income per person.



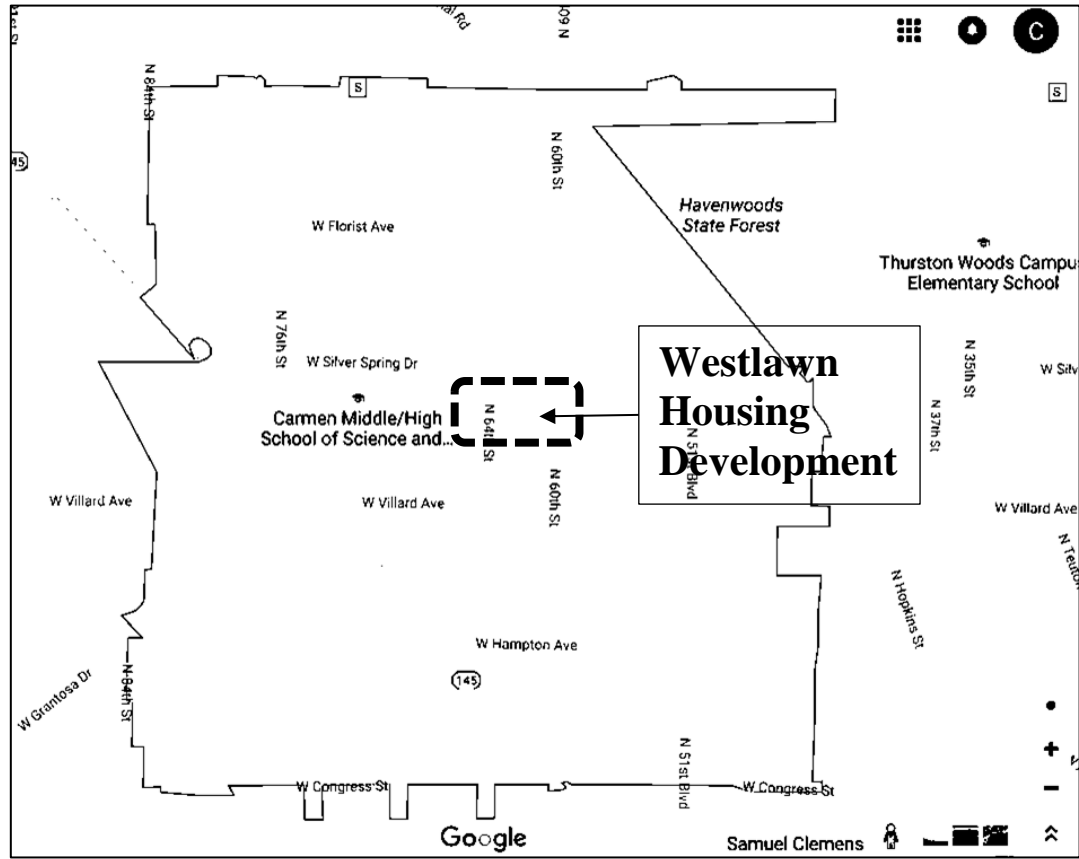
(Fig. 29) Zip Code 53218 - Average Income per Household and Poverty Line (2016)



(Fig. 30) Zip Code 53218 - Average Adjusted Gross Income per Person and Poverty Line (2016)

b) Westlawn Housing Development

The research site, the Westlawn Housing Development, is located at the center of zip code 53218, as shown in Fig. 31 (2016).



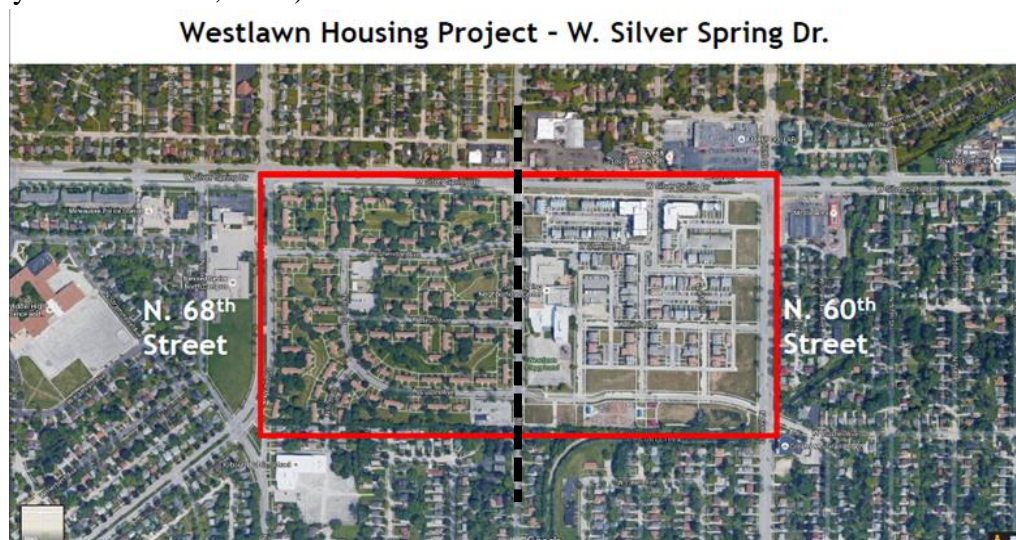
(Fig. 31) Zip Code 53218 - Westlawn Housing Development location (2016)

Westlawn Housing Development was built in 1952 by the Housing Authority of the City of Milwaukee (HACM) on 75 acres of land which was the Hackbarth family farm. The site is bounded on the north by W. Silver Spring Drive between N. 60th and N. 68th Street, and Lincoln Creek on the south. The development contained 726 family housing units. The housing design was modeled after military barracks. It was well suited to address the shortage of family housing needed for workers commuting to Milwaukee. However, decades of severe physical distress and a wide range of

environmental risks contributed to this housing development being labeled undesirable for further renovation. Due to these accumulated and unsolvable problems, it resulted in a complete revitalization to the distressed site (Housing Authority of the City of Milwaukee, 2012).

c) Housing Authority of the City of Milwaukee (HACM)

A group of organizers began to develop a master plan in 2009 with the approved funding and promised investors. In 2010, HACM applied for the Low Income Housing Tax Credit (LIHTC) funding for Phase I (Fig 32) of the Westlawn redevelopment. It was a 10-year Transformation Plan with the support of a \$30 million Choice Neighborhoods Initiative (CNI) grant¹ and \$225 million from a variety of public and private sources. There was also an array of strongly supportive community-based organizations and other stakeholders (Housing Authority of the City of Milwaukee, 2012).



(Fig. 32) Phase I – Between N. 60th and N. 64th street

¹ The Choice Neighborhoods program supports locally driven strategies to address struggling neighborhoods with distressed public or HUD-assisted housing through a comprehensive approach to neighborhood transformation. Local leaders, residents, and stakeholders, such as public housing authorities, cities, schools, police, business owners, nonprofits, and private developers, come together to create and implement a plan that transforms distressed HUD housing and addresses the challenges in the surrounding neighborhood. The program is designed to catalyze critical improvements in neighborhood assets, including vacant property, housing, services, and schools
<http://www.enterprisecommunity.com/servlet/servlet.FileDownload?file=00Pa000000USvQIEAL>

By June 2010, former Governor Jim Doyle and the Wisconsin Housing and Economic Development Authority (WHEDA) announced that PNC Bank purchased \$76 million in tax credits and awarded HACM with the development of Phase I. This consists of 250 affordable housing units, improving Westlawn's public infrastructure, and incorporating an environmentally sustainable design. Subsequently, the existing buildings on the east side of the development were demolished and replaced with high-quality mixed-income housing that would better serve the housing needs of the community (Housing Authority of the City of Milwaukee, 2012).

The development was modeled after the Traditional Neighborhood Development (TND) design principles which are favored by the U.S. Department of Housing and Urban Development (HUD). The Administration's drive was: 1) to reinvest in neighborhoods of concentrated poverty, 2) to transform distressed public and assisted housing into sustainable, mixed-income housing with access to community assets and service and 3) to support positive outcomes for families living in the development and in the community (Fluit, 2015). HUD sponsored CNI to assist housing through a comprehensive approach. It worked with local leaders, residents, and stakeholders on a plan that transformed distressed HUD housing and addressed the challenges in the surrounding neighborhood.

CNI is focused on three core goals: (1) Housing: Replace distressed public and assisted housing with high-quality mixed-income housing that is well-managed and responsive to the needs of the surrounding neighborhood; (2) People: improve educational outcomes and intergenerational mobility for youth with services and supports delivered directly to youth and their families; and (3) Neighborhood: Create

the conditions necessary for public and private reinvestment in distressed neighborhoods. Provide the amenities and assets, including safety, good schools, and commercial activity, that are important to families' choices about their community (FY2016 NOFA, 2016). These objectives were strongly influenced by HACM's revitalization proposal (Housing Authority of the City of Milwaukee, 2012).

To accommodate the needs of residents in Westlawn, HACM acted as coordinator of a network of social services and on-site neighborhood resources for residents, including the Silver Spring Neighborhood Center (SSNC), the Silver Spring Community Nursing Center (SSCNC), and Browning Elementary School. HACM staff also carried out an assessment of Westlawn residents; the survey was taken orally and in-person. A summary of the basic demographic information of the community is shown in Table 1.

By 2013, over \$82 million was invested into the construction of single-family houses, townhouses, and multi-family buildings. The development had 250 units and a new name: Westlawn Gardens. It incorporated leading-edge sustainable design, green building technology, public and retail space, a community garden, and other amenities including a Milwaukee Public Library Express Station installed in 2014. All combines to make an attractive and desirable place to live (Eigenberger, 2016).

Summary of Westlawn – Assessment via survey results as of August 2013 [Database demographic]		
TOTAL Residents	962	
Race*	African American 98%	*based on 962 current residents [940 African American, 21 White, 1 Asian]
	White 2%	
Marital Status*	Single Mother 61%	*based on 380 current households
	Single Father <1%	
	Married Couple 2%	
	Unmarried Couple 1%	
	Single 36%	
Age Range *	0-18 51%	*based on 962 current residents
	19-41 46%	
	62+ 3%	
Adult Education	H/S or GED 62%	
	Lack H/S or GED 28% *	*38% interested in getting GED
	Higher education	6-Bachelor, 9-Associate, 19-Certification
Employment (19-62 of age)	Employed 46% *	*30% work >30 hours/week
	Unemployed 54%	
Physical Health*	Excellent 15%	* significant adult medical problems are: high blood pressure 50%, asthma, 32%, overweight 30%, diabetes 21%, depression 20%
	Good 40%	
	Fair 30%	
	Poor/very poor 14%	
Transportation	>50%	Rely on bus or other means of transportation
Bank Account	have bank account 64%	
	do not have bank account 36%	
Computer	have a computer 50% *	*only 36% hooked up for internet access 43% adults have no knowledge of computers

(Table 1) Summary of Westlawn Assessment via survey results as of August 2013 (Housing Authority of the City of Milwaukee, 2010)

C. Methodology

A mixed qualitative and quantitative design were employed in this exploratory study to collect data. This approach points to the complexity involved in the research theme given the involvement of multiple perspectives with varying experiences. It is also a holistic approach that facilitates a more comprehensive analysis of how people access local resources daily (Groat, 2002).

For collecting qualitative results, Werner and Schoepfle suggest that observation undertaken in naturalistic settings develop familiarity with routine practices of residents, participant observation, field notes documentation, and the conducting of informal to semi-formal interviews (Angrosino, 2000). Naturalistic settings could include recording the monthly Resident Council meeting (held in Browning Elementary School), and impromptu interviews with residents at the Community Gardens/Playground Area and by the bus stops.

The quantitative outcome measures the frequency and time that people spent and the distance travelled from their home to various destinations via different transportation modes to conduct their daily or social activities. It is especially an effective approach when studying limited resource neighborhoods with high levels of unemployment (Brewer, 2000) (Kemmis, 2000).

D. Participants

During 2015, the collected data from HACM indicated the total household units in Westlawn were 644, with 250 in Westlawn Gardens and 394 in Westlawn West. All participants were age 18 and older.

The principal target populations selected were the people who attend various social activities in the community, including residents of the Westlawn Housing Development. Other candidates included the non-residents who associate and work in the area as well as staff members and neighboring residents. The responses were obtained to evaluate their experiences attending social activities. They were asked about using the facilities on a regular basis including the location layout and design features. Some of the social activities include the monthly Resident Council meetings, seasonal garden clean-up, and the learning center for youth and adults. These are provided and organized by HACM, residents, and stakeholders.

E. Research Design

a) Archival records

The archives of master and site plans and photos collected through HACM were analyzed by comparing the old and the new Westlawn development to study the differences in physical design and its layout. The process is to study the physical layout evolved over the past few decades with the support of GIS demographics as the visual aid. Other records including maps, images, and programs were collected through various government websites to provide accurate data.

These data reveal the progression of the site expansion and its influence in relation to the design of the site layouts such as road expansion and neighboring development areas.

b) Observation

The researcher observed both human activities and the physical settings. This included identifying activities performed, noting the ethnic and age groups, and how often they used these facilities. It also estimated people's satisfaction using the Likert Scale regarding the facilities and locations. The observation of activities and events was performed by the researcher at the following locations during the years of 2013 through 2016.

The locations included where the activities are held: within the SSNC, the Westlawn Community Gardens/Playground, and the Library Express Station. Events included the monthly Resident Council meetings, Westlawn Partnership for a Healthier Environment meetings, and Youth Program after school activities. Other observation locations included the neighborhood streets and intersections, and

neighboring businesses and shops. Photographs of activities and field notes were taken to support the collected data and provide verification and validity of the findings.

c) Questionnaire and Interview

Two sets of questionnaires were developed, Part A and B (see Appendix C & D), based on the TND design principles. They were mailed to all 644 households in the development in May 2015. They were asked to return the completed form to the collection box by August 2015. The collection box is situated at the main entrance of the Silver Spring Neighborhood Center. Additional copies were also placed by the sign-in reception desk at the side entrance. The side entrance is mainly accessed by users for entering various programs provided within the SSNC including the Child Care Center, and the Silver Spring Community Nursing Center (operated by the University of Wisconsin-Milwaukee College of Nursing).

Surveys were also randomly distributed to people and impromptu interviews were conducted while they were attending the following activities or using the facilities: Westlawn Monthly Residents Council Meetings (2013-2016), Westlawn Community Garden and Playground area, the 2015 Job Fair held at the SSNC, bus stops, members and staff from the Greater Mt. Sinai Church, patrons at the 2015 Summer Church Carnival, SSNC staff, and local business staff from Growing Power.

d) Other Research Instruments

i. GIS

GIS technology was used to support the research process. GIS accurately measures accessibility to community resources, illustrates different land uses

(Nasar, 2003), and provides support as a visual aid. Although this is a line measurement tool between two or more points, it will enhance the visualization of the process and the experience by showing social demographic change of the site and adjacent area over time.

ii. Walk Score

This web-based walkability assessment tool was used in this research to calculate straight line distances. It is a valid measure for estimating neighborhood walkability in multiple geographic locations such as selecting restaurants and stores at multiple spatial scales (Duncan, 2011).

iii. Google Maps

This web mapping service was used to support visual aids including satellite imagery and street maps. It also offers real-time traffic conditions, and route planning for traveling by foot, car, or public transportation. This tool is helpful to compare the accuracy of the traveled time and distance results with other sources such as those from Walk Score.

F. Data Analysis

a) Archival Records

Archival photos and aerial field photos, archival master plans and site plans of Westlawn between the periods 1949 and 2015 were collected from HACM. The change in population and the change in ethnicity between the original Westlawn Housing Development built in 1952 and the transformation in 2012 were compared.

This data revealed the progression of the site expansion and its influence in relation to the design of the site layouts such as road expansion, neighboring development areas, and floor plans. To study the differences in physical design and its layout, the scale of the master and site plans were compared between the old and the new development, namely, the Westlawn West and Westlawn Gardens respectively.

b) Observation

Regarding the physical transformation of the development, the observation was conducted in the following locations at various times during 2013-2016. The collected data was analyzed and the list included:

- Resident Council Meetings held in Browning Elementary School – including number of attendees, guest speakers, covered topics of issues and resolutions.
- Westlawn Community Gardens/Playground Area – gardeners' experience and their perceptions of the physical environment.
- Youth Program after school activities – programs involved and the perspectives of staff.

- Neighborhood streets and intersections – actions at the intersections and activities on neighboring streets
- Neighboring businesses and shops – workers’ perception

Photographs of activities and field notes were taken to support the collected data and provide verification and the validity of findings.

c) Questionnaires and Interviews

A total of 644 questionnaires (Appendix A) were mailed to all households in the development in May of 2015. Among them, 86 valid responses were received in September for analysis.

All respondents were given self-administered questionnaires and they were asked to rate the extent of how walkability and accessibility related to local resources by using the Likert scale. On this Likert-type scale, respondents report their level of agreement (strongly agree, agree, disagree, and strongly disagree) for each item. “Don’t Know” option was applied in lieu of “neutral” to strengthen the response from participants as well as opening a dialogue with participants for further clarifications.

Part A of the questionnaire (Appendix A – Part A) included 14 questions. The first 10 questions asked about general information of the participant including age, gender, educational level and health condition. The rest of the questionnaire asked the participants about the three facilities in the community (how they accessed to them and how often they used them). These were: the SSNC which included a computer room and the Child Care Center, the Community Gardens/Playground Area, and the Library Express Station. The focus on these three locations was that the first TND design principle rule: *The Center*. The Community Gardens/Playground Area

and the Library Express Station fits the definition of *the Special Buildings for Special Sites*, as they represent the collective identity and aspirations of the community.

For participants who would like to discuss any subjects listed under Part A in more detail, they were given Part B questionnaire to answer with additional comments. Part B included 27 questions that provided specific details and images such as the crosswalk signs and the bio-swale from the Westlawn Gardens to help participants become more familiar with their surroundings.

A combination of structured interview questions and open-ended questions was used. Although a structured interview might constrain the outcome, it provided a uniform structure and defined the scope of information that aids in comparing the data. Open-ended questions were also used to allow the respondent some latitude in their responses and provide answers that were unanticipated (Zeisel, 2006). After the questionnaire survey, the data collected were converted into code and theme and were analyzed (Lee, 2008).

Walking Interview was open to participants who wanted to share their opinions about their walkable and accessible experience in further detail. For instance, people with different physical conditions yield different results in measuring walking time and distance between destinations.

Video recordings and field notes during the interview process were taken to discover how accessible and how often residents of Westlawn perform certain daily activities via walking or other means of transportation.

The transcription of interviews included the patterns or themes. The results of the coding process, such as the similarities, differences, frequencies, and sequences of

things that occur, were converted into code and theme for analysis (Sadana, 2013).

Other nonverbal features such as intonation or pauses required clarification as to how to be coded properly during qualitative data analysis (Robson, 2011).

d) Other Research Instruments

Geographic Information System (GIS) technology and Walk Score were used to compare the time and distance with participants' report that was collected from their completed survey. GIS provides an accurate measurement of distances within neighborhood streets. Walk Score and Google Maps provide a valid measure of estimating neighborhood walkability in multiple geographic locations between destinations such as shops and restaurants.

Government websites offer official data to confirm accuracy and reliability information for supporting and comparing responses received from the participants. These include the Food Access Research Atlas provided by the U.S. Department of Agriculture (USDA) and the U.S. Census Bureau,

e) Reliability

Reliability is the consistency of findings – the extent that the research methods would yield the same results, provided that the studies were conducted under the same conditions in another location or at another time (Groat, 2002).

The transcription was compared against original recordings of interviews. One has to consider outside sources of information and other circumstances to ensure the reliability and the accuracy of the information (Denzin, 2000). Checking transcripts against the original recordings and constantly comparing data with assigned codes (*e.g. frequently used words or short phrases*) further ensured the accuracy and

reliability of the findings (Zeisel, 2006) (Creswell, 2009). By comparing the similarities, differences, frequencies, and sequences of activities, patterns or themes emerged, and were then categorized with assigned codes (Sadana, 2013).

f) Validity

Validity is dependent on the measurement measuring what it was designed to measure. In this study, a mixed-methods methodology with the traditional ethnographic approach were employed to capture the ordinary activities of people in a natural setting. It is a subjective measure and the overall characteristics of ethnographic work are fully consistent with the definition of qualitative research. It produces a rich and fuller description of a setting that persuades a more diverse audience of its human validity (Groat, 2002).

One way to ensure validity is to standardize the wording of the questions, avoiding any vagueness in response form, so that the questions mean the same thing to all respondents. Furthermore, the number of levels of the Likert-type scale is limited to four (strongly agree, agree, disagree, and strongly disagree) to avoid any alternatives (Fowler, 2009).

During the ongoing data analysis process, follow-up interviews with the participants were completed as multiple interpretations arose (Creswell, 2009). This gave participants the opportunity to comment with detailed descriptions and added validity to the findings. Similar patterns of findings from different methods of gathering data increase confidence in the validity of the findings (Robson, 2011). It provided an opportunity to use different techniques to study a problem which increased reliability and decreased the chance of false results (Zeisel, 2006).

Observational research is the most powerful source of validation. Researchers can find consistency and observational research has been a particularly convincing form of verification. A convincing narrative report of the research has often served as the validation. The quality of what is recorded becomes the measure of usable observational data because it can be monitored rather than the quality of the observation itself, which is distinctive and not subject to replication (Angrosino, 2000).

g) Replicability

Replicability in a scientific study means that if a study is repeated exactly the same then it should produce the same results. In this study, the research process could be successfully applied to a different neighborhood or community. The factors of importance may vary from one case to another, but the process of collecting data can be replicated. These include: observing and capturing the ordinary activities of people in a natural setting and participating in activities such as meetings and other social gatherings. These actions are taken to understand the purpose of such events for the community in order to produce the questionnaire, distribute surveys, and conduct interviews. The process of compilation of data makes it replicable in a participant observation research.

G. Chapter Summary

This study will address whether TND principles are suitable for the Westlawn Housing Development. It is important to ensure that beneficial elements to residents and surrounding neighborhood are provided.

- Begin with a demographics study of the site
- Description of the significant involvement of HACM in this housing development
- Mixed methods inquiry: a comprehensive analysis of how residents and non-residents access local resources on a daily basis since the neighborhood revitalization. The analysis must include both the quantitative and the qualitative (social aspect) data.
- Strategies to gather information

H. References

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CHAPTER 6: WALKABILITY

The previous chapter described the mixed method with participant observation research approach to explore the impact of TND design principles on participants in regard to the walkability and accessibility in the Westlawn Housing Development.

This chapter concentrates on participants' perceptions and their experience of walkability in their neighborhood. Emphasis is on the impact of the street design and the ease of the pedestrians' walking conditions along the route to local resources including the three facilities in the community. The community center has been the focal point of the planned community in the Neighborhood Unit and the Traditional Neighborhood Design, along with green space and recreational areas. The three facilities are the Silver Spring Neighborhood Center, the Community Gardens, and the Milwaukee Public Library Express Station. Due to the research conceptual framework, *Mixed-Use* will not be discussed because the fifth rule of the TND principle do not carry a strong relationship with walkability in this research.

A. Introduction

Every trip begins and ends with walking and is the cheapest form of transport for people (Burden, 2008). Walkability is the basis and key to an efficient ground transportation in urban areas, and can be defined as the extent to which the built environment is walking friendly or pedestrian friendly to the presence of people living, shopping, visiting, enjoying or spending time within a given environment (Abley S. , 2005) (Abley S. T., 2011) (Steuteville, 2003) (Burden, 2008). Abley defined walkability with five specific criteria in which the built environment is walking friendly, namely, if the walking conditions along specified streets are connected, pedestrian friendly (pleasant experience), conspicuous, comfortable and convenient, to a particular user (Abley S. , 2005). Walkable communities are more livable communities and could lead residents who live in them to whole, happy, and healthy lives (Burden, 2008).

Behavioral research findings identify key factors for walkers: both safety and attractiveness of sidewalks and footpaths in order to motivate people to choose walking (Frumkin, 2002) (Brown B. B., 2007) (Lotfi, 2009) (George, 2005) (Fisher, 2004) (Rogers, 2011) (Pivo, 2011) (Moudon, 2006). It also noted that people do not wish to walk very far unless there is something interesting or of necessity (Gehl, 2011), and people perform well when they are offered many route alternatives and are familiar with those multiple routes (Guo, 2013). Thus, safety, comfort, and level of interest are the overall quality of walkability for individual reactions.

On the other hand, physical features individually may not expose people's experience of walking down a particular street. They do not capture people's overall perceptions of the street environment, and their perceptions may have complex or subtle

relationships to physical features surrounding them. This study sets out to examine whether the revitalization of the housing development has changed the dynamic of the residents of the Westlawn Housing Development and neighboring residents to local resources through their walking experience, and their perception to conduct daily activities both physically and socially.

Perception is the process of attaining awareness or understanding of sensory information. What one perceives is a result of interplays between past experiences, one's culture and the interpretation of the perceived. The perception of space is the awareness and understanding of sensory information through sensitivities of individuals between specific physical features and design quality. Physical features influence the quality of the walking environment both directly and indirectly through the perceptions and sensitivities of the individuals. Buildings provide spaces and is probably innate that human desire to feel sheltered and protected, other enjoyable features as part of outdoor experience in a living environment include kiosks and pavilions (Kunstler, 1996) (Ewing R. H., 2006).

This chapter presents participants' responses and comments on their overall experience on whether the walking conditions are connected, pedestrian friendly (pleasant experience), conspicuous, comfortable and convenient (Abley S. , 2005).

a) Study site for walkability

The two planned neighborhoods are the Westlawn Gardens, built in 2012 under the influence of TND design principles, and the Westlawn West which was built in 1951. The latter was influenced by the practical design of military barracks. It was built to address the housing shortage for working families (Fig. 33, 34 & 35).



Fig. 33 – Westlawn Housing Development, Westlawn Gardens, and Westlawn West



Fig 34. Westlawn West (Built in 1951)



Fig 35. Westlawn Gardens (Built in 2012)

Under the TND design principles, there are six fundamental rules listed to distinguish its unique design pattern (Duany A. P.-Z., 2000). Their brief description is listed as follows:

- 1) *The Center* – a center that is focused on common activities of commerce,

culture, and governance;

2) *The five-minute walk* – rarely more than a 5-minute walking distance for local

residents to access ordinary needs of daily life such as grocery shopping;

3) *The street network* – street pattern, frequently in the form of a grid, with

several paths connecting one location to another;

4) *Narrow and versatile streets* – smaller streets to enable slower traffic and to

accommodate pedestrian-friendly environment;

5) *Mixed use* – collaborate diverse building type with regard to the size of the

building and its relationship to the street, and

6) *Special sites for special buildings* – structures that are given unique sites that

represent the collective identity and aspirations of the community

Duany, et al claimed that these rules provide a fully valid framework for the design and redesign of our communities in present days (Duany A. P.-Z., 2000)

(Plater-Zyberk, 2003).

b) Demographic

There are 644 households in the Westlawn Housing Development and 86 surveys were collected by the end of September 2015. Table 5.1 presents the number of participants from both neighborhoods.

Neighborhoods	Units	Surveys collected	Response Rate (%)
Westlawn Gardens (2012)	250	18	3%
Westlawn West (1951)	394	41	10%
Non-Residents	n/a	24	-
No-Data	n/a	3	-
Total	644	86	13%

Table 5.1 Number of participants received

Table 5.2 presents the gender response from each neighborhood.

Neighborhood Gender	Westlawn Gardens Respondents n = 18 of 250 (7%)	Westlawn West Respondents n = 41 of 394(10%)	Non- Resident	No- Data	Total
Female	14	36	15	3	68
Male	4	5	9	0	18
Total	18	41	24	3	86

Table 5.2: Participants characteristics

Following are brief demographics summaries referencing the participants of this research in the Westlawn Housing Development (Table 5.3 - 5.10).

Years of Residency (Table 5.3)

Years of Residency	0-5	6-10	11-15	16-20	20-25	26-30	30+	No Data*	Total
Westlawn Gardens	13	3	0	0	0	0	0	2	18
Westlawn West	14	8	5	3	5	0	2	4	41
Total	27	11	5	3	5	0	2	6	59

*provided place of residency but not the years of residency

Age Range (Table 5.4)

Age Range	W. Gardens	W. West	Non-Res	No-Data	Total
18-24	1	3	4	0	8
25-34	3	10	8	1	22
35-44	2	6	3	0	11
45-54	3	11	4	0	18
55+	9	9	5	2	25
No Data	0	0	2	0	2
Total	18	39	26	3	86

Ethnicity (Table 5.5)

Ethnicity	W. Gardens	W. West	Non-Res	No-Data	Total Res
African American	15	38	23	3	79*
Asian/Pacific Is.	0	1	0	0	1
Caucasian	3	2	1	0	6
Other	0	0	0	0	0
Total 86	18	41	24	3	86

* 91% (79 of 86) of participants are African American

Marital status (Table 5.6)

Marital Status	W. Gardens	W. West	Non-Res	No-Data	Total
Single	10	29	14	2	54
Married	0	5	7	1	13
Divorced	8	6	2	0	17
Widow/er	0	1	1	0	2
Total	18	41	24	3	86

Employment Status (Table 5.7)

Employment Status	W. Gardens	W. West	Non-Res	No-Data	Total
Full Time	3	12	11	2	28
Part Time	1	12	4	0	17
Not Employed	14	17	9	1	41*
Total	18	41	24	3	86

* 47% (41 of 86) participants are unemployed

Educational Level (Table 5.8)

Ed. Level	W. Gardens	W. West	Non-Res	No-Data	Total
H/S or GED	11	28	11	1	51*
Certification	0	3	5	0	8
2 Year	3	5	2	0	10
4 Year	2	2	6	2	12
No Data	2	3	0	0	5
Total	18	41	24	3	86

* 59% (51 of 86) participants have H/S or GED educational level

Physical Health (Table 5.9)

Physical Health	W. Gardens	W. West	Non-Res	No-Data	Total
Excellent	4	8	14	2	28
Good	6	13	9	0	28
Fair	6	16	2	1	25
Poor	1	2	0	0	3
Don't Know	0	0	0	0	0
No Data	1	1	0	0	2
Total	18	40	25	3	86

Mental Health (Table 5.10)

Mental Health	W. Gardens	W. West	Non-Res	No-Data	Total
Excellent	5	20	20	2	47
Good	10	12	4	0	26
Fair	2	8	0	1	11
Poor	0	0	0	0	0
Don't Know	0	0	0	0	0
No Data	1	1	0	0	2
Total	18	41	24	3	86

c) Group Characteristics

Oxford defines a group as a few associated persons that are together or connected in some way, and characteristics is defined as the qualities or class of a person or group (Hornby, 1997). The group characteristic is the distinctive feature and appearance of a group of persons which could include gender, age, and ethnicity. These group characteristics can influence the productive activity role, including daily activities, within their living environment in society (Stoller, 2000). In regard to group characteristics in walkable neighborhoods, some critics argue that walkability is associated with high incomes in planned neighborhoods (Pivo, 2011) (Abramsson, 2012), and in particular with more facilities in socially cohesive neighborhoods (Fisher, 2004). Therefore, a higher walkability level is found in higher social capital neighborhoods (Rogers, 2011).

In contrast, low-income minority women have limited options because many cannot afford or maintain a vehicle (Clifton, 2005) (Abramsson, 2012). Research also suggests that women and people with high school or less education did twice as much walking (Wiggs, 2008) (Wilcox, 2000). In a recent National Health Interview Survey (NHIS), the report indicated that disability levels are rising (Scommengna, 2013). This adds an additional stressor to low-income families who frequently rely on access to local resources (Mather, 2013) (Abramsson, 2012) (Stoller, 2000) such as public transit or other means of transportation for their daily needs, and especially to the disabled who require help with daily needs such as grocery shopping (Scommengna, 2013) (Rosso A. A., 2011).

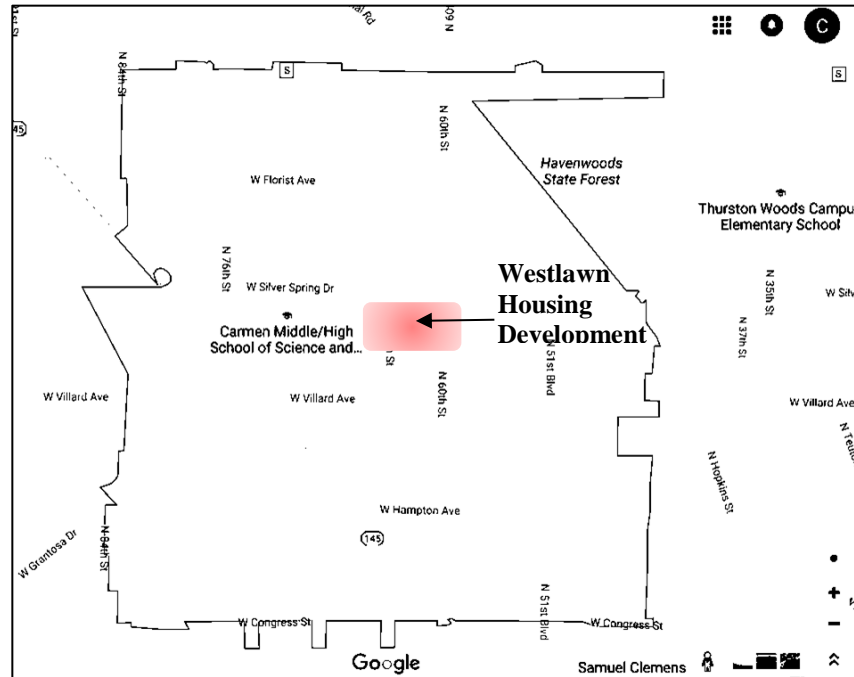
Despite the fact that most elderly will rely on bus stop proximity and other forms of transportation, research suggests that for repetitive travel behavior, people will walk (depending on safety, health conditions, and meaningful activities) (Smith, 2001) (Ortman, 2014) (Frumkin, 2002) (Goodman, 2010) (Samarasekara, 2011) (Wiggs, 2008). All of these factors, including physical features, design qualities, and individual reactions, may influence an individual experience within a given environment, and if it is a pedestrian friendly and a walkable distance to various destinations (Steuteville, 2003).

Based on the survey received, the group characteristics in this study is listed as follows:

91% (79 of 86)	African American
21% (18 of 86)	Westlawn Gardens Residents
45% (39 of 86)	Westlawn West Residents
30% (26 of 86)	Non-Residents
79% (68 of 86)	Female
21% (18 of 86)	Male
47% (41 of 86)	Unemployed
59% (51 of 86)	H/S or GED educational level
3.4 years	Average residency Westlawn Gardens
11 years	Average residency Westlawn West

d) The three facilities on the site

The research site, the Westlawn Housing Development, is located in the center of zip code 53218 (Fig. 36).

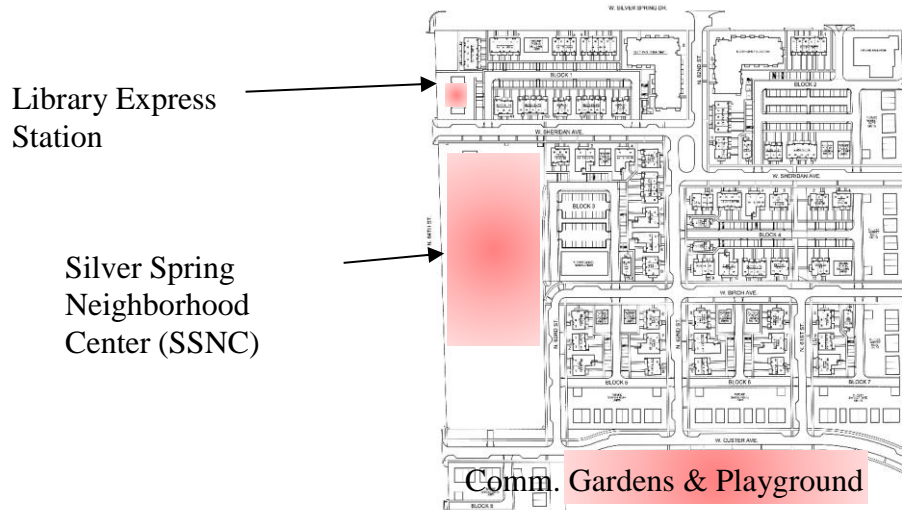


(Fig. 36) 2010 Census Demographics ZIP Code 53218 (2016)

The physical setting influences and shapes the overall experiences of activities engaged by people and the amenities offered in a given environment (Geboy, 2001). A selection of a physical setting with careful planning for the design of a physical environment will draw human activities, enhance, and support the quality of people's life (Moore, 2001) (Geboy, 2001). In addition to a carefully planned physical layout, the six TND rules as briefly described under 'Study Site,' provide a fully valid framework for the design and redesign of our communities (Duany A. P.-Z., 2000) (Plater-Zyberk, 2003). Nevertheless, the characteristic of a group of people can influence their daily activities within their social environment (Stoller, 2000), and

experiences emerge from the interaction between the group and their physical environment (Geboy, 2001).

Westlawn Housing Project - W. Silver Spring Dr.



(Fig. 37) Main physical features after the 2012 revitalization of the Westlawn Housing Development

The community center has been the focal point of the planned community in the Neighborhood Unit and the Traditional Neighborhood Design, along with green space and recreational areas. Since the completion of Westlawn Gardens in 2012, the prior

remodeled SSNC has been expanded as part of the process with a new Community Gardens and Playground Area and the Milwaukee Public Library Express Station which was added in 2014. All are provided to residents with the majority of programs and activities free of charge.

Based on the collected surveys, this chapter reveals the participants' perception, preferences, and comments about the walkability level to these facilities provided in the community. The participants include the residents of Westlawn Gardens and Westlawn West of the Westlawn Housing Development. The non-residents who participated in this research include the employees working at the SSNC and neighboring businesses such as Growing Power.

B. Survey Results

The 86-collected survey results are used to compare the walkability between participants from the three groups of populations (Westlawn Gardens, Westlawn West, and the non-residents). One of the areas of the study was whether the six TND design principles resulted in walkability benefits for the Westlawn residents.

Among the 86-collected responses received, there were three participants who did not identify their residence. There were 18 responses from the Westlawn Gardens, 41 responses from the Westlawn West, and 24 identified themselves under the Non-Residents category. The three who did not identify their residence were not included for the evaluation, as shown in Table 6.

Neighborhood	Year	Covered Area	Total Respondents (n = 83)
Westlawn Gardens	2012	Between N. 60 th & N. 64 th	18
Westlawn West	1951	Between N. 64 th & N. 68 th	41
Non-Residents	N/A	N/A	24

Table 6: Number of participants received from the surveys

The results of the surveys were evaluated by applying the description of the TND rules with the target subjects as shown in Table 7.

Six Rules of TND	Target Subjects	
1. Community Center	Silver Spring Neighborhood Center (SSNC)	Static
2. 5-min walk	Perception from Residents and Non-Residents	Action
3. Street Network	Layout and impact of Design	Static
4. Narrow streets	Layout and impact of Design	Static
5. Mixed-use buildings	Layout and impact of Design	Static
6. Special buildings for special sites sites	Community Gardens, Library Express Station	Static

Table 7: Six-rules listed in the order from the TND literature

The remainder of this chapter presents participants' perception from the three groups of populations in relation to their experience of walkability in their neighborhood.

Of primary importance is the impact of the street design on the pedestrians' walking conditions along the route to local resources and the three facilities in the community.

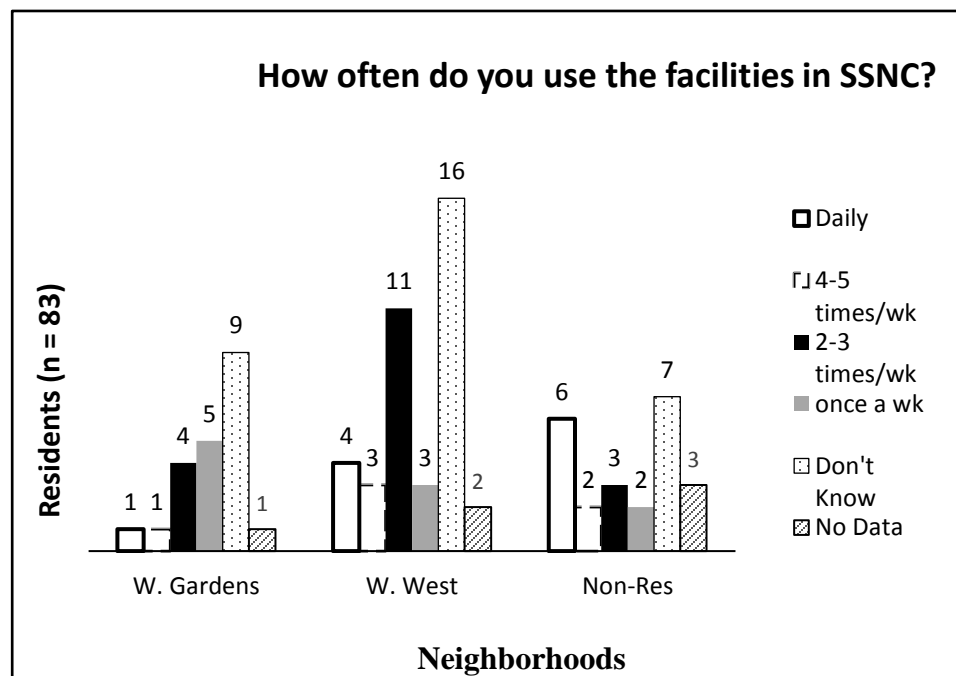
The community center has been the focal point of the planned community in the Neighborhood Unit and the Traditional Neighborhood Design, along with green space and recreational area. The latter includes the Community Gardens on W. Custer Drive and the Library Express Station on N. 64th Street between W. Silver Spring Drive and W. Sheridan Avenue.

a) The Center – Silver Spring Neighborhood Center (SSNC)

Under the design principle of TND, *a center is focused on common activities of commerce, culture, and governance* (Duany A. &.-Z., 1992) (Duany A. P.-Z., 2000).

SSNC is located on N. 64th at the center of the Westlawn Housing Development.

The prior remodeled facility was expanded during the Phase I revitalization. The building contains various spaces (the Westlawn Resident Council, Browning Elementary School, Silver Spring Community Nursing Center, and Child Care Center) and offers many programs to help individuals and families in the community. Some of the programs include the Youth and Teen Program, Adult Services, Youth Services, and the UW-Milwaukee/Silver Spring Community Nursing Center.



Graph 1: Participants' frequency use of facilities in SSNC

Respondents who replied, 'Don't Know', means that they did not know how often they went to these places – the Center, the Community Gardens/Playground area, or the Library Express Station.

i. Westlawn Gardens (2012)

There were 8% (21 of 250 households) from the Westlawn Gardens who participated in the questionnaire (see Appendix A). Three did not identify their gender and therefore, the following Respondents' Characteristics table shown a total number of eighteen, with fourteen females and four males (Table 8).

Westlawn Gardens participants' characteristics (n = 18)							
Gender \ Age	18-24	25-34	35-44	45-54	55+	No Data	Total
Female	1	3	2	0	8	0	14
Male	0	0	0	3	1	0	4

Table 8: Participants' characteristics from Westlawn Gardens

Westlawn Gardens - Participants' comments on Walkability to SSNC			
Gender	Age	Frequency	Comments
Female	25-34	Once	<i>Great experience and I feel safe</i>
Female	35-44	Once	<i>Came to SSNC for monthly meeting only A bit noisy at times</i>
Female	55+	Never	<i>Litter, gangs, because I'm scared, I'm disabled and an easy target for crime</i>
Female	55+	n/a	<i>Have to be careful of thieves</i>

(Table 9) Participants' comments from Westlawn Gardens

In this context, litter is considered a physical element and has an impact on discouraging people to continue the route to their destinations. In addition, some individuals perceived physical environment with the influence of social environment as shown in Table 9, such as gangs and thieves. This strengthens the evidence that crime-related safety issues subsequently constrain physical activity. (Foster, 2008) This may discourage the trip entirely (Vojnovic, 2013).

When this female was asked, (age 55+) about her answer of being scared, she replied strongly that this neighborhood is not safe. She feels fearful whenever she walks outside her home, thus discouraging trips to SSNC. These negative perceptions can spread fear throughout the community, especially for vulnerable

groups including older women, and others with mobility challenges (Foster, 2008).

ii. Westlawn West (1951)

There were 10% (41 of 394 households) from the Westlawn West who responded to the question “*How many times do you walk to SSNC?*”

Westlawn West participants’ characteristics (n = 41)							
Gender \ Age	18-24	25-34	35-44	45-54	55+	No Data	Total
Female	2	9	6	9	9	1	36
Male	1	1	0	2	0	1	5

(Table 10) Participants’ characteristics from Westlawn West

The following table presents their additional comments in regard to their walking experience to SSNC.

Participants from Westlawn West – Walkability to SSNC			
Gender	Age	Frequency	Comments
Female	25-34	4-5 times/week	<i>Computer room</i>
Female	25-34	Daily	<i>Only go to the Center for my children</i>
Female	25-34	2-3 times/week	<i>n/a</i>
Female	35-44	4-5 times/week	<i>Pleasurable</i>
Female	45-54	2-3 times/week	<i>Helps my arthritis</i>
Female	55+	Daily	<i>Enjoyable leisure experience</i>
Female	55+	n/a	<i>Only walk to meetings, food box</i>

(Table 11): Westlawn West Participants’ comments on frequency of walking to SSNC

Based on some of these comments, “*only walk to meetings, food box,*” “*computer room,*” “*enjoyable,*” “*pleasurable,*” most respondents showed that they enjoyed their walking experience to SSNC as well as the activities held in the Center. The responses concur with researcher suggestions that compelling reason/activities will attract human traffic (Gehl, 2011).

iii. Non-Resident

There were 24 non-residents, fifteen females and nine males, responding to the question “How many times do you walk to SSNC?”

Non-residents' characteristics (n = 24)						
Age \ Gender	18-24	25-34	35-44	45-54	55+	Total
Female	2	5	3	3	2	15
Male	2	2	0	1	4	9

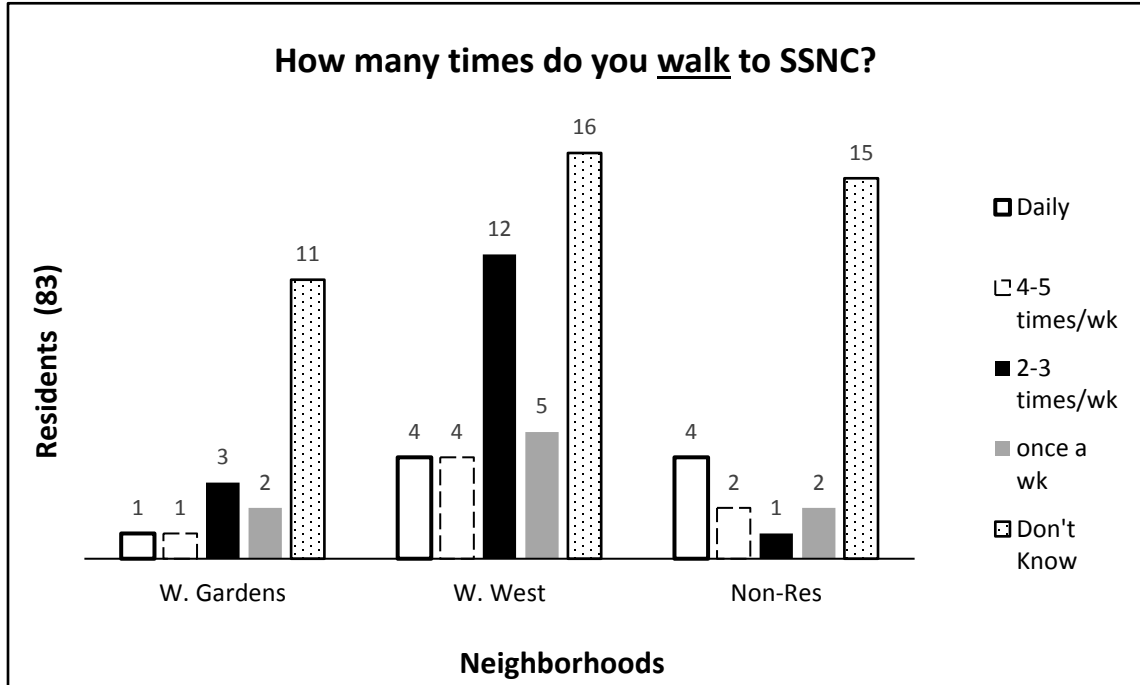
Table 12: Participants' (Non-residents) characteristics

Non-Resident Participants' comments on Walkability to SSNC			
Gender	Age	Frequency	Comments
Female	25-34	n/a	<i>Irresponsible traffic</i>
Female	35-44	One time	<i>good to have these amenities, did not have them before</i>
Female	44-54	One time	<i>Don't go to these places</i>
Male	25-34	n/a	<i>It is dirty</i>
Male	25-34	One time	<i>Wish there are more jobs in the neighborhood</i>

Table 13: Participants' (Non-residents) comments on walkability to SSNC

Some of these responses concur with Gehl's suggestion that people will not use a space unless there is a compelling reason (Gehl, 2011) . Physical features and appearance affect activities and services, which in turn influences people's behaviors and attitudes, and shape their overall experiences (Geboy, 2001).

Graph 2 as shown below is the response to how many times participants walked to SSNC.



Graph 2: All participants' frequency of walking trips to SSNC

b) The 5-minute Walk

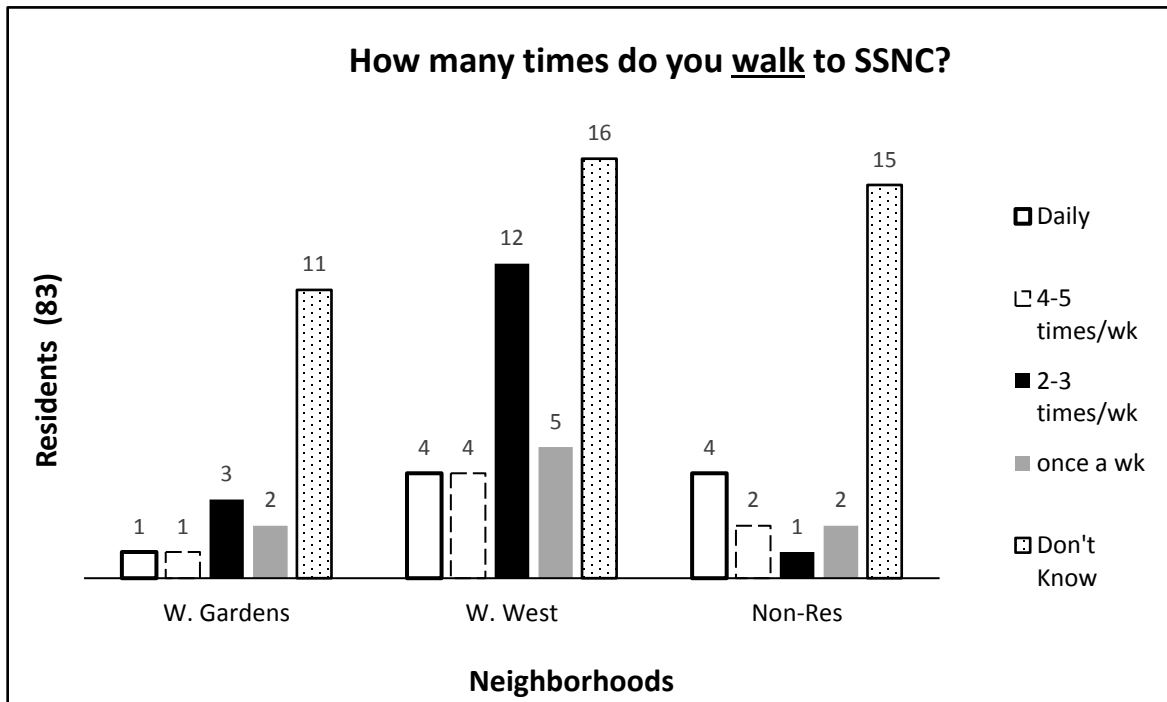
TND define this rule as *rarely more than a 5-minute walking distance for local residents to access ordinary needs of daily life such as grocery shopping*

83 out of 86 participants responded their walking experience in their neighborhood in regard to travel time and frequency to SSNC.

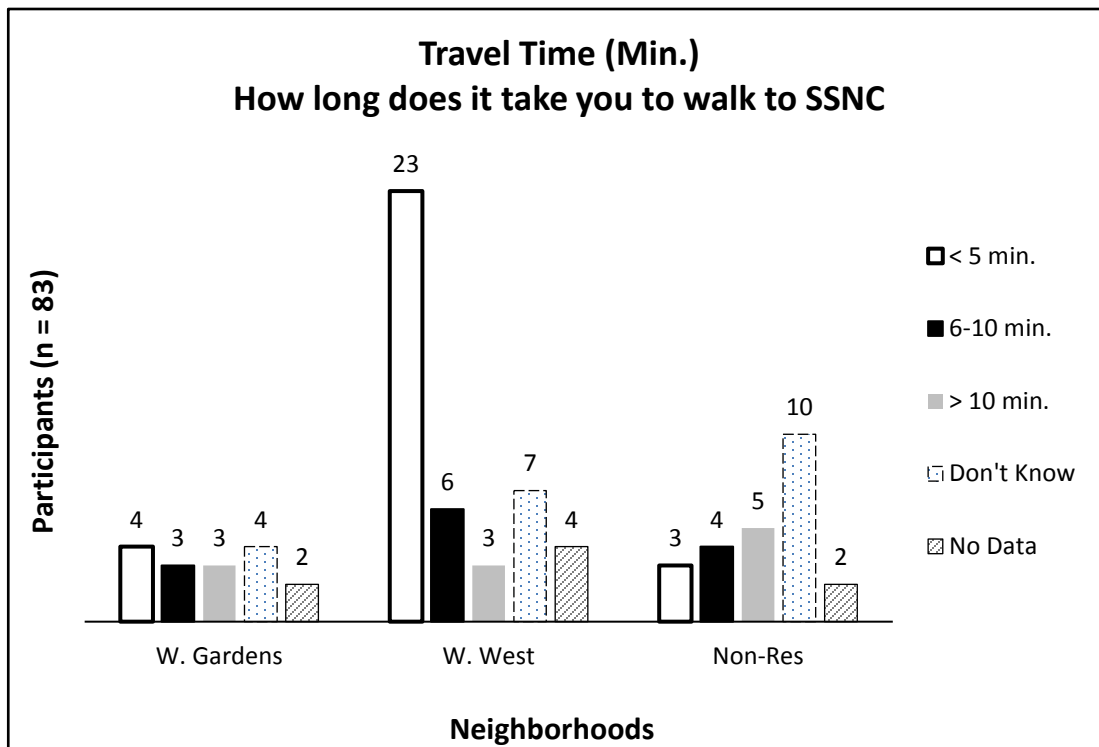
i. Travel Time to SSNC

SSNC	W. Gardens	W. West	Non-Res	No-Data	Total Res
< 5 min.	4	23	3	1	31
6-10 min.	3	6	4	0	13
> 10 min.	3	3	5	1	12
Don't Know It	4	7	10	0	21
No Data	2	4	2	1	9
Total	16	43	24	3	86

Table 14: Responses of all participants – Travel Time to SSNC



Graph 3: Responses of all participants – frequency of walking trips to SSNC

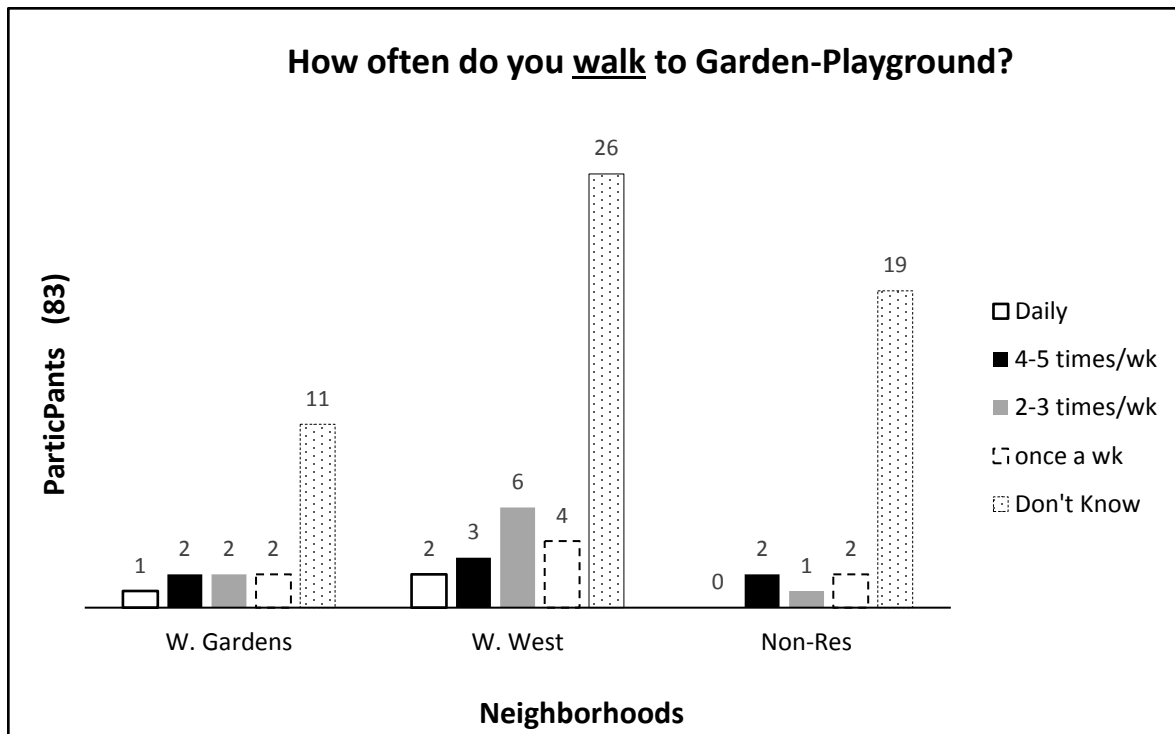


Graph 4: Responses of all participants – Travel time to SSNC

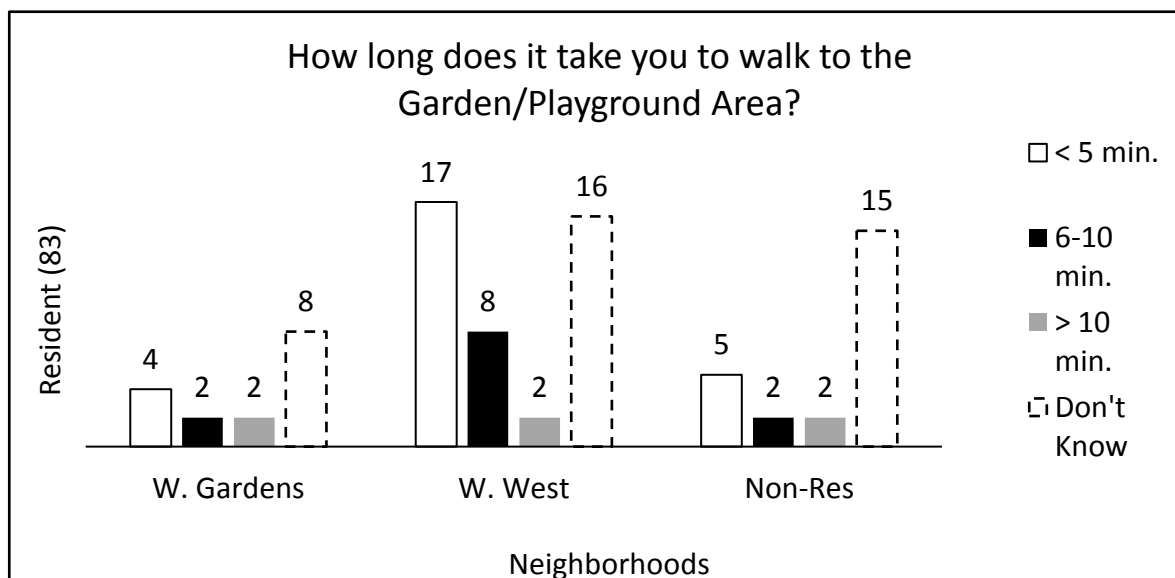
People generally do not wish to walk very far (Gehl, 2011). However, it would be more acceptable if an interesting walking network will have the “*psychological effect of making the walking distance seem shorter,*” and the quality of that the trip is “*divided naturally, into manageable stages*” (Gehl, 1987).

ii. Walk to Garden/Playground Area

The following graphs show the responses from all participants about the frequency and the travel time to the garden/playground area (Graphs 5 & 6).



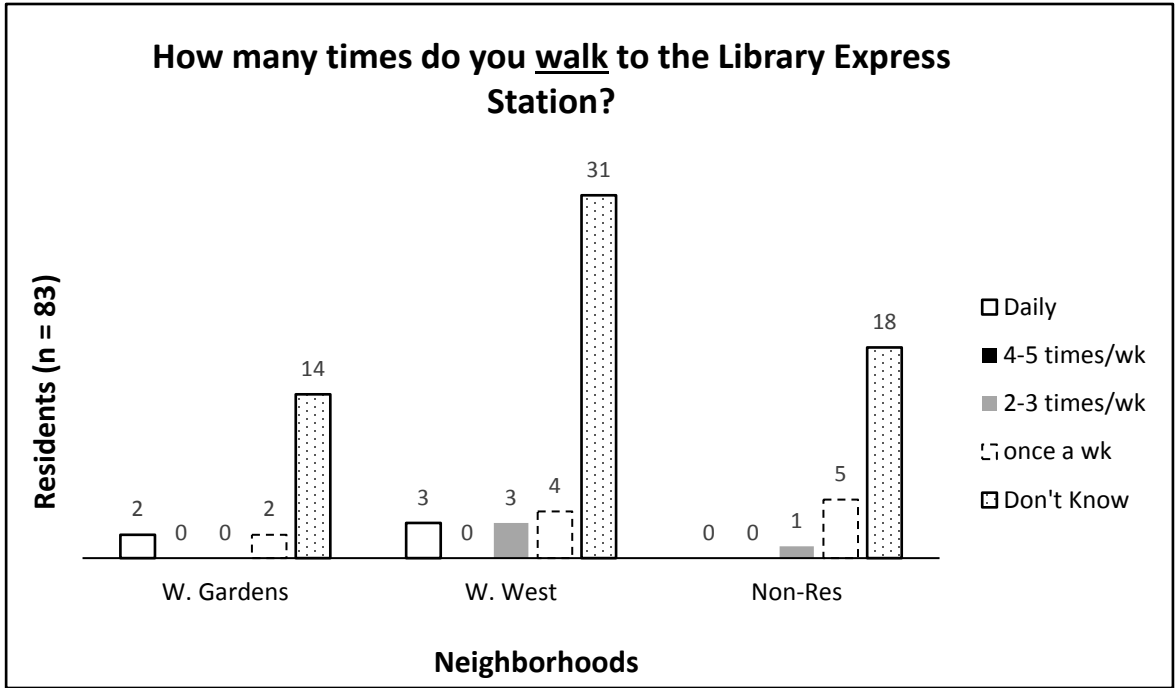
Graph 5: Responses of all participants – Frequency to Garden-Playground



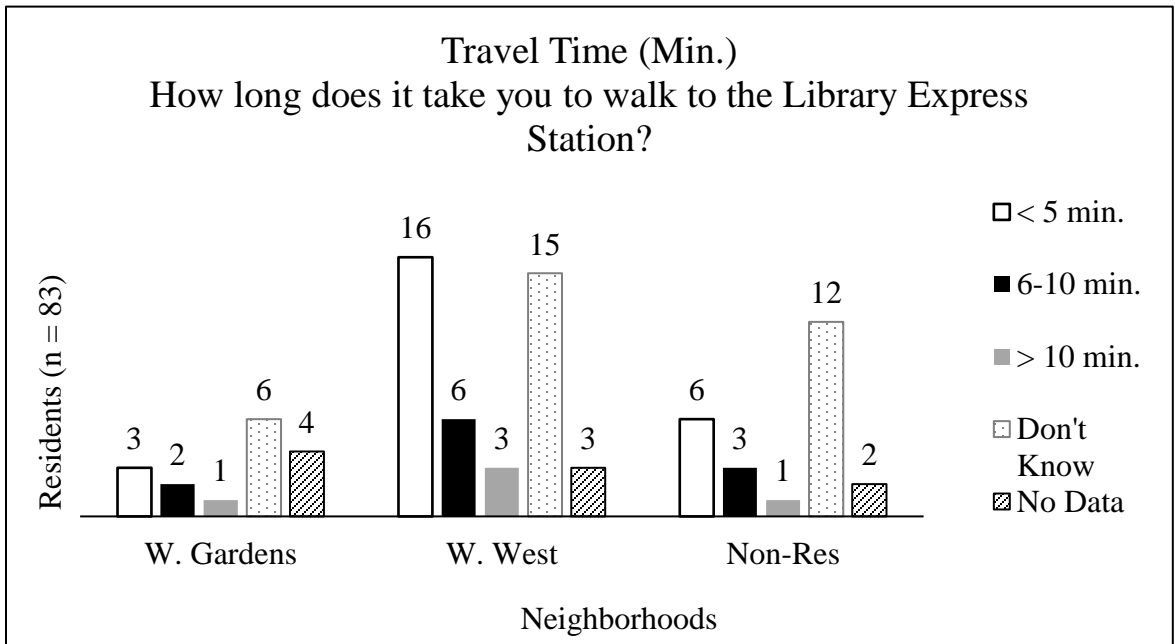
Graph 6: Responses of all participants – Travel time to SSNC

iii. Walk to the Library Express Station

The following graphs show the responses from all participants about the frequency and the travel time to the Library Express Station (Graphs 7 & 8).



Graph 7: Responses of all participants – Frequency to Library Express Station



Graph 8: Responses of all participants – Travel time to Library Express Station

Based on the responses, participants from Westlawn West prefer to walk and use the SSNC facility more than those from Westlawn Gardens. Here are some of the comments participants made when they returned their completed questionnaire.

Westlawn Gardens (2012)

Gender	Age	Comments
Female	35-44	<i>< 5 min; Nice walk, but feel scared at times</i>
Female	55+	<i>6 – 10 min.</i>
Male	55+	<i>< 5 min; Easy access</i>
Male	55+	<i>< 5 min; Good</i>

Table 15: Westlawn Gardens - Participants' comments about the walking frequency and travel time

Westlawn West (1951)

Gender	Age	Comments
Female	25-34	<i>> 10 min.</i>
Female	35-44	<i>< 5 min; good exercise</i>
Female	45-54	<i>< 5 min; don't go to these places but is good exercise</i>
Female	55+	<i>depending on how I feel</i>
Male	25-34	<i>< 5 min.</i>

Table 16: Westlawn Wet - Participants' comments about the walking frequency and travel time

Non-Residents

Gender	Age	Comments
Female	25-34	<i>>10 min; beautiful updates for the community</i>
Female	25-34	<i>Bad traffic, lighting is great during the day but need more at night</i>
Female	25-34	<i>came to SSNC every day for recreational purposes</i>
Female	45-54	<i>> 10 min; living in Milwaukee, limited safety is expected</i>
Female	55+	<i>parking is too far away for women who work at SSNC, force people to walk down 64th and is not safe</i>
Male	18-24	<i>I don't think I would walk at all</i>
Male	25-34	<i>6-10 min; feel safe and better now than in the '90s</i>

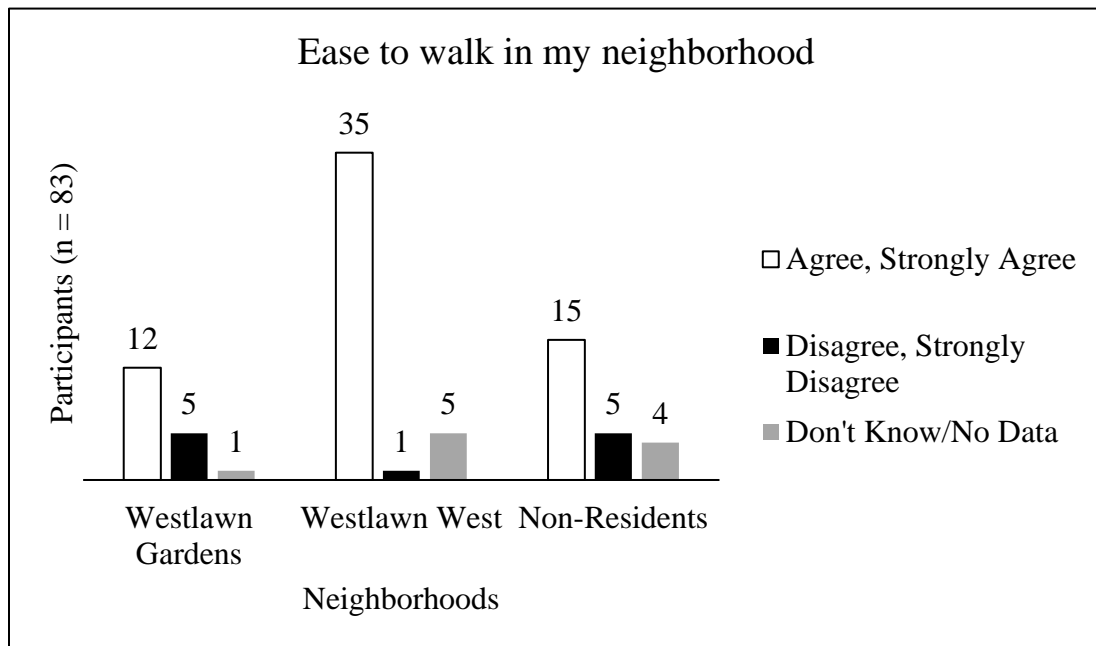
Table 17: Westlawn Wet - Participants' comments about the walking frequency and travel time

Most non-residents commented on the new beautiful updates. The main concern for many women participants was their perceptions that certain areas are not safe enough to walk.

c) The Street Network

TND defines *the street network as the street pattern with several paths connecting one location to another frequently in the form of a grid*. That is, does the street network in this neighborhood provide a good connection for users to walk, shop, and get to transit? All 86 participants responded to the following three questions.

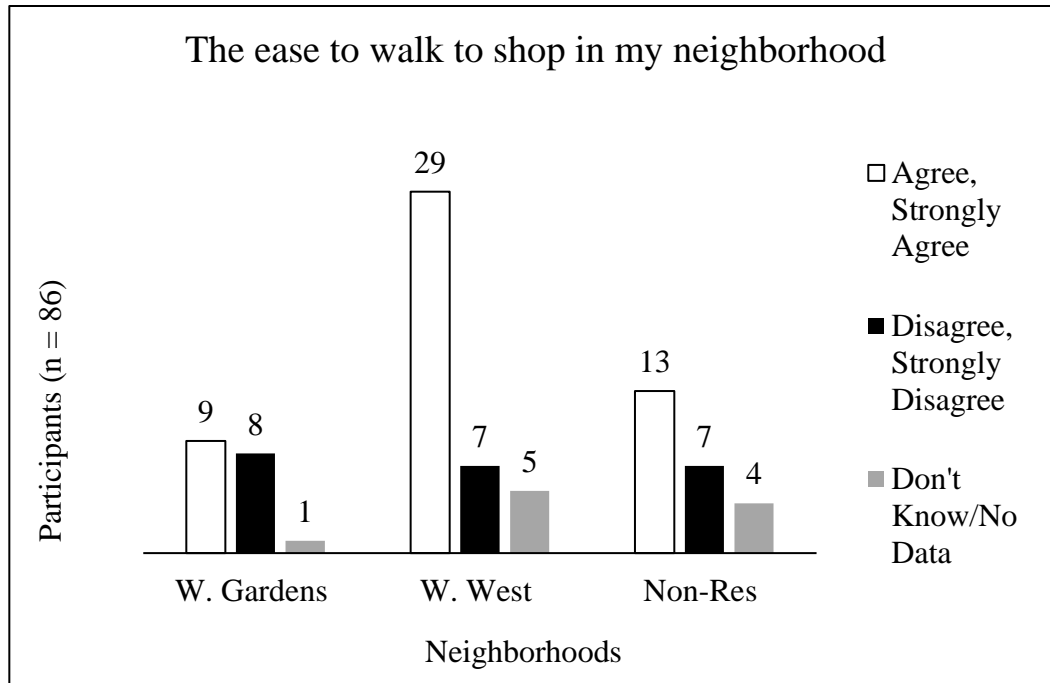
i. The ease to walk in the neighborhood



Graph 9: Responses of all participants to 'ease to walk in their neighborhood'

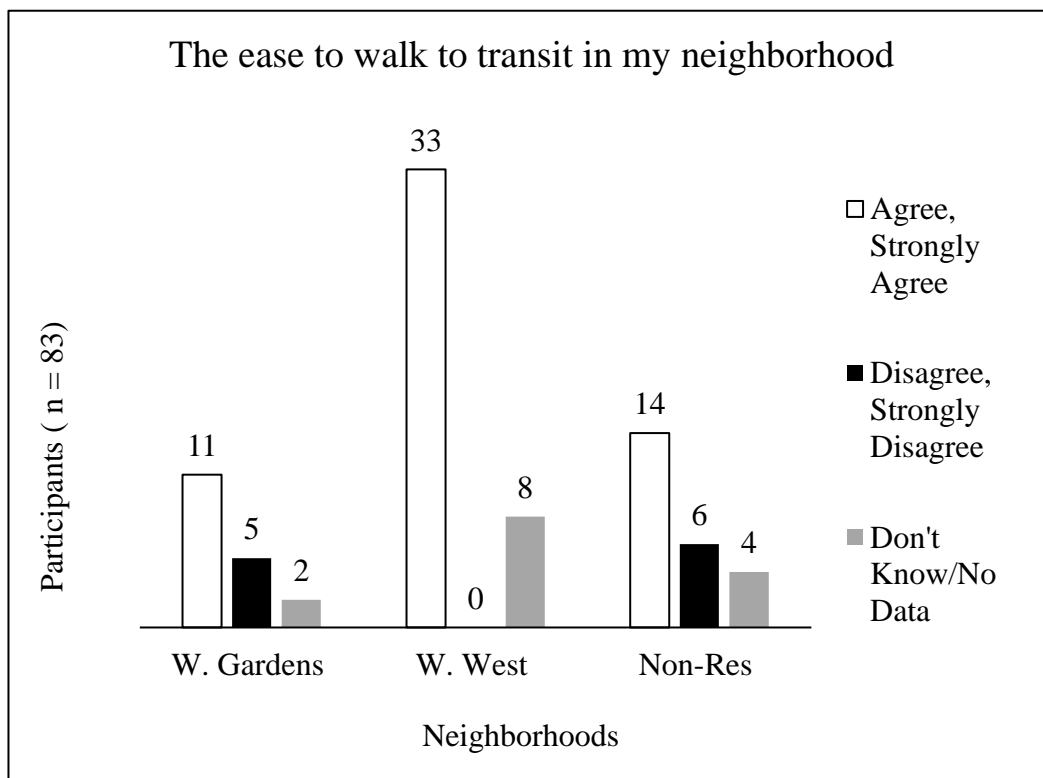
Regardless if there is any influence of the street connection design, most participants responded favorably about the ease of walking in their neighborhood (Graph 9). As shown in Graph 10, 54% (13 of 24) of non-residents agreed that it was easy walk to shop in the Westlawn neighborhood, and 58% (14 of 24) agreed that it was an easy walk to transit in Graph 11.

ii. The ease to walk to shop



Graph 10. Ease to walk to shop in the neighborhood

iii. The ease to walk to transit

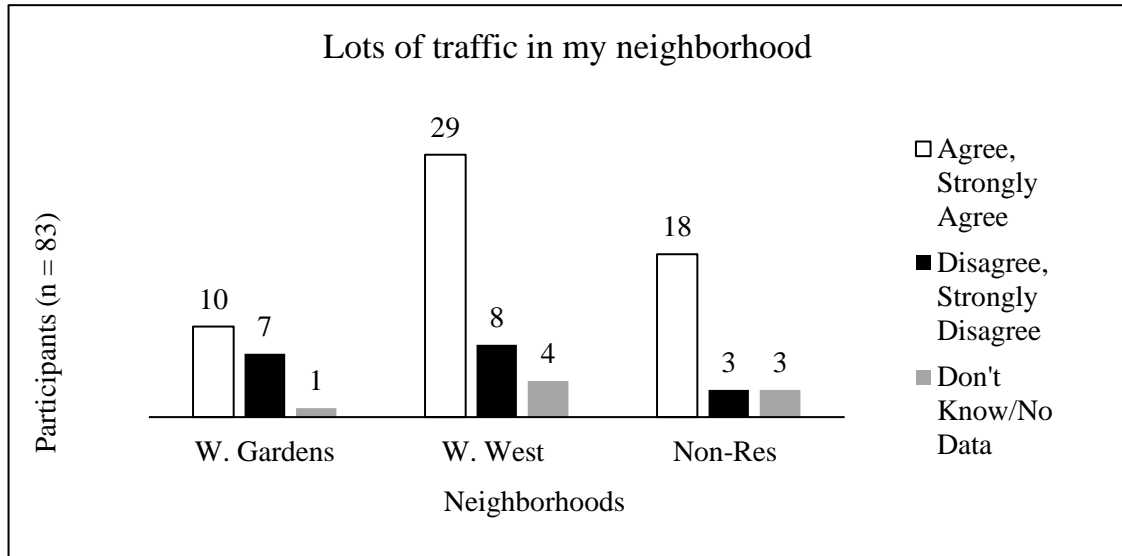


Graph 11. Ease to walk to transit in the neighborhood

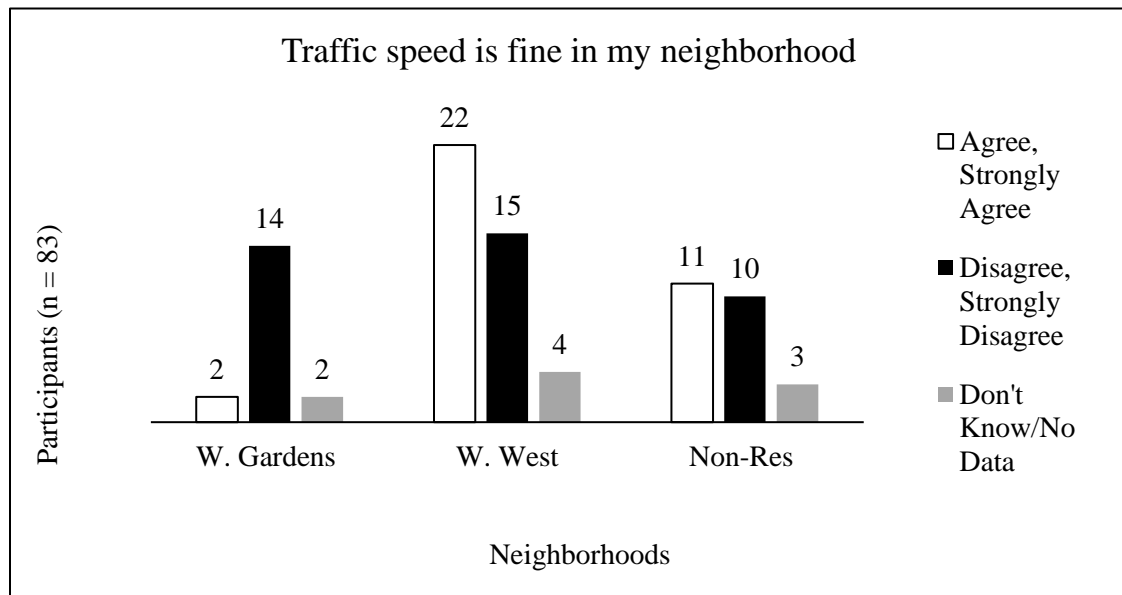
d) Narrow and Versatile Streets

TND design guidelines state that *narrower and smaller streets enable slower traffic and result in pedestrian-friendly environment.*

Participants were asked about the traffic in their neighborhood and if they feel safe when they cross the streets in their neighborhood (Graph 12 & 13). Narrow streets are

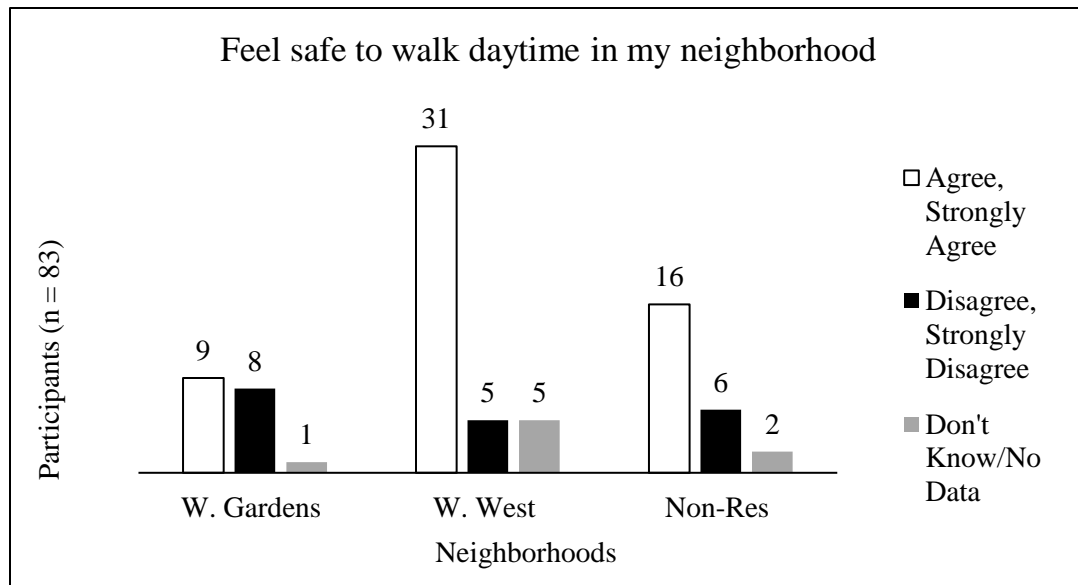


Graph 12: Responses of all participants to traffic in the neighborhood

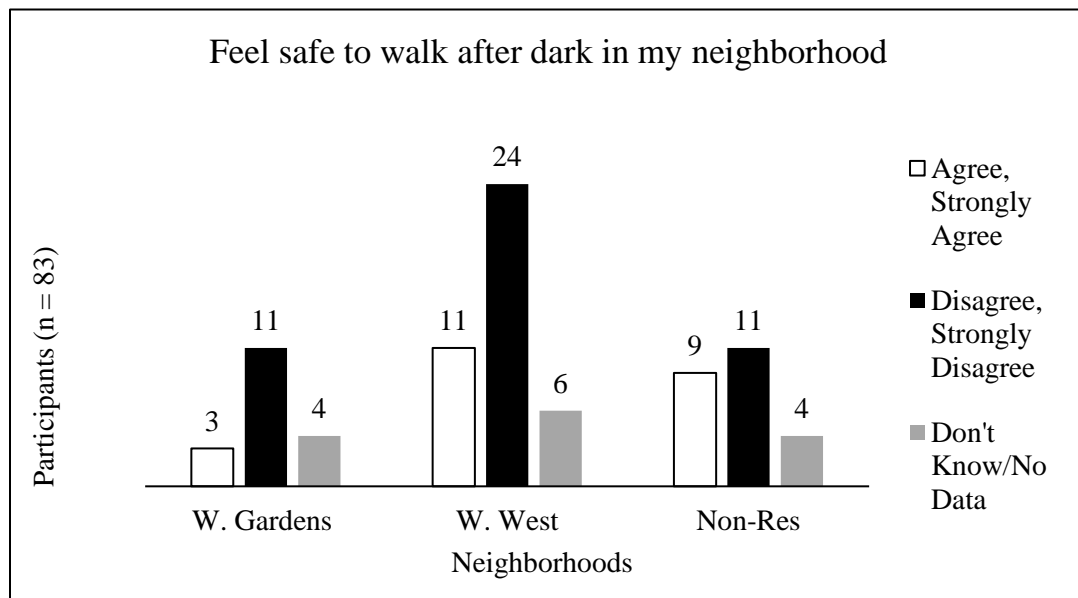


Graph 13: Responses of all participants to traffic speed in the neighborhood

designed and intended to slow down neighborhood traffic. Some sources indicate that most streets in today's society are designed for traffic and not for pedestrians (Rapoport, 1990). It will inhibit their walking preference in their neighborhood if they do not feel safe, as presented in their responses in Graph 14 & Graph 15.



Graph 14: Responses of all participants about feeling safe to walk during daytime



Graph 15: Responses of all participants about feeling safe to walk after dark

Based on these results, 77% (14 out of 18), responded the *“traffic speed is bad,”* *“Feel unsafe on my block, traffic don’t stop during school,”* and *“Cars speeding*

down the street & through parking lot make me concerned for children and me.”

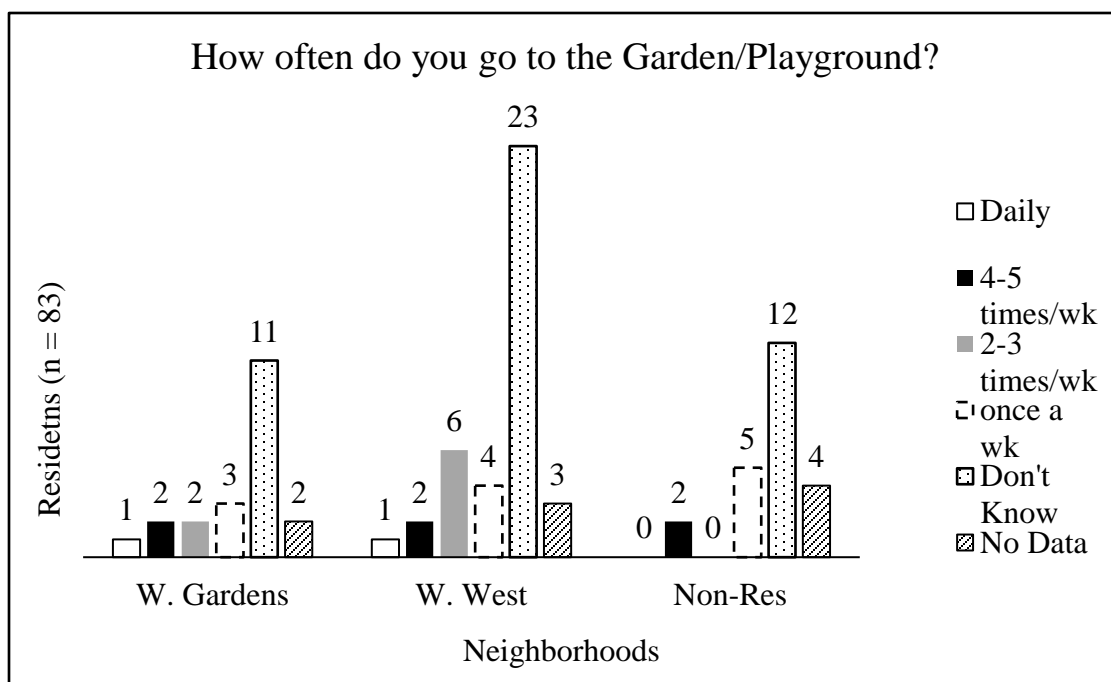
Although TND has no control over the street traffic, speed goes against their principle. In this case, the expectation of applying the TND design principle to slow down traffic in this category was not met.

e) Special Buildings for Special Sites

In TND, *structures are given unique sites that represent the collective identity and aspirations of the community.* In Westlawn, the two special features that have the collective identity and aspiration are the Community Gardens and the Library Express Station.

i. Community Gardens/Playground ^(Table 18)

Comm.Garden	W. Gardens	W. West	Non-Res	No-Data	Total
Daily	1	1	0	1	3
2-3 times/wk	2	6	0	0	8
4-5 times/wk	2	2	2	0	6
once a wk	3	4	5	0	12
Don't Know	11	23	12	2	48
No Data	2	3	4	0	9
Total	21	39	23	3	86



Graph 16: Responses of all participants – Frequency to the Garden/Playground area

Here are some of the comments received from the participants about the reason for them to go the garden/playground area.

Neighborhoods	Gender	Age	Comments
Westlawn Gardens	Female	18-24	<i>Just try to be safe</i>
	Female	25-34	<i>Fresh air for me and my daughter</i>
	Female	35-44	<i>Nice ... but feel scared at times</i>
	Female	55+	<i>Fearful, because I'm disabled & an easy target; need more police/public safety.</i>
	Male	45-54	<i>All new to me</i>
Westlawn West	Female	18-24	<i>It's clean and safe for my kids</i>
	Female	35-44	<i>Enjoy kids playing and have fun; good and clean</i>
	Female	55+	<i>Had a good time at the Garden</i>
	Female	55+	<i>Enjoyable leisure experience</i>
Non-Residents	Female	25-34	<i>Better place to live and raise children, it is cleaner and less violence</i>
	Female	25-44	<i>Good to have these amenities, did not have them before</i>

Table 19: Comments of participants about their experience going to the Community Garden/Playground area

These results showed that majority of people, particularly participants from Westlawn West and the non-residents, seemed to be sensitive to variations in the amount of activity they encountered. This has an effect, in that people may follow the main

stream of foot traffic (Lynch, 1960). Those findings interestingly are from the old-timers rather than from the new development. It illustrates the walkability of an environment is not necessarily about the aesthetic value of the space, the example here represent old-timers enjoying their time with families and friends. On the other hand, the responses from the new development such as *“Fearful, because I’m disabled & an easy target; need more police/public safety”* and *“Just try to be safe”* may show perceived victimization and they may restrain themselves from activities.

ii. Library Express Station

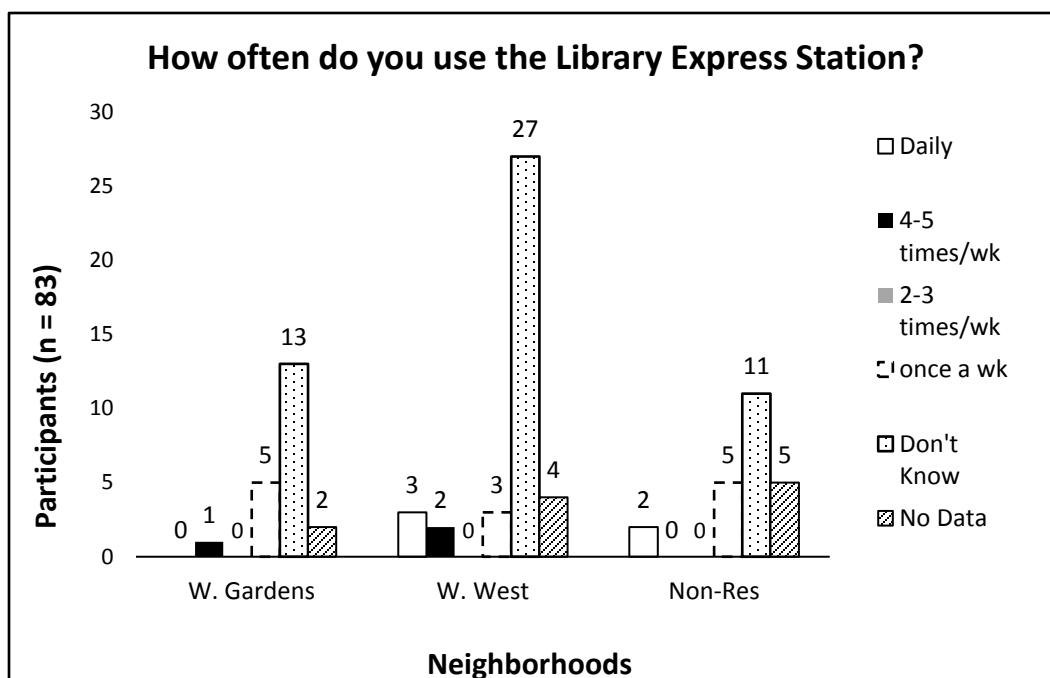
The Milwaukee Public Library Express Station was established and opened to the public in October 2014. This new service was only available for eight months before the survey was sent out in May of 2015. Therefore, it would be very new to all households in Westlawn.

How often do you go to use the Library Express Station?

Library Express Station	W. Gardens	W. West	Non-Res	No-Data	Total
Daily	0	3	2	1	6
4-5 times/week	1	2	0	0	3
2-3 times/week	0	0	0	0	0
once a week	5	3	5	0	13
Don't Know It	13	27	11	2	53*
No Data	2	4	5	0	11
Total	21	39	23	3	86

Table 20: Responses of all participants – frequency of usage to the Library Express Station

*An overwhelming 53 (62%) responded that they are not aware of this service, and only 13 use this service once a week.



Graph 16: Responses of all participants – Frequency to the Library Express Station

Users can travel to any facility but they are less likely to travel to further locations. Since 53% said they “Didn’t Know It Existed,” it’s likely that they’ve never been near it. Therefore, the effect of distance is a deterrent because so many were unaware of this service and this resulted in spatial usage disproportion (Talen E. A., 1998).

Neighborhoods	Gender	Age	Comments
Westlawn Gardens	Female	35-44	<i>Nice ... but feel scared at times</i>
	Female	55+	<i>Went there but it did not work</i>
	Male	45-54	<i>Good experience to the library express station</i>
Westlawn West	Female	18-24	<i>It's clean and safe for my kids</i>
	Female	25-34	<i>walk past but rarely use it, lots of glass and garbage</i>
Non-Residents	Female	35-44	<i>I go there once a week, good to have these amenities, did not have them before; kind of scary until you get here.</i>

Table 21: Comments of participants about their experience to the Library Express Station

In 2016, chalk white boulders were placed around the station. Not only did the addition suggest a seating area, it creates visual interest from a distance. This may increase foot traffic and visitors to the station.

C. Chapter Summary

Participants from the Westlawn West seem to appreciate the facilities more, and that they enjoyed the walking experience to SSNC. The responses concur with researcher suggest that compelling reason/activities will attract human traffic (Gehl, 2011).

Designer, architects and planners need to understand users' characteristics and their preference of activities they are looking for, then plan and design the physical features accordingly.

Walkability Summary

- The Center

Westlawn Gardens

– walk to Center only when it is necessary

Westlawn West – more positive feedback and enjoy the walk.

Non-residents – do not walk due to bad traffic, but like the new updates

- The Five-Minute Walk

Westlawn Gardens – 25% walked <5 min.

Westlawn West – 53% walked <5 min. to SSNC

Non-residents – do not walk due to inadequate lighting at night

- The Street Network

Walk – 66% (Westlawn Gardens) agree with the ease of walking around the neighborhood versus 85% from the Westlawn West.

Shop – 50% to 71% agree on the walkability to shop; 17% to 50% disagree

Transit – 61% to 80% agree with the ease to walk from home to transit

The 50%/61% responses for Shop & Transit from the Westlawn Gardens may increase in the coming years; a longer amount of time may be needed to get accustomed to the new environment for the new residents.

- Narrow and Versatile Streets

Traffic/speed – 55% to 75% agree there is a lot of traffic in the neighborhood

Walk daytime - 66% agree and 25% disagree about feeling safe to walk daytime

Walk nighttime - 37% agree and 45% disagree about feeling safe to walk at night

- Mixed-Use – Not relevant to walkability in this context

- Special Buildings for Special Sites (Community Gardens/Playground and Library Express Station) – 61% - 68% of the participants responded they are unaware of the facilities or service.

6 TND Design Principles	Westlawn Gardens n = 18	Westlawn West n = 41	Non-Resident n = 24
The Center - SSNC	Only walk to SSNC for necessity; Safety poses an issue	More positive feedback – enjoy the center for the new amenities	Did not walk because of bad traffic, though glad for the new amenities
The 5-Min Walk – Frequency and required time from home to destination	SSNC - 25% < 5 min. 25% walked > 10 min Nice walk, easy access.	SSNC - 53% walked <5 min. 7% walked > 10 min. Good exercise, depend on health condition	SSNC - 12% walked <5 min. 0 % Don't walk due to bad traffic, and not enough light at night
	Garden - 11% 2-3times/wk 25% < 5 min.	Garden - 14% 2-3times/wk 39% < 5 min.	Garden - n/a 20% < 5 min.
	Library Station – 11% Daily 18% < 5 min. 6% > 10 min.	Library Station – 7% Daily 37% < 5 min. 7% > 10 min.	Library Station – n/a 25% < 5 min. 4% > 10 min.
The Street Network – ease to walk, shop, and get to transit	Walk – 66% agree Shop – 50%/50% agree/disagree Transit – 61%/27% agree/disagree	Walk 85% agree Shop – 71%/17% agree/disagree Transit – 80%/0% agree/disagree	Walk 62% agree Shop – 54%/29% agree/disagree Transit – 58%/25% agree/disagree
Narrow & Versatile Streets – traffic, speed, walk during day/night	Lots of traffic – 55% agree Traffic speed – 11 % agree Safe to walk daytime – 50%/50% agree/disagree Safe to walk nighttime – 16%/61% agree/disagree	Lots of traffic – 71% agree Traffic speed – 53% agree Safe to walk daytime – 75%/12% agree/disagree Safe to walk nighttime – 61%/58% agree/disagree	Lots of traffic – 75% agree Traffic speed – 46% agree Safe to walk daytime - 66%/25% agree/disagree Safe to walk nighttime – 37%/45% agree/disagree
Mixed-Use	No mixed-use buildings in Phase 1. The building style and design did not elicit much response from residents on either side of the development		n/a
Special Buildings for Special Site – Community Gardens and playground and Library Express Station	Gardens – 9% Daily 18% 2-3 times/week 58% don't know Library Exp. Station – 5% 4-5 times/week 68% don't know	Gardens – 4% Daily 26% 2-3 times/week 63% don't know Library Exp. Station – 6% 4-5 times/week 77% don't know	Gardens – 0 Daily 0 2-3 times/week 63% don't know Library Exp. Station – 0 4-5 times/week 61% don't know

Table 21: Summary of participants' experience of walkability in their neighborhood

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CHAPTER SEVEN: ACCESSIBILITY

The previous chapter presented the impact of the built and social environment affecting peoples' experience and their preference of walking in their neighborhoods. This chapter will discuss accessibility from a broader sense, focusing on how the relationship between participants and facilities should be considered, and whether the desired accessibility is adequate within their neighborhood setting (Banergee, 1984) (Talen E. A., 1998) (Scharlach, 2016).

Accessibility often refers to people with disabilities and the design of products, devices, services, or environments for people who experience disabilities. In this research, accessibility also refers to the means to meet the minimum amount of travel and cost to access goods and services. It should be convenient to reach locations (e.g. food shopping) from any place with the most affordable transportation system that any community can plan, design, construct, and maintain (Duany A. S., 2010) (Morris, 1979) (Johnston, 2000) (Burden, 2008). That is, the communities can satisfy the needs for goods and services, providing the zoning of land uses allow such mixed-use development. In general, mixed-use development provides accessibility to people for daily needs including shopping, jobs, and recreation. It also composed of a balance mix of commercial, retail, residential for market rate and affordable rate housing. Although there is no mixed-use development in Phase 1, it is an important ingredient of the TND design principle. It will be briefly discussed with the researcher's findings of participants' perceptions in the Chapter Summary.

A. Introduction

Accessibility seems to be an essential theme in improving social sustainability and often expressed in terms of quality of life (Evans, 2009). The importance of accessibility continues to focus on people with disabilities and refers to the design of products, devices, services, or environments for people who experience disabilities. Others concerns include equal access -- not only physical access -- but are there services, organizations, and facilities nearby such as local grocery stores, pharmacies, or banks? (Henry, 2014)

In architecture, Geboy et al. refer to accessibility as the ease in physical locomotion through a given environment and using that environment (Geboy, et al., 2001). Many researchers studied how people perceive and react to the physical environment differently, integrating multiple visual systems for navigating and wayfinding, and allowing individuals to personalize their space (Berens, 2015).

Accessibility, at the urban scale, is the ability to meet one's ordinary needs with the minimum amount of travel and cost (Duany, 2010). Convenient access to locations means activities can be easily reached from any place with the most affordable transportation system that any community can plan, design, construct, and maintain (Morris, 1979) (Johnston, 2000), (Burden, 2008)¹. For example, this may include frequent trips to local amenities such as the greengrocer, pharmacy, church, or restaurants within walking distance (Burg, 1981). However, the design and layout of buildings and road infrastructure may have created barriers to limit travel choice amongst particular groups (Evans, 2009). Transportation, land use patterns and urban design represent direct influences on mobility limitations and disability and not all built environment

¹ Burden was named a 2014 White House Champions of Change honoree.

characteristics affect all neighborhoods in the same manner (Rosso, 2011) (Yen, 2009) (Kawachi, 2003).

An accessible environment in an urban scale simply means having stores, services, and public transportation within walking distance (Burg, 1981).

Some subpopulations, such as older adults, women with young children, ethnic minorities, and low-income families, are more vulnerable to environmental factors such as traffic and crime (Stoller, 2000) (Rosso, 2011) (Mather, 2013) (Talen, 2010) (Larsen, 2005) (Samarasekara, 2011). People expect to have an effective and efficient transport system that provides safe and equitable access to a variety of basic services. They aspire to live, work, and participate in leisure and cultural activities without traveling too far (Lee, 2008). However, travel and mobility needs and behavior vary according to the demographics at different times and for different environments (Evans, 2009).

a) Study site for accessibility

In architecture, there are physical features such as structural forms that create spatial properties. They have measurable features including size, proportion, and location of spaces (Weisman, 2001). In addition to structural forms, there are paths, nodes², and landmarks³ that are part of the built environment in urban planning (Lynch, 1960). The physical features also refer to the qualities of the space itself that influence human traffic. Many developers applied the six rules⁴ of the TND design principles into planned physical environment to draw people's attention, then retrofit the new development trend to accommodate people's needs (Susanka, 2011). An accessible environment in an urban scale simply means having stores, such as food stores and drug stores, and public transportation within walking distance (Burg, 1981). However, physical environment only supports or inhibits the action and there are other social factors and perceptions that affect accessibility. A well-designed environment can encourage social activities that draw people's attention and stimulate use of facilities and services. (Rapoport, 1990) (Vojnovic, 2013).

This chapter presents the results from two sets of questionnaires - see Appendix Survey Part A and Part B. The results were analyzed to determine if the six TND design features are suitable to residents and other users in the Westlawn neighborhood.

As briefly described in Chapter 6, the six fundamental rules listed under the Traditional Neighborhood Development (TND) to distinguish the unique design

² Nodes are the strategic foci into which the observer can enter, either typically junctions of paths, or concentrations of some characteristic (Lyn603).

³ Landmarks are key physical characteristic that are unique or memorable in the context (Lyn603).

⁴ The Six rules of TND – The Center, the five-minute walk, the Street Network, narrow and versatile street, diverse building type, and special sites for special buildings.

pattern are 1.) *The Center*; 2) *The five-minute walk*; 3) *The street network*; 4) *Narrow and versatile streets*; 5) *Mixed use*, and 6) *Special sites for special buildings*.

TND design principles strongly influenced the design of the Westlawn Gardens, built in 2012. The practically of the military barracks design of Westlawn West, which was built in 1951, was to address the housing needs of the working families. Populations differ from community to community depending on the nature of households (Herbert, 1995). The noticeable differences in the physical environment have their influence on residents, i.e. group characteristics, in conducting their daily activities.

b) Group Characteristics

Group characteristics of a neighborhood have an impact on accessing a range of community resources. Some critics view culture as very important in shaping behavior, which in turn influences travel preferences to certain social activities (Vojnovic, 2013). The locality influences commuting behavior, which in turn influences travel preferences to certain social activities (Levinson, 1998) (Vojnovic, 2013). Households with private vehicles may be able to access many communities' resources, whereas low-income households without a car have limited access to these services, contributing to social disparities (Pearce, 2006). Vulnerable groups, including older adults, women with young children, and those with impaired mobility, are likely to take longer to walk, using a slower pace to reach their destinations. Others are less likely to move through restricted physical or structural features, such as fences (*i.e. built environment*). The lack of connectivity between destinations

disrupting the continuous right of way -- may cause the users to avoid the trip entirely (Vojnovic, 2013).

B. Survey Results

The 86-collected survey results from Westlawn Gardens, Westlawn West, and the non-residents evaluated accessibility by comparing to the six rules of the Traditional Neighborhood Development (TND). The survey was to determine if the public facilities and other provisions incorporated in the Westlawn Housing Development revitalization have benefited its residents and neighboring community. TND defines accessibility as the ability to meet one's ordinary needs with minimal travel time, short distance, and affordable transportation cost (Duany A. P.-Z., 2000). The results of the surveys were evaluated by applying the definition according to the order in the TND literature. One exception is that there are no mixed-use buildings present in Phase I of the development.

Among the 86-collected responses received, there were three participants who did not identify their residential preferences. As a result, there were 21 responses from Westlawn Gardens, 39 responses from Westlawn West, and 23 identified themselves under the non-residents category.

a) The Center – Silver Spring Neighborhood Center (SSNC)

i. Westlawn Gardens (2012)

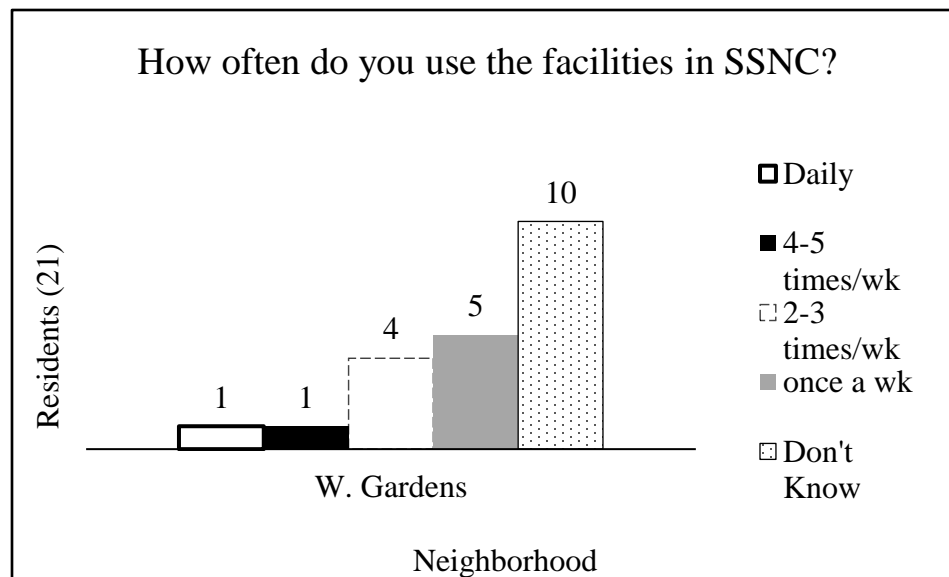
There were 8% (21 of 250 households) from the Westlawn Gardens participating in the questionnaire (See Appendix D – Part B).

Three did not identify their gender and therefore, the following Respondents' Characteristics table shows a total number of eighteen (18), with fourteen females and four male (Table 8).

Westlawn Gardens participants' characteristics (n = 18)							
Age \ Gender	18-24	25-34	35-44	45-54	55+	No Data	Total
Female	1	2	2	0	8	1	14
Male	0	0	0	3	1	0	4

Table 8: Participants' characteristics from Westlawn Gardens

Twenty-one participants were asked “How often do you use the facilities in the SSNC?” There were 47% (10 of 21) who responded that they did not know of the SSNC, 23% (5 of 21) go there once a week, 19% (4 of 21) said that they go 2-3 times a week, and several go more frequently (Graph 17).



Graph 17. Westlawn Gardens participants' usage of SSNC

Respondents who replied, ‘Don’t Know’, means that they did not know how often they went to these places – the Center, the Community Gardens/Playground area, or the Library Express Station.

Participants from Westlawn Gardens – Accessibility to SSNC			
Gender	Age	Frequency	Comments
Male	45-54	n/a	<i>Good experience, these are all new to me</i>
Female	35-44	Once a month	<i>Came to SSNC for monthly meeting only</i>
Female	55+	Once	<i>Often to come during warmer weather</i>
Female	55+	n/a	<i>Litter, gangs</i>
Female	55+	Once a week	<i>Easily accessible for walker, occasional litter problem</i>

Table 22: Westlawn Gardens’ Participants - their comments on accessibility to SSNC

Table 22 presents some participants’ comments on accessibility to the facilities in SSNC.

In addition, one male (45-54) responded, “*these are new amenities,*” and that was unprecedented in comparison with his other experience. One female (55+) answered “*easily accessible for walker.*” This concurs with the importance of accessibility that continues to focus on people who experience disabilities with equal physical access to facilities (Henry, 2014). Also, “*occasional litter problem*” deserves attention because it’s a feature that may be associated with perceived safety (Foster, 2008), which in turn may discourage the trip entirely (Vojnovic, 2013).

Another female, (55+) responding ‘*litter, gangs,*’ perceived interference with safety and the social environment. People often fear victimization and are less likely to attend certain activities even though the distances between destinations are accessible. This is particularly true for

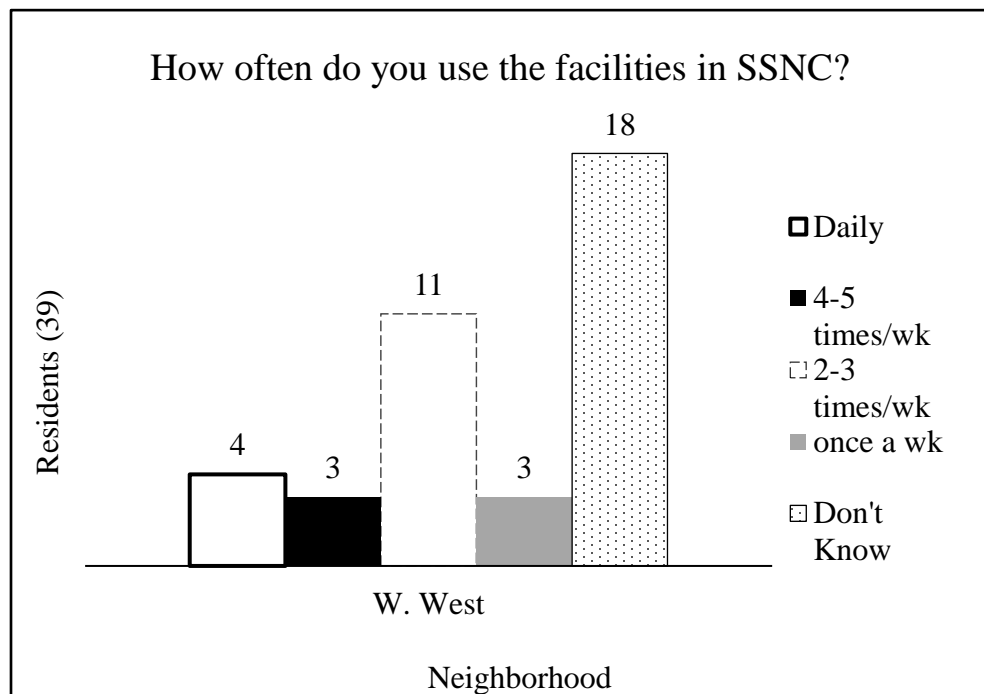
women and older adults, and crime-related safety may deter physical activity (Foster, 2008).

One female (age 35-44) responded that she “*came to SSNC for the meeting only.*” Residents have to go to the Resident Council meeting every month at SSNC because it is required under their lease. During a brief interview with the property manager of the Westlawn Gardens, the manager indicated that residents under the new lease are required to attend the monthly meeting. There is no penalty for not showing up at the meeting; however, residents are required to fill in their names, addresses, and phone numbers on a sign-in sheet before they enter the auditorium for the meeting. In this case, SSNC did not require the residents to attend the activities; the lease requires residents to attend the meeting held at the SSNC. Some experts on physical environment think requiring attendance is not effective; however, social activities draw people.

Another theory on physical environment recommends careful planning of the physical environment to draw human activities. While some say the physical environment only supports or inhibits action, others suggest that a well-designed environment can encourage social activities that draw people’s attention and stimulate use of facilities and services. (Rapoport, 1990) (Vojnovic, 2013) (Geboy, et al., 2001) (Moore, 2001).

ii. Westlawn West (1951)

There were 10% (41 of 394 households) from Westlawn West who returned the questionnaire (Appendix C – Part A), with thirty-six females and five males. Thirty-nine of those answered the question “How often do you go to use the facilities in the SSNC?” Of those, 46% (18 of 39) did not know about the SSNC; 7% (3 of 39) go once a week; 28% (11 of 39) go 2-3 times a week, 7% (3 of 39) go 4-5 times a week, and 10% (4 of 39) go daily. (Graph 18).



Graph 18. Westlawn West participants' usage of SSNC

Many responded, *'pleasurable'*, *'feel good'*, or *'great place to attend'*. The responses from Westlawn West seemed more positive and one respondent's answer summed up their attitude towards the facilities, *'they are ok but a blessing to have'*. The following table

shows some of their comments accessing the facilities at the SSNC

(Table 23).

Westlawn West – usage of facilities in SSNC			
Gender	Age	Frequency	Comments
Male	18-24	Once a week	<i>It's dirty</i>
Female	25-34	Once a week	<i>they are ok but a blessing to have</i>
Female	25-34	Daily	<i>only go to the Center for my children</i>
Female	25-34	2-3 times a week	<i>need more activity for mothers</i>
Female	35-44	n/a	<i>enjoy kids playing and have fun</i>
Female	45-54	2-3 times a week	<i>enjoy the computer room</i>
Female	55+	Daily	<i>enjoyable experience</i>
Female	55+	2-3 times a week	<i>only go to meetings, food box</i>

Table 23: Westlawn West – Participants' comments on accessibility to SSNC

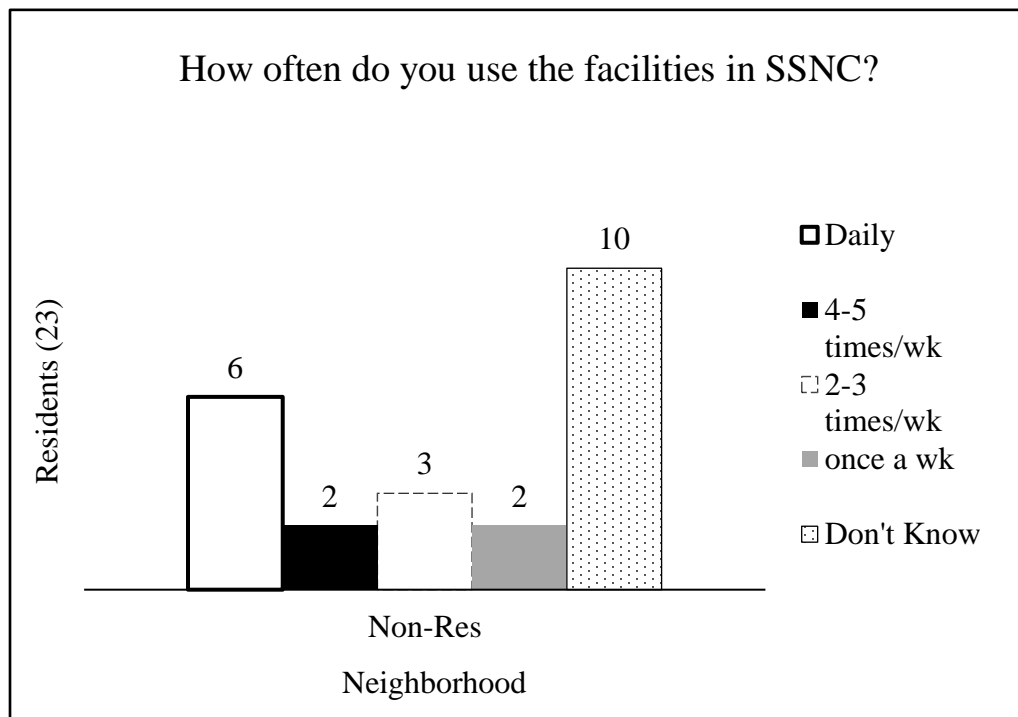
Many gave positive feedback; comments such as '*only go to the Center for my children*' and '*need more activity for mothers*' correspond with the theory that physical environment with careful planning for the design and usage will draw human activities (Geboy, et al., 2001) (Moore, 2001). One commented '*It's dirty*' infers maintenance as a feature. Although it is accessible for residents, it might be perceived as a safety issue and diminish human presence at the facility (Foster, 2008).

iii. Non-Residents

There were 24 non-residents responding to the questionnaire (Appendix C – Part A), with fifteen females and nine males.

Many are from neighboring residences, workers from local stores including Growing Power, patrons at the 2015 Summer Carnival, and job seekers at the Job Fair 2015.

One participant did not answer this question; therefore, the total count on the following chart is 23. (Graph 19).



Graph 19. Non-Residents - usage of SSNC

When asked “How often do you use the facilities in the SSNC?” the responses ranged from 30% (7 of 23) who did not know about the SSNC to 26% (6 of 23) who responded that they go daily. Table 8 shows their comments of accessing the facilities in SSNC.

Non-Residents – usage of facilities in SSNC			
Gender	Age	Frequency	Comments
Male	18-24	n/a	<i>Wish there are more jobs in the neighborhood</i>
Female	25-34	Daily	<i>Beautiful updates for the community</i>
Female	25-34	Daily	<i>Feel safe and better now than the '90s</i>
Female	25-34	Once a week	<i>Came to SSNC for recreational purposes</i>
Female	25-34	Once	<i>Good to have these amenities, did not have them before, kind of scary until you get there</i>
Female	45-54	2-3 times/week	<i>Living in Milwaukee, limited safety is expected</i>

Table 24: Non-Residents – participants' comments on accessibility to SSNC

Accessibility is a process of movement between destinations, regardless of age, gender, ethnicity, or physical mobility (Evans, 2009). The SSNC houses a job-training program, which is a beneficial feature within the physical existence of the SSNC. Despite this, one male commented “*wish there are more jobs in the neighborhood.*” When participants expressed their comment such as “*Living in Milwaukee, limited safety is expected*” and “*kind of scary until you get there,*” it may reflect the diffusion of fear throughout the community and the perceptual and safety issues with accessing the facilities, especially for vulnerable groups (Foster, 2008) (Evans, 2009). In this case, the females voiced their concern of the social environment and correspond with researchers' suggestions that the female gender is more sensitive to their surroundings (Clifton, 2005).

b) The Five-Minute Walk

TND refer to the five-minute walk as the walking distance for local residents to access ordinary needs of daily life: living, working, and shopping. It also suggests that residents can drive much less since their residence is in close proximity to conduct these daily activities (Duany A. P.-Z., 2000).

The focus here is the accessibility of food shopping from the resident’s home.

i. Westlawn Gardens (2012)

Among the collected 86 surveys, 21% (18 of 86) from the Westlawn Gardens have expressed their perspective on accessibility in their neighborhood. One person did not identify her age range.

In the survey, 18 participants from the Westlawn Gardens were asked to rate their experience of accessibility to transit and shopping in their neighborhood. See Graph 20 for their responses.



Graph 20. Westlawn Gardens – participants’ accessibility to food shopping & transit

When asked about the accessibility to food shopping, 55% (10 of 18) responded their dissatisfaction with their shopping for quality food (Fig. 5). One female respondent (age 55+) said, “*The grocery store nearby [Silver Spring Meat Market] is over-priced in many cases and not well stocked.*” This respondent expressed her shopping experience with discontentment and frustration, and she spoke for the other conventional shoppers in the group.

Among the 18 participants from Westlawn Gardens, 13 participated to further answer questions (Survey B) about the accessibility in their neighborhood (Table 25).

Westlawn Gardens respondents’ characteristics (n=13)						
Age \ Gender	18-24	25-34	35-44	45-54	55+	Total
Female	1	0	1	1	8	11
Male	0	0	0	1	1	2
Westlawn West respondents’ characteristics (n = 7)						
Female	0	1	1	3	2	7
Male	0	0	0	0	0	0

Table 25: Survey B Residents’ characteristics - Westlawn Gardens & Westlawn West

When asked about the “5-minute walk” in their neighborhood, 53% (7 of 13) strongly agreed or agreed that shopping is available within 5-minute walking distance, 38% (5 of 13) strongly disagreed or disagreed. (Graph 21).



Graph 21. Westlawn Gardens - Survey B participants’ response to the 5-min walk to shop

As shown in Fig. 7, the closest food store (Silver Spring Meat Market) is located across the street on the north side of the development, but it is not necessarily the store of their choice. Some prefer to shop at Midtown Center at N. 60th St. and W. Capitol Drive, which is 2.3 miles south of the Westlawn Housing Development. This would require shoppers to take an approximately 16- minute bus ride or 7- to 9-minute car ride one-way (Fig. 38).

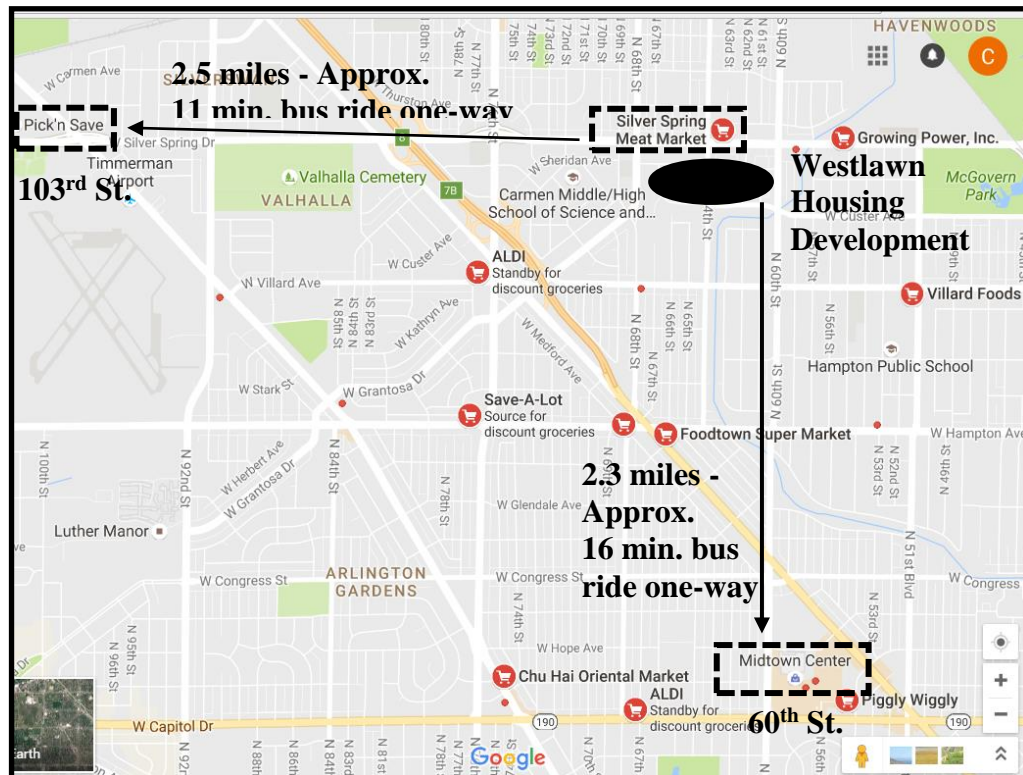


Fig. 38 - Travel time & distance from research site to two shopping areas (2016)

Others would go as far as Pick 'n Save on N. 103rd St., which is 2.5 miles from the Westlawn Housing Development, and requires an 11-minutes bus ride one-way. The residents in Westlawn Gardens are willing to travel longer commutes due to low access to a quality food source and the store of their choice, although there is a market just across the street. (The walking distance to Silver Spring Meat Market is less than 0.25 miles, or a 5-minute walk). This validates that the closest neighborhood shops are not necessarily the stores of their choice and that people prefer to shop at retail supermarkets located outside their local neighborhood for their food necessities. But frequently, they have to rely on smaller, more expensive neighborhood corner stores, and this adversely affects their budget. (Vojnovic,

2013). This context falls into the “*Low-Income and Low-Access at 1/2 and 10 miles*” category under the Food Access Research Atlas provided by the U.S. Department of Agriculture (USDA)(Fig.38).

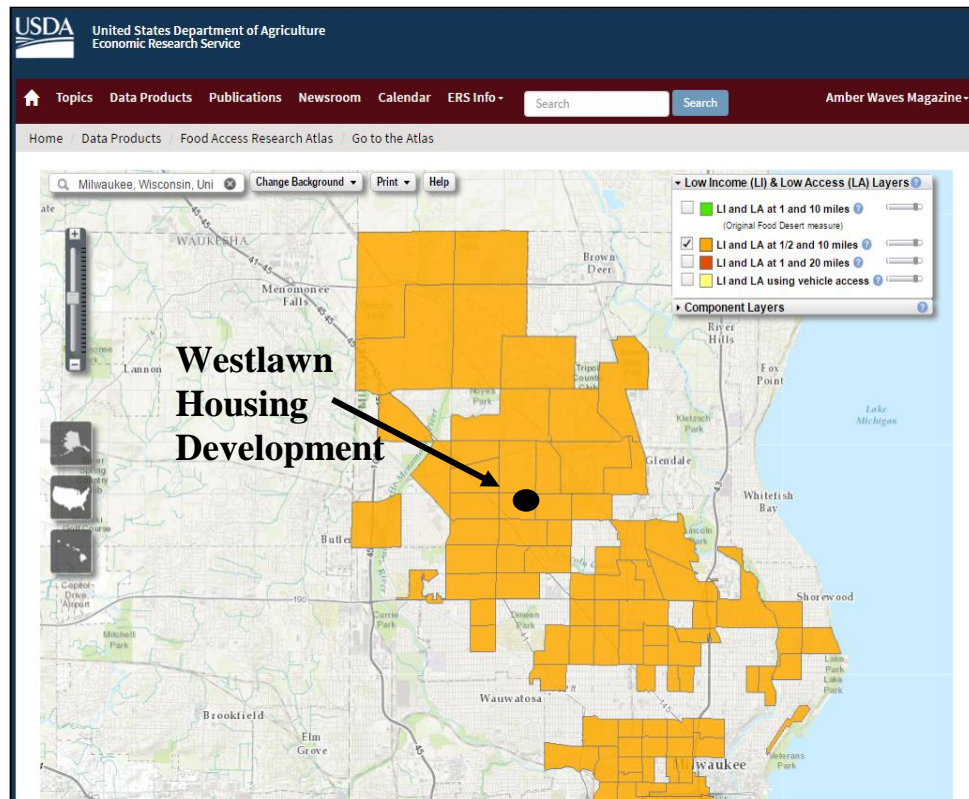


Fig. 39.1 - Low-Income (LI) & Low-Access (LA) to Food Sources (2016)

This category means the Low-Income census tracts where a significant number or share of residents is *more than 1/2 mile (urban area) or 10 miles (rural area)* from the nearest supermarket (2016). The Westlawn Housing Development is located in the middle of the Low-Income and Low-Access at 1/2 and 10 miles category (Fig. 39). In Fig. 9, it shows the Westlawn Housing Development is categorized in the low-income tract (*LI*) and a *low-access tract (LA) to food sources* within a 1/2 to 10 miles distance based on the USDA Food

Access Research Atlas. This confirms that research has shown that predominantly minority and low-income urban neighborhoods

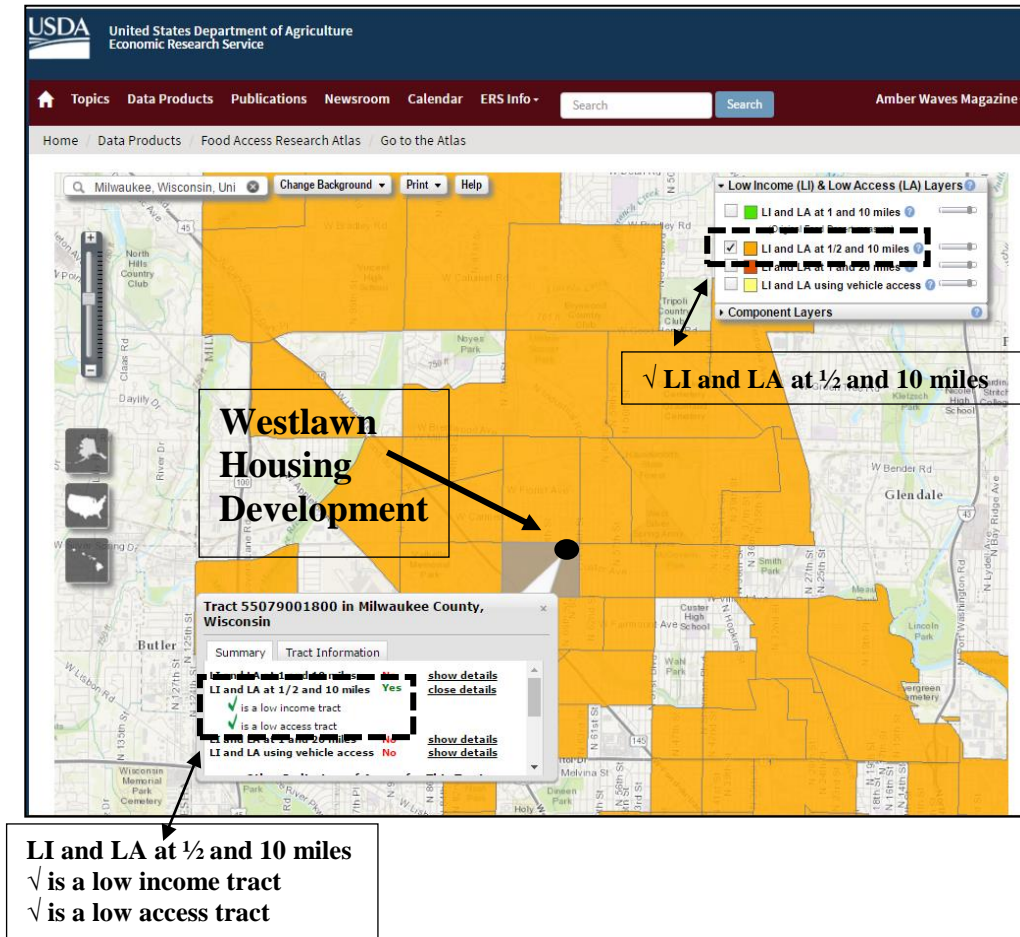


Fig. 39.2 – Westlawn Housing Development in Low-Income (LI) & Low-Access (LA) to Food Sources (2016)

have limited access to affordable, nutritious, and appropriate food sources (Vojnovic, 2013). In Fig. 10, McDonald's, Popeyes Louisiana Kitchen, two liquor stores, and two gas stations, are all within 5 minutes' walk (less than 0.25- mile distance) along W. Silver Spring Drive from the Westlawn Housing Development.



Fig. 40 Fast food chain and liquor stores along W. Silver Spring Dr. between N. 60th and N. 64th Street (2016)

This finding validates the abundance of fast food chains, convenience and liquor stores in the low-income neighborhoods instead of affordable, nutritious, and appropriate food sources (Vojnovic, 2013).

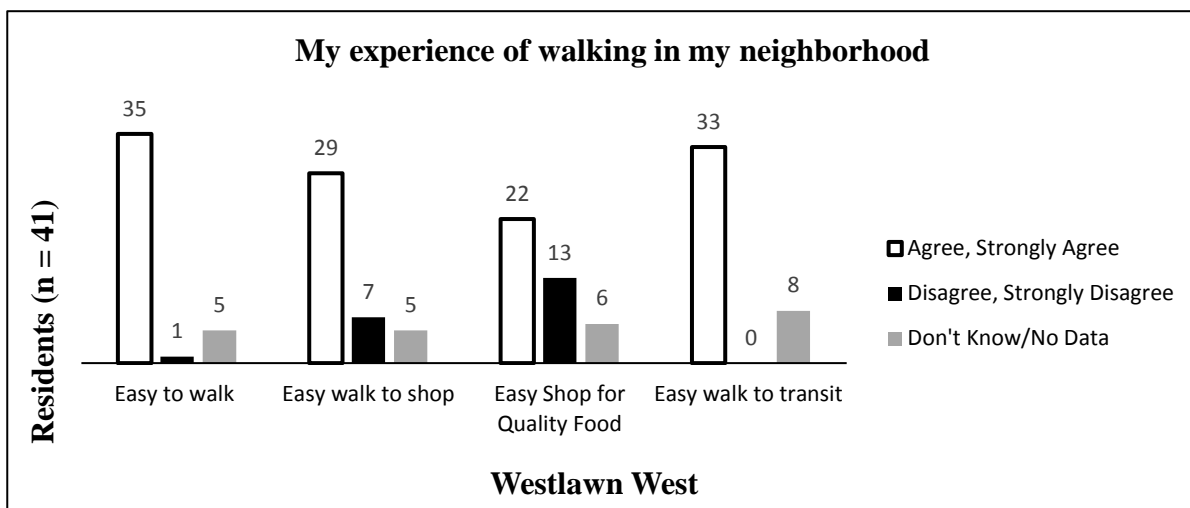
ii. Westlawn West (1951)

There were 47% (41 of 86) rated the accessibility level of their neighborhood.

Westlawn West respondents' characteristics (n = 41)						
Gender \ Age	18-24	25-34	35-44	45-54	55+	Total
Female	2	9	7	9	10	37
Male	1	1	0	2	0	4

Table 26: Westlawn Gardens – Participants' characteristics

There were 40% (35 of 41) who responded that it is easy to walk in their neighborhood, 70% (29 of 41) agreed that it is an easy walk to shop from their home, and 80% (33 of 41) strongly agreed that it is an easy walk to transit (Graph 22).



Graph 22. Westlawn West – participants' responses on accessibility to food shopping & transit

When asked to rate '*It is easy to walk to quality food stores*', there were 31% (13 of 41) who responded with dissatisfaction (Graph 20).

One female, age range 45-54, responded that she does her shopping "*at Pick 'n Save on 103rd Street*" which is 2.5 miles from

Westlawn West. She would need either to take a 10-minute bus ride one-way to shop and carry back bags of groceries, or a 5-minute car ride if she owns a vehicle or shares a ride with someone. This concurs with some researchers that lower income families are burdened by great distances to national or regional supermarket chains (Vojnovic, 2013), especially those who have mobility challenges or do not have a reliable form of transportation. (In March 2012, HACM staff carried out an assessment of Westlawn residents via a survey taken orally and in-person. There were more than 50% of the residents relying on bus or other means of transportation⁵.)

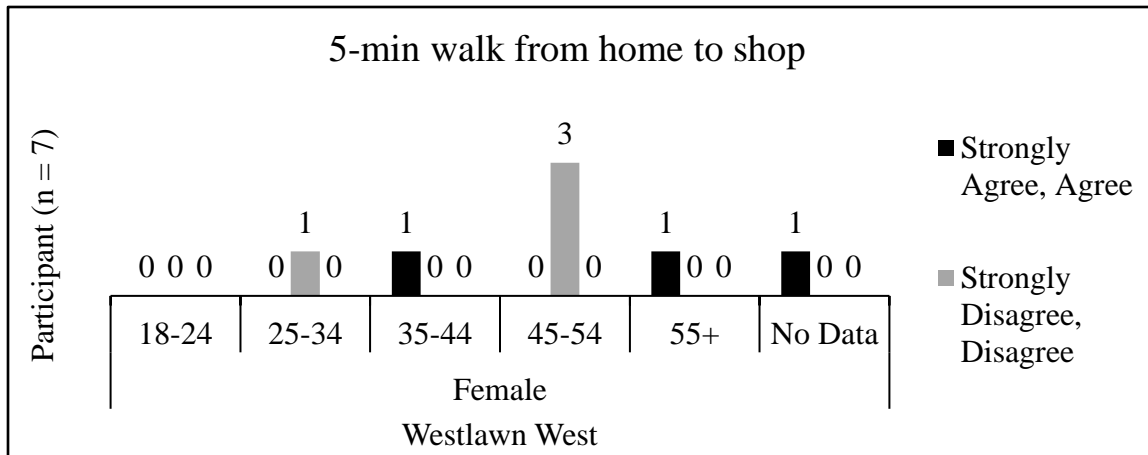
Among the 41 participants, 7 females participated in the Walkability and Accessibility Survey Part - B and responded further about their experience of the ‘5-min walking distance’ from their residence to shop and to the transit stop in their neighborhood (Table 27).

Westlawn West respondents’ characteristics (n = 7)						
Age \ Gender	18-24	25-34	35-44	45-54	55+	Total
Female	0	1	1	3	2	7
Male	0	0	0	0	0	0

Table 27: Survey B - Westlawn West – Residents’ characteristics

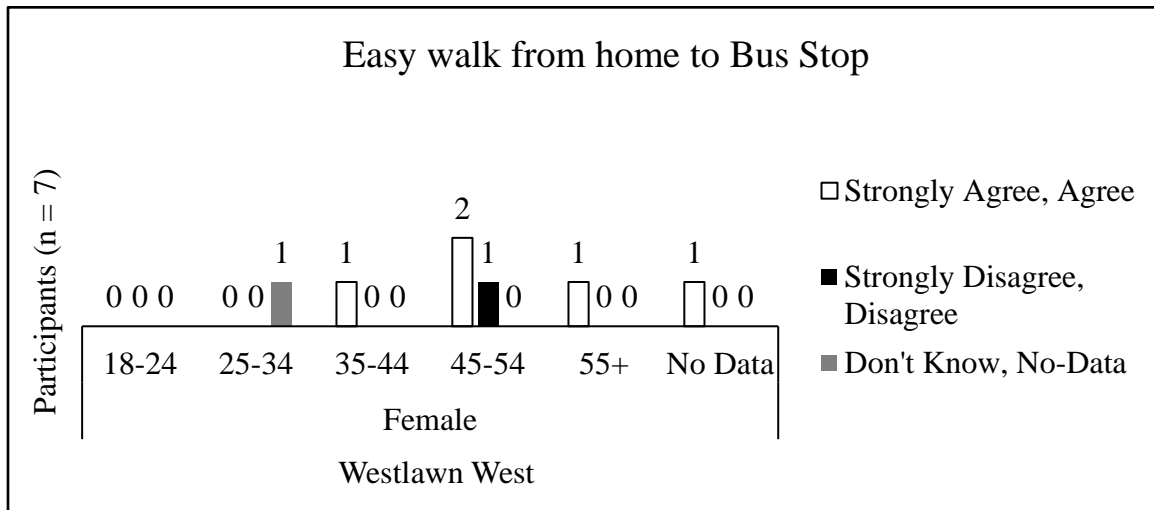
⁵ See Summary of the Westlawn Assessment in Chapter 4

Three of seven (age 45-54) participants strongly disagree with the '5-min walk' time expectancy from their residence to shop (Graph 23).



Graph 23. Westlawn West – Survey B participants' response of the 5-min walk to shop

Five of seven rated strongly agree to somewhat agree with the '5-min walk' time expectancy from their residence to the bus stop (Graph 23).



Graph 23. Westlawn West – Survey B - participants' response of the 5-min walk to bus stop

iii. Non-Resident

There were 28% (24 of 86) non-residents who rated the accessibility level of the Westlawn neighborhood as shown in Table 28.

Non-residents' characteristics (n = 24)						
Age \ Gender	18-24	25-34	35-44	45-54	55+	Total
Female	2	5	3	3	2	15
Male	2	2	0	1	4	9

Table 28: Non-Residents' characteristics

Of those, 45% - 62% (11 to 15 of 24) gave favorable ratings about the ease of walking to shop and transit in the Westlawn neighborhood (Graph 25).



Graph 25. Non-residents – responses of accessibility of the Westlawn neighborhood

None of the non-residents participated in any further questions in Survey B about accessibility.

c) The Street Network

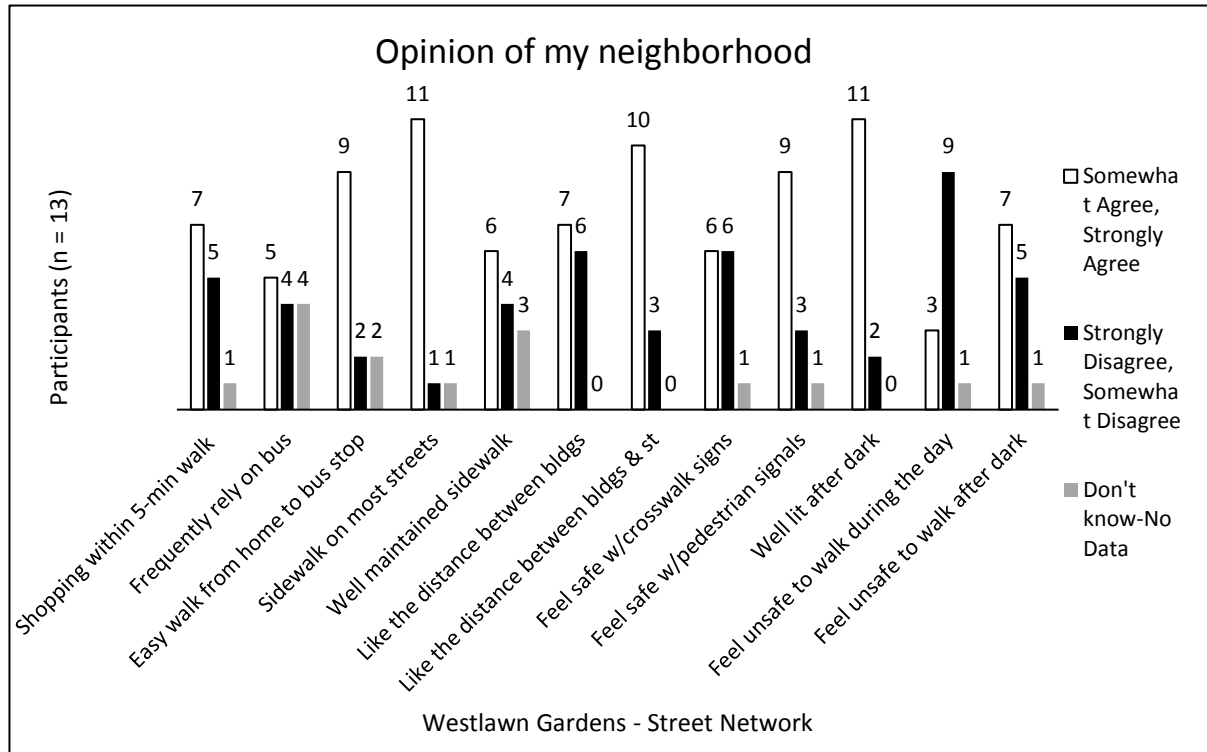
This TND principle refers to the Street Network as the street pattern in the form of a continuous web with numerous paths connecting one location to another, with shorter blocks rarely exceeding a quarter mile in perimeter (Duany A. P.-Z., 2000). This section is focusing on the connectivity of walkway and paths to destinations, including bus stop, and the responses/comments from the participants.

i. Westlawn Gardens (2012)

Among the 18 participants from Westlawn Gardens (2012), there were 13 respondents answering further accessibility questions in the Walkability and Accessibility Survey Part-B.

These participants were asked to rate their satisfaction with the streets and walkways in their neighborhood.

There were 85% (11 of 13) who responded favorably about having sidewalks in their neighborhood and that the neighborhood is well lit after dark. Many, 69% (9 of 13), agreed that the sidewalk connection to bus stop was convenient, and 69% (9 of 13) agreed they feel safe with the presence of pedestrian signals. However, 46% (6 of 13), expressed their dislike for the lack of crosswalk signs and crossing the streets on their block (Graph 26).



Graph 26. Westlawn Gardens – Survey B participants’ experience about the street network

Following are some of their comments (Table 29).

Gender	Age	Comments
Female	35-44	<i>feel unsafe to walk in my neighborhood after dark</i>
Female	45-54	<i>need crosswalk by the bus stop (N. 62nd Street)</i>
Female	55+	<i>only see crosswalk signs on major streets 60th, 64th, & Silver Spring</i>
Female	55+	<i>do not like to cross Silver Spring, do not like to cross the street on her block</i>
Female	55+	<i>it is difficult at times to cross in allotted time due to my disabilities</i>

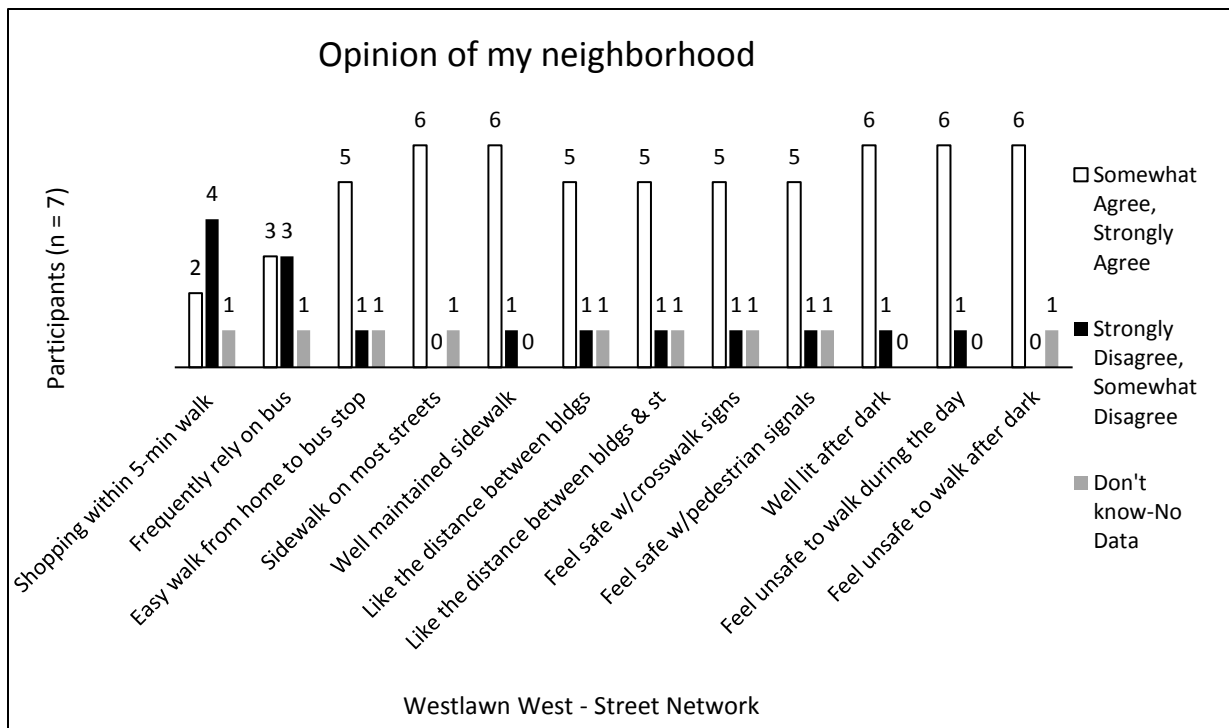
Table 29. Westlawn Gardens – participants’ comments about the street network

These comments overwhelmingly came from older female residents and they expressed discontents for their age group.

ii. Westlawn West (1951)

Among the 41 participants, there were seven (all females) who responded to further accessibility questions (Survey B) about their neighborhood.

They responded to the questions asking their opinion of their neighborhood (Graph 27) and their answers are related to the elements of the street network.



Graph 27: Westlawn West – Survey B participants’ experience of the street network

Many responded favorably, 71% to 85% (5 and 6 of 7), about the sidewalks, crosswalk and pedestrian signs, and distances between buildings. This reveals the successful result of applying the TND design to this development.

Others commented about not enough time to cross the street and the social environment, such as safety issues, which continues to be a big concern (Table 30).

Gender	Age	Comments
Female	35-44	<i>crosswalk sign(s) change too fast, cause problems, not enough time especially cold winter, EW is quicker than NS Watch out ... don't feel safe, my brother got shot 3 years ago when he walked up the street to get dinner from Popeye for his family</i>

Table 30. Westlawn West – Residents' comments on Street Network

This validates many researchers' findings about the subpopulation, that it is more vulnerable to environmental factors such as traffic and crime. This includes older adults, women, ethnic minorities and low-income families (Stoller, 2000) (Rosso, 2011) (Mather, 2013) (Talen, 2010) (Larsen, 2005) (Samarasekara, 2011). Although the distance between destinations are accessible, crime-related safety (such as the brother getting shot) continues to have an impact on social environment. This subsequently constrains physical activity (Foster, 2008).

iii. Non-Residents

None of the non-residents participated in any further questions about accessibility in the Walkability and Accessibility Survey Part-B.

d) Narrow and Versatile Streets

This TND rule includes smaller streets with parallel parking along the curb to allow slower traffic, wide sidewalks with shade trees to accommodate a pedestrian-friendly environment, and buildings closer to the street (Duany A. P.-Z., 2000).

This section focuses on residents' living experience about the design of having the narrower streets in their neighborhood.

i. Westlawn Gardens (2012)

In Survey B, one question asked participants about their perception of the design of the narrower streets and traffic, and one female (age 55+) responded *strongly dislike* the look of a bio-swale on her block.

Other comments are listed in Table 31.

Gender	Age	Comments
Female	35-44	<i>streets are too narrow, not enough parking, have to park around the corner, inconvenient for visitors</i>
Female	55+	<i>Feel unsafe on my block, traffic don't stop during school</i>
Female	55+	<i>Cars speeding down the street & through parking lot make me concerned for children and me</i>
Female	55+	<i>The road is too close to the window</i>

Table 31. Westlawn Gardens – Residents' comments on Narrow Streets/Traffic

Based on these responses, some residents of the Westlawn Gardens were not pleased with the design because the narrower street pattern did not seem to slow down traffic and that they feel unsafe. Some of these comments also pose a challenge to the TND objectives.

ii. Westlawn West (1951)

Among the 41 participants, all seven (females) responded to further accessibility questions (Survey B) about their neighborhood and the narrower street design.

Although some responded favorably, 71% (5 of 7), about the easy access with the presence of crosswalk signs and pedestrian signals in their neighborhood (Fig. 17), others commented traffic was too fast (Graph 28).



Graph 28. Westlawn West – Survey B participants' experience of the narrow street

The following are comments to questions about, “*Do you feel safe to cross the streets in your neighborhood*” and “*Is there a lot of traffic,*” as shown in Table 32.

Gender	Age	Comments
Female	35-44	<i>Traffic don't stop during school when cross the road</i>
Female	55+	<i>Traffic too fast</i>

Table 32: Westlawn West – Residents' comments on Narrower Streets/traffic

iii. Non-Residents

None of the non-residents participated in any further questions about accessibility in Part-B of the survey.

e) Mixed-Use

This rule is to collaborate diverse building types with regard to the size of the building and its relationship to the street. Although there is no ‘mixed-use’ present in the Phase I development (commercial/retail component), questions were asked regarding the design feature and its effect under this category.

i. Westlawn Gardens

When asked about their preference of the design in Survey B, more than half, 53% (7 of 13), responded favorably about the distance between buildings (Graph 29).



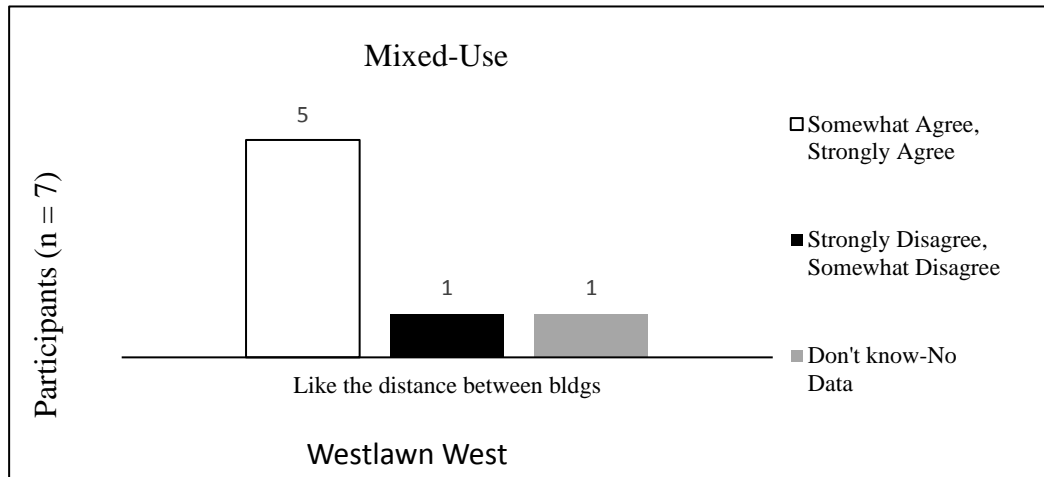
Graph 29. Westlawn Gardens – participants' experience of the mixed-use design

Others commented their dislikes on the social environment in their neighborhood (Table 33).

Gender	Age	Comments
Female	35-44	<i>Not good to bring up kids, plan on moving</i>
Female	55+	<i>Hate Silver Spring</i>

Table 33: Westlawn Gardens – Residents' comments on the Mixed-use design

ii. Westlawn West (1951)



Graph 30. Westlawn West – Survey B participants' experience of the Mixed-use design

There were 71% (5 of 7) who liked the distance between buildings on the newer development, others expressed their opinion listed in Table 34.

Gender	Age	Comments
Female	45-44	<i>All the same ... buildings will get old, like the brick more homey look</i>
Female	55+	<i>Hate Silver Spring</i>

Table 34. Westlawn West – Residents' comments on the Mixed-use design

iii. Non-Residents

None of the non-residents participated in any further questions about accessibility from Survey B.

f) Special Buildings for Special Sites

This TND design principle refers to structures that are given unique sites that represent the collective identity and aspirations of the community. In this research, the unique structure is the Community Gardens and the Milwaukee Public Library Express Station (Fig. 41, 42 & 43).

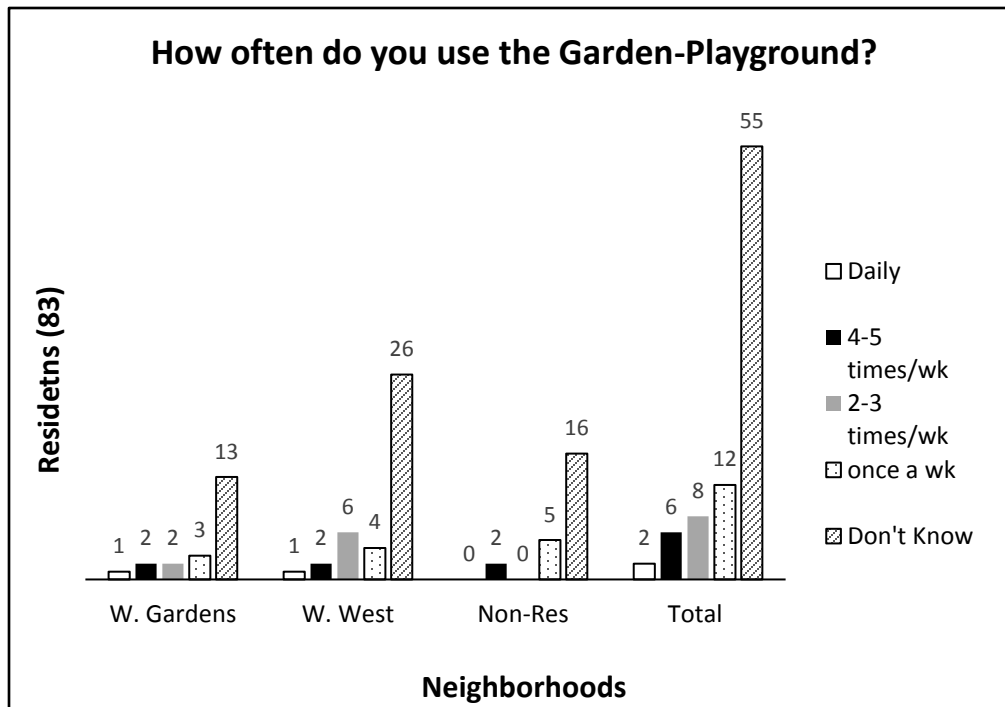
Fig. 41.
Community
Gardens



Fig. 42. Playground Area with the
Community Gardens' planting plots
and pergola in the background

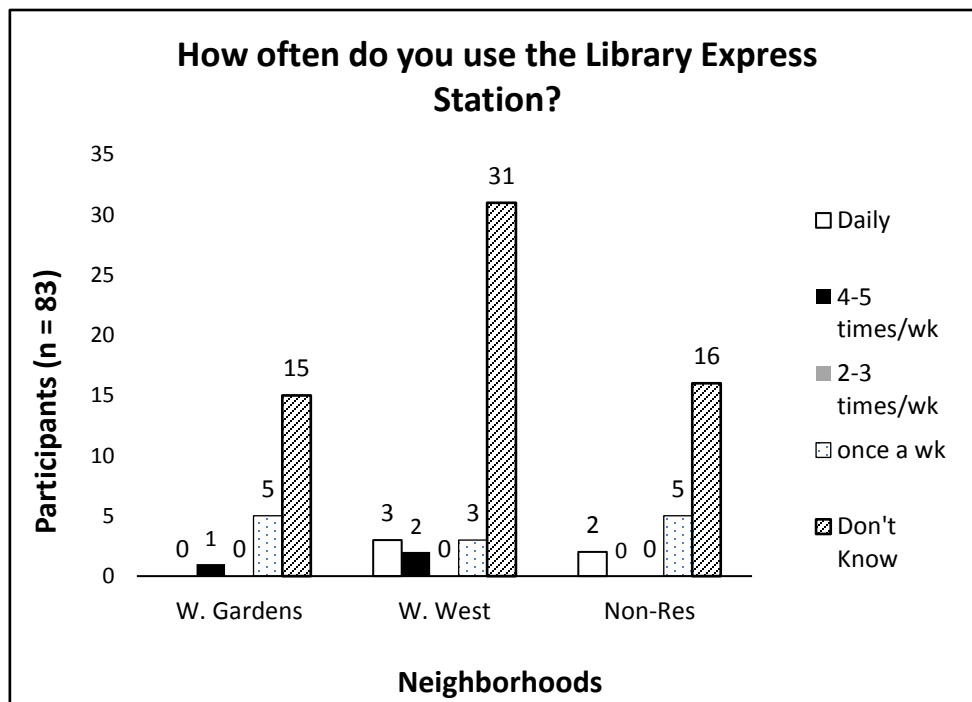
Fig. 43. Milwaukee Public
Library Express Station





(Graph 31) All participants' responses on usage of the Garden/Playground area

Over 66% (55 of 83) do not know of the Community Gardens



(Graph 32) All participants' responses on usage of the Library Express Station

61% (53 of 86) do not know of the Library Express Station.

The results show more than half of the respondents do not know of the facilities, even though the facilities were built three years earlier. Some critics suggested that buildings, spaces, and other uses that do not stimulate human presence are all considered dead spaces (Ewing R. H., 2009) and that people would not use a space if they cannot see it unless there is a compelling reason (Gehl, 2011).

C. Chapter Summary

This chapter offered the sources and presented the results through participants' perspectives. The focus of accessibility in this context is the ability to meet one's ordinary needs, that is, shorter travel time, shorter distance, and affordable transportation cost (Duany, 2010).

The responses in relation to the six TND design principles and a table summary are listed as follows:

- The Center

Westlawn Gardens

- less than half of the respondents use the facilities on a regular basis
- some perceived a safety issue as a deterrent for not going.

Westlawn West – more positive feedback due to new facilities in Phase I (Westlawn Gardens).

Non-residents – good feedback on the new updates in the neighborhood.

- The Five-Minute Walk

Westlawn Gardens – majority strongly disagree on accessibility for shopping.

Westlawn West – more than half replied it is accessible to transit and shopping in their neighborhood.

Non-residents – 45% - 62% rated favorably on accessibility to shop and transit.

- The Street Network

Westlawn Gardens – majority responded favorably about sidewalks and the connections to the bus stop but disliked not having enough crosswalk signs.

Westlawn West – 71% - 85% responded favorably about sidewalks; safety issue continues to be a big concern in relation to traffic and perceived crime activity.

- Narrow and Versatile Streets

Westlawn Gardens – narrow street pattern did not seem to slow down traffic.

Westlawn West – traffic remains the main concern.

- Mixed-Use – there is no mixed-use development in Phase I at the time of the survey, which affects users' activities including grocery shopping.
- Special Buildings for Special Sites (Community Gardens/Playground and Library Express Station) – more than half (55% - 61%) of the participants responded they do not know of the facilities or service.

6 TND Design Principles	Westlawn Gardens	Westlawn West	Non-Resident
The Center - SSNC	Less than ½ use the facility on a regular basis and perceive safety as an issue	More positive feedback due to new facilities located in Westlawn Gardens	Good feedback on the new updates in the neighborhood
The 5-Min Walk	Majority strongly disagree on accessibility for shopping	More than half replied it is accessible to transit and shopping in their neighborhood.	45% - 62% rated favorably on accessibility to shop and transit
The Street Network	Majority responded favorably about sidewalks and the connections to bus stop but disliked not having enough crosswalk signs	71% - 85% responded favorably about sidewalks; safety issue continues to be a big concern in relation to traffic and perceived crime activity	n/a
Narrow & Versatile Streets	Narrow street pattern did not seem to slow down traffic	Traffic speed is a major concern	n/a
Mixed-Use	No mixed-use buildings in Phase 1. The building style and design did not elicit much response from residents on either side of the development		n/a
Special Buildings for Special Site	More than half (55% - 61%) of the participants responded they do not know of the facilities or service.		

Table 35: Summary of participants' experience of accessibility in their neighborhood

D. References

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CHAPTER 8: DISCUSSIONS

Quality of the space itself attracts so much attention that the experience of a journey between spaces is often overlooked. There has been little research done for people's living experience in a TND environment, especially for low-income housing in the United States (Thompson, 2013) (Talen, 2010). People moved to the Westlawn Housing Development without any attention to walkability or accessibility. However, their behaviors and preferences may change after they stay in their residency for a long period of time.

This dissertation was constructed by three key research questions which were based on the six TND design principles of a planned neighborhood.

- What are the effects of the TND design principles on the experience of residents living in this Westlawn Housing Development after the revitalization?
- What are the differences in experience between residents and non-residents resulting from this Westlawn revitalization regarding walkability and accessibility?
- Are the TND design principles suitable to this Westlawn Housing Development?

A. Practicality of the Center

The definition of the Center under the TND design principles *is focused on common activities of commerce, culture, and governance* (Duany A. &-Z., 1992) (Duany A. P.-Z., 2000).

a) Programs at the center

SSNC, the center located in the Westlawn Housing Development, is a nonprofit organization. There are programs offered at the SSNC for adults, teens, and children. Their mission is to build a safer, stronger neighborhood and community by helping individuals and families move towards self-sufficiency. Many programs provide educational services to men and women within the community including an adult education program for those who want to earn a GED. Based on the 2015 SSNC Newsletter, 242 adults participated in the program, and the number of adults earning a GED increased from 7 to 18.

SSNC also collaborates with the UW-Milwaukee/Silver Spring Nursing Center, providing Wisconsin Medicaid Family Planning Service, Prenatal Care Coordination, and other services to connect expecting mothers to prenatal care. Quality child care is an important program at SSNC. Other activities include Community Bike Rides during the summer months and Free Outdoor Nature Trips for seniors. Other collaborative partnerships include Havenwoods¹ to incorporate programs for families within the community. Programs include *Rhythm & Blooms*, which provide music and food in locations such as the Westlawn Gardens. SSNC also has been partnered with HACM for more than 50 years to serve the community, including offering job

¹ Havenwoods - a small neighboring community adjacent to Havenwoods State Forest and located on the northeast corner from the Westlawn Housing Development.

opportunities to the Westlawn residents. For example, HACM works with local contractors, in arranging the posting of various positions initially to the Westlawn residents, and encourages applicants to apply within the community.

The Monthly Residents Council Meeting is also held at the SSNC.

Representatives from the City of Milwaukee Health Department and Independence First are some of the special speakers brought in to provide residents with health information at the meeting.

Residents are required to attend the meeting under the new lease with the Westlawn Gardens. Some respondents replied that they “*came to SSNC for the monthly meeting only.*” Such mandates for citizen involvement began in the charrettes organized after the 1954 Urban Renewal Program².

Social activities could draw people to use the facilities and might attract more partnerships. Such events are considered desirable because they would create positive publicity for the neighborhood. However, recent studies suggest that stronger requirements have only a moderate and statistically insignificant effect on the effort to incorporate people in the planning process (Brody, 2003). Facilitating face-to-face interaction is the essential communication channel. SSNC has been incorporating certain important components, such as, talking to community groups and providing educational workshops.

² 1954 Urban Renewal Program – it was first mandated at the federal level during the Model Cities program and the War on Poverty in the 1960s. Congress added participation requirements throughout the 1970s in the coastal Zone Management Act and the Energy Reorganization Act. At the state level, model state planning enabling legislation prepared by the U.S. Department of Commerce in the 1920s required local governments to offer citizens an opportunity to comment on plans. Beginning with Hawaii’s state growth management law in 1962, state growth management legislation has also required citizen involvement (Brody, 2003).

Based on some of the responses from participants in this research, people usually do not like to be told or required to comply with certain actions, especially to attend a monthly meeting. Public Safety, which is under the supervision of HACM, realized that the methods of communication are not effective. Particularly when residents are not aware of any special events and/or change of rules/regulations because they may disregard the newsletter/flyer or do not attend the meetings. Therefore, the representative from HACM has indicated that the mandatory attendance to the Resident Council Meeting at SSNC will be enforced.

b) Mixed responses

There are conflicting results from residents and non-residents using the facilities in SSNC. Participants from Westlawn Gardens make remarks, such as, “*occasional litter problem*”, “*litter, gangs*”, “*it’s dirty*” and identified litter as a physical element and associated the disorderliness with crime. The image of litter or dirtiness has an impact by discouraging residents to continue their journey to the Center. They could avoid the trip entirely.

Participants from Westlawn West and non-residents seem to go to SSNC more often and enjoy the new facilities and events held in the SSNC than those from the Westlawn Gardens. These two groups of participants enjoyed their walking experience to SSNC as well as the activities held in the center. They also seem to appreciate more of the new amenities provided in the SSNC whereas participants from the Westlawn Garden perceive an opposite image.

These findings challenge other theories on physical environment, that is, careful planning for the design will draw human activities (Geboy, et al., 2001) (Moore,

2001). Physical environment only supports or inhibits the action, and it is the social activities that draw people's attention and promotes activities among participants (Rapoport, 1990) (Vojnovic, 2013). Comments in the survey showed that the old-timers in the neighborhood had more attachments and used the facilities more than the newcomers, reflecting the social dynamic of the old neighborhood.

c) Social dynamic

During a brief conversation with the director of the SSNC, remarks were made that residents from Westlawn Gardens “*present themselves as more superior than their neighbors.*” For instance, there were numerous surveys conducted since the revitalization by various groups of stakeholders, and during the surveying process, Westlawn Garden residents were found to be less likely to open doors for the assessors or volunteers. They peeked from behind window blinds and would not answer the door, whereas residents from Westlawn West were friendlier to the assessors. Another probable cause of this type of behavior is that people are required to pay 30% of their income towards rent of any new lease signed after the revitalization. Those from the old development, Westlawn West, pay the minimum amount which is based on their old lease with HACM. This creates a different social dynamic between the two neighborhoods; relationship building between newcomers and old-timers does not always go smoothly.

The expectation of the Center under the TND design principle was to provide a central place for social gathering and other activities so that people could come and enjoy the space. There were polarized results between the two neighborhoods, due to residents moving to Westlawn Gardens without any intention about walkability or

accessibility to any of the facilities. Their behaviors and preferences would probably change after they remained in their residency for a long period of time. On the other hand, many residents from Westlawn West are delighted with all the new amenities and so are the non-residents. Both groups are pleased to see the transformation, especially the former who have been living in the development for a long period of time with limited and outdated services.

For the most part, people are pleased with the new facilities. The response rate, indicating 28% (11 of 39) from the Westlawn West, showed that some of them enjoyed the activities held in the center. Although the response rate is not high in this particular category, it relates to some researchers suggesting that physical environment with careful planning for the design will draw human activities (Geboy, et al., 2001) (Moore, 2001) and compel reasons/activities that will attract human traffic (Gehl, 2011). Other remarks include “*a blessing to have*”, “*enjoy the computer room*”, “*enjoy kids playing and have fun*” indicated some of the residents from the Westlawn West appreciate the new facilities and services that are provided at the SSNC. They prefer to walk and use the SSNC facility more than those from Westlawn Gardens.

d) Is the physical existence enough for the neighborhood?

SSNC houses a job-training program that includes teaching job-seekers to write resume and practice interviewing with potential employers. This is one of the beneficial features with the physical existence of the SSNC. However, one male commented in the survey about using the SSNC “*wish there are more jobs in the neighborhood.*” Also, a printer/ copier in the computer room is not available for users

other than the SSNC staff. In addition, there is no UPS, FedEx Kinko, or other printing or copying retail office within the area. For job-seekers to make copies of their resumes, they must commit more than an hour on public transit which includes a total of a 12-minute walk and a 19-minute bus ride, one way, because the closest UPS store is more than 5 miles away. The Center does provide programs to assist people, but the followup support to the finish line is lacking.

During one of the monthly Resident Council Meetings in 2015, the issue of the non-existent retail store such as UPS or FedEx Kinko was brought up. One female attendee quoted an old saying of “*where there's a will there's a way,*” meaning people should be able to take a long bus ride to their desired destination. It is only true to a point if the person taking on this journey has extra time to do so. If the Center under TND design principles is focused on common activities of commerce, culture, and governance, should the availability of providing a printer or copier for job-seekers other than the SSNC staff be considered as a necessity rather than common activity? A small improvement such as adding a printer/copier in the computer room could make all the difference in the world to a person who needs to be able to print and mail that resume in a short period of time. Surely small office equipment is not within the TND design principles, but in order to support the culture and good commerce, as TND intended, the organization and other stakeholders should study the needs with comprehensive follow-up support for users of the SSNC rather than just introducing and developing programs. Different groups within the population, regardless of age, gender, or employment status, will have different preferences. Therefore, converting users’ preferences into practical consequences is a need to be recognized and

addressed properly during the development process of expanding the Community Center.

B. To Walk or Not to Walk

TND defines this rule as: *local residents rarely take more than a 5-minute walking distance to access ordinary needs of daily life such as grocery shopping.*

Physical features could influence the quality of the walking experience through the perception and sensitivities of the individuals (Ewing R. &., 2009). In general, pedestrians do not wish to walk very far to shop (Gehl, 2011). People's perception might also change if there is an interesting walking network that might psychologically make the walking distance seem shorter and divided into smaller and more manageable stages (Gehl, 1987). In addition, William Whyte's studies suggest that people will not use the space unless it is interesting or there is a compelling reason for them to go there.

a) Reasons for walking

The findings show that people from the Westlawn Gardens do not walk to specific destinations unless it is necessary. For example, they would walk to the SSNC for the Monthly Resident Council Meeting or for their food box. The former is that the new lease for tenants from the Westlawn Gardens are required to attend the meeting, the latter is the necessity that many residents need to collect their food box at a certain time of the day at the SSNC. At other times of the day, there will be higher traffic using the SSNC. Parents are either dropping off or picking up their children to/from the Day-Care/After School Programs. Plus, there are the workers at the SSNC and deliveries.

Another observation revealed that most people in this neighborhood walking to the facilities are women. They normally walk in pairs or in small groups. This occurrence is especially true when the Monthly Resident Council meeting is held in

the SSNC. They also leave in pairs and/or in small groups afterwards. This phenomenon is demonstrated by their responses about safety issues when walking from their residence to the SSNC. Otherwise, there are not many people walking around the neighborhood.

b) Reasons for not walking

The observation revealed that there is very little foot traffic in the neighborhood because common categories such as supermarket, drug stores or diners are not present in this community. Spaces that do not stimulate human presence are considered dead spaces, and thus the neighborhood looks deserted from an outsider's perspective. The reason why they do not walk is because supermarkets, drug stores and diners are not present along W. Silver Spring Drive in this neighborhood. Since the community center plays the most important role in the TND principle, by using TND principle and that SSNC as the center of the ¼ mile radius, neither one of these category is present. The one closest drug store is located on W. Villard and is one mile from SSNC. The other two are located on Mill Road which is two miles from SSNC.

People at Westlawn are generally inclined to shop at retail supermarkets located outside their local neighborhood for their food necessities (Vojnovic, 2013). There is only one food market located across from the housing development on the north side of the Silver Spring Drive. Many commented the store is *over-priced in many cases and not well stocked*. It is not the store of their choice. Often, they have to resort to smaller neighborhood stores that are more expensive. (Vojnovic, 2013).

*Low-Income*³ – People living in low-income households and individuals who do not drive are more likely to rely on nearby food sources. Consumers will end up paying more if their only grocery option is a convenience store (2013). Many families in this neighborhood could not afford the over-priced food items. The 2013 survey conducted by HACM shows that only 46% households were employed, with 30% of those working for 30 hours or more. The Average Adjusted Gross Income per person was \$12,200 in 2016 in this neighborhood (zip code 53218). It was below the federal poverty level in comparison with the county, state, and national level.

The TND principle of the Five-Minute Walk defines that residents rarely walk more than a 5-minute walking distance to access their ordinary needs of daily life such as grocery shopping. But what is the benefit for residents of having a poorly-stocked grocery store located within a 5-min walking distance? More than 50% of residents in this housing development who do not own a reliable vehicle, rely on public transit, and could not afford the high-priced food items. It is unfair for them to pay extra money in exchange for poorer quality products just because there is a grocery store across from the housing development and is within a 5 minutes walking distance from their residence.

Low-Access – “The Food Deserts” No fresh fruit & veggies (not processed or with additives) within 1 mile radius is considered a “Food Desert.” There are 13.6 million people living in “Food Deserts” in the U.S. (USDA, 2011).

³ "Low income" tracts are defined as those where at least 20 percent of the people have income at or below the federal poverty levels for family size, or where median family income for the tract is at or below 80 percent of the surrounding area's median family income ([USDA, 2011](#))

Some residents do prefer to shop at Midtown Center which is located on N. 60th and W. Capitol Drive. It is 2.3 miles south from the Westlawn Housing Development. Shoppers need to take an approximately 16-minute bus ride or 7- to 9-minute car ride one-way. Others would go as far as Pick'n Save on N. 103rd Street, which is 2.5 miles from the Westlawn Housing Development and will require an 11-minute bus ride one-way. Residents from the Westlawn Gardens are willing to travel long commutes due to low-access to a quality food source and store of their choice, although there is a food market located across the street. The inconvenience in commute time and distance burdens many families in this lower income neighborhood. The revitalization of Phase I did not improve the conditions for residents in terms of accessing daily needs, such as food shopping within the suggested 5-minutes or ¼ mile walking distance. Those who do not have a reliable form of transportation⁴ and those who have mobility challenges would still require longer commute to the stores of their choice (Vojnovic, 2013).

Grocery shopping is one of the most basic activities that every household must deal with on a regular basis. The 2015 USDA Food Access Research Atlas shows that the Westlawn Housing Development is located in the middle of the “*Low-Income and Low-Access at ½ and 10 miles category*”⁵ (USDA, 2011). Despite the TND transformation that brought in the new makeover and programs, people living in the Westlawn neighborhood have low access to sources of healthy food. Their options for food within the 0.25 miles’ radius or 5-min walking distance are fast food chains,

⁴ In March 2012, HACM staff carried out an assessment of Westlawn residents, there are >50% rely on public transit.

⁵ In the Food Access Research Atlas, low access to healthy food is defined as being far from a supermarket, supercenter, or large grocery store (“supermarket” for short). A census tract is considered to have low access if a significant number or share of individuals in the tract is far from a supermarket.

convenience and liquor stores, instead of affordable, nutritious, and appropriate food sources. Although Growing Power⁶, a national non-profit organization, is located only four blocks away from Westlawn, participants commented the high quality fresh vegetable also comes with a high price tag that they could not normally afford.

During the planning and development process in 2009, HACM organized a 4-day charrettes at the SSNC, and residents had expressed their needs of supermarket, drug stores, and diners for the neighborhood. As the developer, HACM, with other stakeholders, should consider this issue very seriously. If residents had already voiced their needs in 2009, why is there no plan of action to have a well-stocked supermarket or drug stores after the revitalization project completed in 2012? Yet, using SSNC as the center of the ¼ mile radius, neither of these categories is present in this community as of 2016. It also demonstrates that the mandate, citizens to participate⁷ in plan making, is not successful in this example. The 4-day charrette was seemingly carried out as a routine procedure because residents' opinions seemed to be not taken seriously.

Safety Issues – research results showed that a majority of women participants worried about their safety, due to both crime and traffic speed. This perception may restrain them from walking in the neighborhood. This appears to be true for older adults, women, and people with mobility challenges. One of the response for not walking was, *“I’m scared ... I’m disabled and an easy target for crime.”* They perceived themselves as potential victims and therefore that restricts their mode of

⁶ Growing Power - The farm grows a wide variety of fruit and vegetables, and farms tilapia and perch through the use of aquaponics.

⁷ 1954 Urban Renewal Program required local governments to offer citizens an opportunity to comment on plans to increase local government commitment to the principles of democratic governance.

activity. Expressions of fear or more indirect perceptions may circulate throughout the community.

Most non-residents offered compliments on the new beautiful updates. However, a non-resident, female 55+, made a remark about the *“parking is too far away for women who work at SSNC and is unsafe.”* Many women and non-resident participants perceived that certain areas are not safe enough to walk, especially after dark. An example of direct victimization, such as, *“my brother got shot 3 years ago when he walked up the street to get dinner from Popeye for his family,”* led to greater fear of crime in the neighborhood. This constrains activity regardless of the short walking distance or when a special event is being held in a new facility.

Residents have raised countless issues about safety control in the neighborhood at the Monthly Resident Council meetings. Local authorities have been notified of many instances and they are continuously working with residents to add more patrol by using the Public Safety Service to increase local police patrolling schedules. Other crime and safety prevention techniques are listed in the resident handbook, such as the *“One Strike Policy”* to discourage any destruction in the neighborhood especially related to drug use or drug deals. The consequences will lead to termination of the lease.

Government agencies such as the Department of Transportation could provide beneficial additions of physical elements such as more lighting and/or crosswalk signs. Although better lighting and more patrol officers on the streets in the neighborhood are not within the TND design principles, these needs are extremely important to ensure residents feel safe and are safe to walk freely in the

neighborhood. HACM, as the developer, might consider residents' cultural needs and collaborate with other governmental agencies to promote culturally sensitive plans. Small business grants for entrepreneurs, for example, to service the neighborhood with ethnic food stores or culturally related retail shops. This kind of development would not only attract other investors into the neighborhood, which could create job opportunities, but the vitality would increase more foot traffic. This would, in turn, act as a deterrent. As Jane Jacobs said (1961): "*There are plenty of eyes on the street.*" People would walk more if they feel safe in their neighborhood.

C. Street Network

The TND connected network of streets disperses traffic by providing a variety of pedestrian and vehicular routes to any destination (Steuteville, 2003). Crosswalk signs or pedestrian signals are related to the elements of the street network. If they are properly placed, people should feel safe crossing the streets. Besides crosswalk signs, this network of streets concept includes sidewalks that are well-maintained, streets that are well-lit, and easy walkable distances from home to bus stop and vice versa.

a) Successful results

Many responded favorably when asked about the sidewalks, crosswalk/pedestrian signs, and the distances between buildings. 54% (13 of 24) of non-residents agreed that it was an easy walk to shop in the Westlawn neighborhood and 58% (14 of 24) agreed that it was an easy walk to transit. This reveals the successful result of applying these physical elements of the TND design into this development.

b) Safety issues

On another note, one participant raised an interesting question, asking why there is a bus stop with no crosswalk. Safety issues continue to be a big concern.

Comments include “*do not like to cross the street on my block,*” “*it’s difficult at times to cross in allotted time due to my disabilities,*” and “*I feel unsafe to walk in my neighborhood after dark.*” These overwhelmingly came from older female residents. These findings concur with other researchers that women are more sensitive to their surroundings (Clifton, 2005)

Other comments such as: “*crosswalk signs change too fast, cause problems, not enough time especially cold winter, EW is quicker than NS*”. When such concern was

brought up to HACM representatives in 2015, the response was that the jurisdiction of the arterial street, W. Silver Spring Drive, *“belongs to the state, and the City of Milwaukee can’t do anything about that.”* Another comment from a HACM official representative said, *“it is a busy street, people are going to get hit, accidents are tending to happen”*.

Crime-related safety continues to have an impact on the social environment and leads to constraint of physical activity (Foster, 2008). One participant responded, *“Watch out ... don’t feel safe, my brother got shot 3 years ago when he walked up the street to get dinner from Popeye for his family.”* This brought out other researcher suggestions that grid-like intersections were the most accessible and increases opportunities for crime (Cozens, 2011). Firearms and vandalism are other safety issues often brought up by residents at the council meetings. Although TND design principles could not control these social issues, they are important to the neighborhood and need to be addressed by the government authority.

D. Narrow and Versatile Streets

The components of this TND rule include smaller and *narrower streets* with parallel parking along the curb to help slow *traffic*, wide sidewalks with shade trees to accommodate a *pedestrian-friendly* environment, and *buildings closer to the street* (Duany A. P.-Z., 2000).

Narrow streets related to traffic

Residents feel traffic speed has always been a problem in this neighborhood. This is shown in the surveys and by comments made by long-time residents at the monthly Resident Council Meetings.

Two-thirds of the residents who responded felt strongly about lots of traffic and speeding in their neighborhood streets.

When asked: “*Do you feel safe to cross the streets in your neighborhood?*”, “*Is there a lot of traffic on your street?*”, and other traffic questions, the responses included “*traffic don’t stop during school when cross the road,*” “*traffic too fast,*” “*feel unsafe on my block, traffic don’t stop during school,*” and “*Cars speeding down the street & through parking lot make me concerned for children and me.*” These remarks, verified with research, suggest most streets in today’s society are designed for traffic and not for pedestrian (Rapoport, 1990).

Residents’ concern of traffic speed had been brought up numerous times during the meetings. In 2014, an engineer from HACM attended the meeting and discussed residents’ request of speed bump on W. Custer Street. The speed bump was finally installed in late summer of 2016.

At one of the meetings, residents were astonished to learn that due to limited HACM budget, Public Safety staff is limited to patrol the neighborhood. When the Public Safety Chief appeared as the guest speaker in 2015, he stated that people should call the police because they are not the law enforcement police officers

Unfortunately, the narrower street design after the revitalization did not slow down traffic as much as expected. Rapoport (Rapoport, 1990) indicated that certain things should not be copied, only the important components need to be incorporated, because each of them serve different purpose. In this example, narrow streets did not slow down traffic. It is not necessarily the width of the streets that dictates the traffic speed, it is the element of the population that continues to speed through these streets in this neighborhood causing the residents' concern.

Speeding relates to the sensory properties which include visual, illumination, smell, hearing, taste, and touch. Sensing traffic speed is a combination of visual, illumination, smell and hearing. People are bothered by the exhaust fume, squealing and burning rubber of tires, and an object of a big piece of shiny metal on wheels rushing down the street. Although TND has no control over the street traffic, traffic speed goes against their principle. The expectation of applying a TND design principle to slow down traffic in this category is disappointing.

Narrow streets related to walkability

A narrow street relates to the safety of traffic because it is easier to cross, and therefore, provides a walkable environment for pedestrians. It also improves accessibility because of the shorter distance to cross the street.

Shade trees and pedestrian-friendly environment

Phase I of the Westlawn Revitalization was completed in fall of 2012 and when this research was in process, there were trees planted along the streets that are still in the early stage of shading the streets and sidewalks. It is premature to determine if this adds to the environment and makes it pedestrian-friendly.

Buildings closer to the street

The idea of having the buildings closer to the street is to provide residents a closer and better view of any activities outside their residences. Residents commented that they do not feel safe because of high traffic and speeding. It might seem that these complaints were made solely because of the traffic and the speed on their streets, but the new street layouts brought the residences closer to the street to observe and report everyday activities.

Jane Jacobs (1961) commented about people monitoring the actions on the streets: there are plenty of eyes on the street. Yet, this kind of control standard, monitored voluntarily by the people, would require social dynamics of groups and the support from the authority to strengthen the safety of the neighborhood.

E. Mixed-Use

Mixed-use development has to do with the combination of commercial, retail, and residential (but separate from manufacturing areas). In this context, the commercial and retail area are not present on site, but it has to do with accessibility because the rule is to collaborate diverse building types with regard to the size of the building and its relationship to the street.

a) Building style

Although 71% liked the distance between buildings on the newer development, many commented their dislikes on the social environment in their neighborhood - *“Not good to bring up kids, plan on moving”*. This person’s comment refers to the shallow setback from the street, and the rear parking area creates a haven for teenage and young adults hang-out from after school into the evening hours. Many residents, especially the senior population, voiced their disapproval at the Monthly Resident Council Meeting about the loud music and noise from young adult gathering, especially at night at the parking lot.

TND critiqued building styles such as the military barrack modeled in the original Westlawn Housing Development, but the old-time residents from the Westlawn West preferred the brick façade and complimented that their residence have a ‘homey’ look and feel like a home. *“All the same ... buildings will get old, like the brick, more homey look”*.

b) Relationship to the street

While visiting the research site, the researcher often saw families and friends from Westlawn West gathered on the cracked concrete front stoop chatting away. Younger

children were playing closeby or within watchful eye near their residence. The old-timers commented that they like the idea that they could plant their favorite flowers around the concrete stoop. A strong social cohesion is present in the old side of the neighborhood regardless that the housing style is outdated.

The same scene did not appear to be as common in Westlawn Gardens. There were children playing on the sidewalks, but more so by the rear parking area, the haven that the shallow setback created.

F. Special Buildings for Special Sites

TND developed the principle that the *structures that are given unique sites represent the collective identity and aspirations of the community*. In Westlawn, the two special features that have the collective identity and aspiration are the Community Gardens and the Library Express Station. Stimulating activities with compelling reasons will attract human presence at these special sites.

a) Community Gardens

Community gardening has a wide variety of approaches including plots for individuals and/or families where they can grow vegetables or flowers. The Community Garden in Westlawn was installed with more than 75 planting plots available for residents beginning in spring of 2013. The goals of this Community Garden in this neighborhood were not only to allow residents to grow their own produce, but also to encourage them to enjoy the new greenspace outdoors. During the first year, Growing Power cooperated with HACM to prepare the planting beds, provide seedlings, and the necessary tools for the growing seasons. All these were free to the residents, except for the \$10 annual rental fee for the planting plot.

In June of 2013, Will Allen, the founder of Growing Power, showed up with his workers for his presentation about tips for gardening, including composting. There were less than ten people that showed up and it was a disappointment. There were more representatives from Growing Power than residents.

2014 was one of the best years for gardening because there was a full-time gardener hired by HACM to tend the garden and help other residents with gardening tips. All the planting plots were well-kept. People came and socialized by the

pavilion, a landmark for the Community Garden. Fall harvest day was a successful event for all gardeners, and some stayed and helped for the fall clean-up.

In 2015, there was a seasonal part-time person to tend the garden and the enrollment rate was also lower than previous year. The enrollment rate in 2016 was again lower and many spots in the area were covered with weeds, presenting an unkempt and unpleasant image.

The data collected in the study revealed that in 2015 there were over 55% (48 of 86) of participants did not know or were unaware of the Community Garden. The 30,000-square foot Community Garden is not small by any means, but the location is situated at the far south end of the development. Many residents would not have seen the place if they do not live next to the garden or if there is no purpose to go to this place. The results confirmed what critics suggested that people would not use a space unless there is a compelling reason (Gehl, 2011).

b) Milwaukee Library Express Station

The library structure was installed one year before the survey. More than 61% (53 of 86 participants) of the survey participants said that they did not know about the Library Express Station. One of the reasons for that high response could be the structure is too new of an addition in the neighborhood.

Comments from the research also indicated people's views about the station: *"walk past but rarely use it, lots of glass and garbage"* and *"Nice ... but feel scared at times."* These perceptions post an indirect circulation of fear throughout the community.

Some people may be hesitant to use the station because of the self-help automated operation, using an ATM-type kiosk. The survey reported that 43% of adults have “no knowledge of computers” and may be reluctant to try this new technology.

In an effort to increase the usage, a fresh new look appeared at the Library Express Station in the summer of 2016. Dozens of chalk-white boulders were installed in a semi-circle arrangement embracing both sides of the Station for possible seatings as well as visual interest. Not only is this new feature a great addition for the neighborhood, the chalk-white boulders placed against the green lawn brings out a bright and unique appearance from a distance, and should increase the awareness of this site.

G. Chapter Summary

6 TND Design Principles	Westlawn Gardens	Westlawn West	Non-Resident	Comments
The Center - SSNC	Less than half use the facility on a regular basis and perceive safety as an issue	More positive feedback due to new facilities in adjoining Phase 1	Good feedback on the new updates in the neighborhood	Facilitate face-to-face interaction, which is essential to communicate with residents about what they want and need
The 5-Min Walk	Majority strongly disagree on accessibility to shopping	More than half replied it is accessible to transit and shopping in their neighborhood.	45% - 62% rated favorably on accessibility to shop and transit	Future study – behaviors and preferences might change after a long period of time
The Street Network	Majority responded favorably about sidewalks and the connections to bus stop but dislike not having enough crosswalk signs	71% - 85% responded favorably about sidewalks; safety issue continues to be a big concern that relate to traffic and perceived crime activity	n/a	Traffic is a constant concern in this neighborhood – need authority to monitor and amend the issues
Narrow & Versatile Street	Narrow street pattern did not seem to slow down traffic	Traffic speed is a major concern	n/a	Traffic speed is and has been a major concern
Mixed-Use	No mixed-use buildings in Phase 1. The building style and design did not elicit much response from residents on either side of the development		n/a	Collected data did not show that design is a big issue
Special Buildings for Special Site	More than half (55% - 61%) of the participants responded they did not know about the Community Gardens or Library Express Station.			Future study on what could stimulate their interest of such facilities or services

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CHAPTER 9: CONCLUSION

TND design principles advocate accessibility for people to be able to reach their desired destination, with efficiency in travel time, minimal cost, and convenience. The TND principle of short walking distance allows residents to access daily needs to live, work, shop, worship, and recreate (Ewing R. H., 2006) (Karuppannan, 2011). The developers like to sell the idea of TND and the builders like to build these developments.

There are many important components under the TND design principles but not everything needs to be copied. These principles should not be treated as building codes. They are not mathematical equations and should be addressed with flexibility. Each of which have different functions and only certain components need to be incorporated (Rapoport, 1990).

When basic human essential requirements such as the accessibility of options to quality food are limited in their neighborhood, it could upset the balance of the community (Moore, 2001). The limited access to these essentials may contribute to social disparities particularly in neighborhoods such as Westlawn, where 81% of the Average Income per Person falls below the Wisconsin State Poverty Level (2016). It leads to answering the research questions of this study for the conclusion of this research.

A. Physical Features

What are the effects of the TND design principles on the experience of residents living in this Westlawn Housing Development after the revitalization?

Many residents responded favorably over the new additions, such as the Community Gardens which provide green space for planting and the adjacent playground for children in the neighborhood. Many participants responded that they enjoy watching

the children play and appreciate these new amenities which they never had before the revitalization. They are pleased to see the connection of sidewalks to bus stops and the freshness of everything from bio-swale and new landscaping to different building types. For instance, the design of the narrow street and the shallow setback with front porch is to provide a safer and friendlier environment between occupants and pedestrians in a semi-public to public setting.

Physical features can provide the opportunities for people to interact and conduct certain activities, but they do not influence behavior as much as one would anticipate. Feelings of safety and security with the environment, considered by some experts, could affect the relationship between residents in the neighborhood. Disappointingly, residents from Westlawn Gardens do not seem to pay much attention to the front porches, nor use them, as much as the planners would have hoped.

The design of the narrow streets was supposed to reduce traffic speed, but it has not had much effect. Those elements of the population who tended to speed before the revitalization continue to speed, despite the change of the physical features.

The new shallow setbacks encourage use of the rear parking area, harboring a haven for teenagers and young adults hanging out from after school into the evening hours. The activities upset the seniors living adjacent in the four-story apartment building, thus the constant complaining to the Safety Patrol officers and at the monthly Resident Council meeting.

Many complaints came from older adults, especially senior women. They are more concerned about the social aspects of their environment than men, specifically safety issues including traffic speed and perceivable crime activities. This kind of

experience inhibits their attendance at activities at physical features such as the SSNC, Community Gardens or Library Express Station, even though these facilities are easily accessible physically. Their concerns and complaints are being acknowledged which will lead to how the organization responds to these issues and improves any related management procedures.

B. Organization

This section also answer the research question about the effects of the TND design principles on the experience of residents living in this Westlawn Housing Development after the revitalization.

Organization is the result of negotiations among systems of governance which initiate projects and formulation of plans or programs by groups and individuals (Geboy, et al., 2001). In other words, overall projects or plans are administrated by people.

As an organization initiates a project, the discussions and decisions are often consumed with what are the problems and how are they going to solve the problems, and often overlook or mask over the underlying social aspect of the problems. Organizations can shape the neighborhood's liveliness if they are willing to invest time and energy and recruit suitable investors.

Residents' opinions, however, deserve to receive a relevant and substantial reply and not a blanket response. The communications between these stakeholders and the implementation of TND design needs to be pertinent to the current situation in the neighborhood. Most governance units have requirements to hold meetings, mandate citizen participation in plan making, and ask residents what they want (Brody, 2003).

These requirements are often being general and vague, and at Westlawn, not as effective as they should have been.

For instance, residents in Westlawn showed up at the 4-day charrettes in 2009 and voiced their concerns about the lack of quality grocery stores, drugstores, and family diners in the Westlawn neighborhood. None of these stores or diners are present as of early 2017. It is not that the application of TND or the management of this planned neighborhood is a failure, but one can certainly argue that improvements can be made. Implementing TND in the Westlawn area should include considerable effort into investment strategy, such as revitalizing the local business opportunity. Also, social problems such as unemployment, food desert, and crime are not being solved. Various needs and preferences should be respected and be required to be accommodated not only in the design, but in public policy to reflect the heterogeneous than the homogeneous characteristics of the population (Banerjee T. B., 1984).

The revitalization could encourage reinvestment in the community, but this had not happened when the data collection was done in 2014 to 2015 after the development was built in 2012. One can argue that the developer, HACM, thoroughly tried various strategies to bring in affordable and accessible food source options. But it has not happened as of 2016.

In addition, according to the revitalization plan of Phase 1, the parameter along N. 60th Street and W. Custer Avenue is zoned for market rate housing, but the site is still empty. There is no sign for development as of spring of 2017. Meanwhile, there are so many unknowns regarding financial aid or incentives due to the current political climate. Many government assistance programs are being challenged. Programs that were

advocated, developed, and well received half a century ago are not as well accepted by the public now. While certain areas of revitalization provide an improved neighborhood, and can stimulate investment in the area, private investors are not going to do it out of social justice, which leads to a pacifying public policy debate (White, 1980). Meanwhile, residents and other users in this neighborhood are anxiously waiting for the next phase.

C. People – Social Dynamic

What are the differences in experience between residents and non-residents resulting from this Westlawn revitalization regarding walkability and accessibility?

The focus in this study is the experiences of the residents and non-residents who are using and living in this neighborhood. Although 98% of the Westlawn residents are African America, there are marked differences in their experiences living there. The study showed different perceptions by the new residents and the old-timers.

New residents are unfamiliar with the area when they move into the development, and they may need extended time to adjust to their newer living environment. For example, they will need to get familiar with their new surroundings, such as different bus routes and the location of the closest grocery store. When they feel comfortable after their essentials are met, they will then begin to explore other interests, as expected by planners of this neighborhood revitalization. These activities could include taking a stroll in their neighborhood streets, meeting new neighbors, joining neighborhood events for community garden tidbits, or using other facilities.

The neighborhood cohesion among neighbors takes time to build in terms of trust and knowledge. In some respects, it may have very little to do with the social economic, class or characteristics of the people. Overall, this has everything to do with their daily

necessities being met before they invest their spare time to explore other activities in the neighborhood. Non-residents are pleased to see the fresh transformation despite the stigma that Westlawn has been carrying for years as a poor and crime-infested neighborhood, and commented that they would come to use the facilities but cautiously.

As for the old-timers in Westlawn, many responded that it is a blessing to have new amenities, such as the renewed SSNC and the walk to the Community Garden. They had positive perceptions about these aspects, even though there is the lack of necessities, such as a well-stocked grocery store and drugstore within walking distance in the neighborhood.

It is not to say that all living needs are satisfied for the old-timers, but that they were accustomed to living in this underserved environment for many years before this revitalization came along. Some of them are glad to experience these new facilities; meanwhile, many are concerned about the relocation process described below. Although the residents in Westlawn are not in the same category as the lower middle and upper middle class subcultures as described per Gans (Gans, 1967), their attitudes towards involvement in the neighborhood are similar. The Westlawn Gardens residents are more inclined to routine involvement, whereas the old-timers, the Westlawn West residents, participated in the research more so than their new neighbors because there is a threat to their families. They want to keep up with the information about the relocation process of their families. As much as the physical settings are deteriorating and they are happy to see the renewed neighborhood, they have conflicting feelings because they are overwhelmed about the relocation of their families from a familiar environment.

When asking an old-timer about the difference between the new and the old development, this person responded: “... *all the same ... buildings will get old ... like the brick ... more homey look.*” One can infer that this old-timer does not care one way or another about the façade; all that matters to this individual is the family, friends and neighbors that have known each other for a long time. According to this person, it is safe and it is comfortable, because it is a familiar living environment.

Are the TND design principles compatible to this Westlawn Housing Development?

As of the cutoff date of the data collection in 2015, the development is not complete, thus making this research the foundation stage of studying a planned neighborhood designed with TND concepts. The results also concur with what other researchers suggest, that planned neighborhoods such as the Westlawn Housing Development, impose exteriors or façades to mask the underlying social and economic problems.

The results show the disproportion of addressing the dynamic category of ‘*People*’ in TND and is shown in the following diagram (Fig. 44). Other than the ‘5-Minute Walk’ which requires action performed by people, the remaining five design principles are static, although they do provide the built environment to support the action. As shown in Fig. 44, the six design principles of TND focus mostly on the physical and spatial properties of the development, while the emphasis on the dynamic “people side” is lacking.

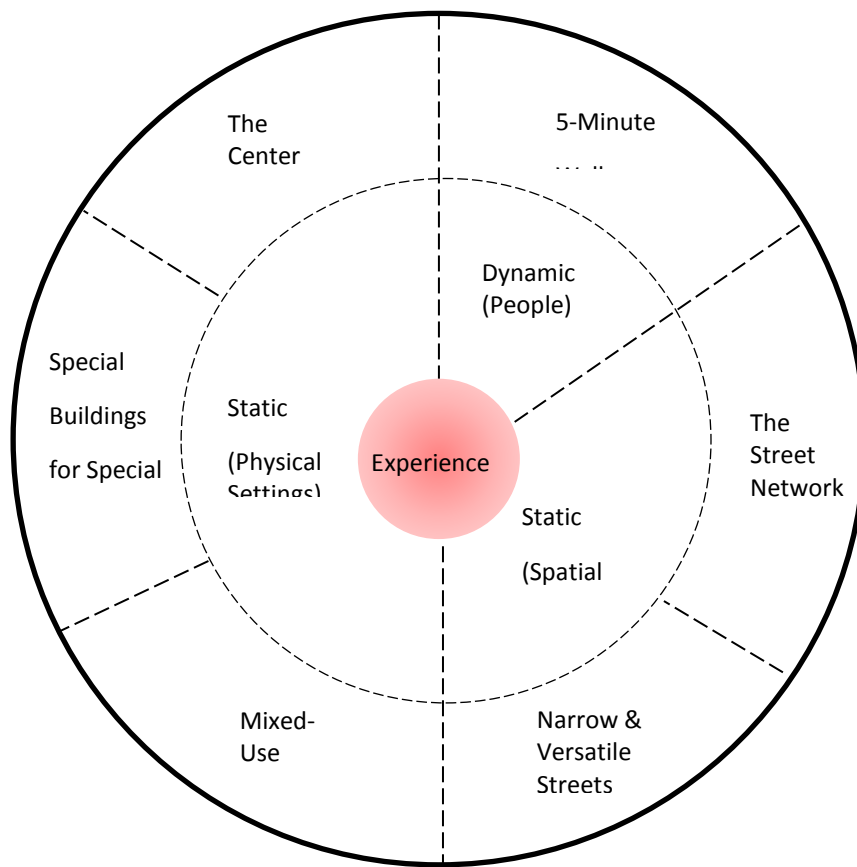


Fig. 44. Dynamic vs Static in Traditional Neighborhood Development

The ability in this development to provide one's everyday needs with minimum amount of distance, travel time, and cost, as planners would hope, is not sufficient. Nor does the level of comfort, convenience, and quality stimulation meet expectations. The concept of a planned neighborhood is to sell an ideal lifestyle which is orderly, safe, and above all attractive to local governments. However, economic constraints and human psychology cannot be separated from planning strategy. The pretty pictures and the expensive 4-day charrettes, which were held in 2009 for residents and neighboring residents to attend, portrayed an urban ideal of a perfect community to house the perfect residents. Providing the poor with a more aesthetically pleasing home does not address the underlying issues that cause poverty.

The availability of incentives for entrepreneurship to address social issues as basic as giving people a choice with a well-stocked grocer or a neighborhood family diner could spark the spirit of the neighborhood. In many cases, properly addressing the social aspects of a neighborhood, along with the physical development process, will alleviate social and economic problems. Measures such as that could gradually improve the Westlawn Housing Development.

A further detailed study may benefit the community when the entire development, including Phase 2, is completed in 2021. The study topic may aid in setting priorities to help the residents and their community while there is no mixed-use development present in Phase 1, there will be commercial retail zoned along N. 64th St. in Phase 2 of the development. Meanwhile, people are continuing to cope with the situation.

D. Limitations of the Study and Opportunity for Future Research

There were challenges during the data collection process for this research as the data collection was done just two years after the revitalization was finished. The development of Phase 1 was not complete because the sections that are zoned for a supermarket and market-rate residential have not been built. In spite of this, the responses from participants suggested the importance of residents' ease of walking and accessing the existing facilities and services provided within the community.

The unique situation of having new residents in Westlawn Gardens who are experiencing new policies, new surroundings, and new emotions caused some negative critical responses. As for the old-timers at Westlawn West, they are not only experiencing the same situation and new neighbors, but they are anxious about the relocation process in their immediate future.

HACM announced that HUD awarded a \$30 million Choice Neighborhoods Implementation Grant to the City of Milwaukee in September 2015, and the relocation process of Westlawn residents began in January 2016. Ever since this news, residents' emotions were running high and showed in every Resident Council Meeting. During the research process between 2013 and 2015, the uncertainty of relocation overwhelmed and consumed residents' daily lives and imposed an indirect effect on the data collection.

Individuals as well as groups need time to get to know their neighbors and adjust to their surroundings. Government agencies/organizations and private investors should study the neighborhood more effectively. Gans (1967) said that people are mostly concerned with individual and family goals which meet their basic satisfaction with neighborhood qualities and services. These qualities and services are as important as housing characteristics and other architectural components and the community is of secondary importance (Gans, 1967) (Brown, 2004), which echoes what is happening in Westlawn.

This study to explore and to understand the experience of residents living in this low-income planned neighborhood is a foundation for future research. Since residents from Westlawn West are dealing with relocation anxiety, and there was interference to the new residents from Westlawn Gardens with numerous surveys from local stakeholders, thus the small sample size which limits the quantitative analysis. However, available data based on the responses received are significant indication that planned neighborhoods such as the Westlawn Housing Development impose exteriors or façades to mask the underlying social and economic problems, which agrees with other research.

The results would be richer if a longitudinal approach were used in addition to the participatory observational method, yielding an improved research design.

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APPENDICES

Appendix A – Westlawn (Phase II) Revitalization Process

On September 28, 2015, HUD awarded a \$30 million Choice Neighborhoods Implementation Grant to the City of Milwaukee and HACM for a comprehensive plan to transform a nearly three square mile area of Milwaukee's northwest side, and revamp the other half of Westlawn (Phase II), from N. 64th towards West to N. 68th St. on W. Silver Spring Drive (Hoye, 2016).



(Spicuzza, 2015)

The process to relocate Westlawn Residents began in January of 2016. Four phases of demolition were anticipated to begin April 2016 to July 2017, with Phase I scheduled to take place in the summer of 2016. A summary of the relocation and demolition program is listed as follows:

Grant Deadlines/ Milestones

Grant Award (final fund obligation deadline) 09/30/2015

Grant Agreement Executed 01/31/2016

Environmental Assessment 11/01/2015

Final Expenditure Deadline 09/30/2021

Final Report and all Grant Close-out Documentation Submitted to HUD 12/15/2021

Housing	Start	Finish
Closing of first phase	01/31/ 2016	05/01/2016
Relocation of Residents	01/15/2016	03/31/2017
Demolition	04/01/2016	06/01/2017
Phase 1 Construction – 10 Units	06/01/2016	02/28/2017
Phase 2 Construction – 136 Units	08/08/2017	09/30/2019
Phase 3 Construction - 203 Units	10/01/2018	12/31/2020
Phase 4 Construction – 45 Units	05/01/2019	08/31/2020
Phase 5 Construction – 135 Units	04/01/2016	09/30/2021
Phase 6 Construction - 50 Units	06/01/2018	09/30/2021

Appendix B – Housing Projects in the City of Milwaukee

HACM – other housing projects in the City of Milwaukee

1) Berryland, 6089 N. 42nd Street (391 units)

Property Description

The Berryland neighborhood is located on Milwaukee's north side, NE corner from Westlawn, near the intersection of N. Sherman Boulevard and W. Florist Avenue. In addition to many other local amenities, residents of Berryland enjoy the programs and services of [Agape Community Center](#), which is located in the center of the neighborhood. Originally constructed in 1950 to provide housing for veterans and presently, it offers 391 1-, 2- and 3-bedroom apartment homes to a wide variety of families with a minimum income requirements (2016).

The design of this development was built exactly under the same model as the military barracks style as those of the Westlawn project.

Walking Distance: 19 to 20 min. (1 mile) from development to Silver Mill Court

Shopping Mall

Driving Distance: 4 – 6 min. to desired location(s)

Public Transportation: route 12 on N. Teutonia Ave. only (every 40 min.),

otherwise none other route available

School: Hampton Public School, Barack Obama School of Career and Technical

Education, Glen Hills Middle School, Hawthorne Public School,

Northwest Catholic School, Parkway Elementary School, Atonement

Lutheran School, Congress Public School, Samuel Clemens School,

Carmen Middle/High School, Milwaukee Scholars Charter School

Retail Stores: Get It Now, L C uper Store, Save-A-Lot, Family Dollar, Simply Fashion, J.J. Sports, What's Popping, EBS Floral Shop, J&S African Center

Restaurant: Buddy's Pizza & Steak, Yick Inn, Soul Good Kitchen, JamERICAN Jerk Center

Business: Mama Keita's African Braiding, Prenasis Hair Gallery, Value Beauty Supply, Jackson Hewitt Tax Service, H&S Enterprises (Gas Station)

Industry: Sogma-Alrich Corporation, Plastic Coating Corporation, Wrench 'N Go Auto Integration

2) Parklawn, 4434 W. Marion Street (380 units)

Property Description

Parklawn is a historic neighborhood located at N. Sherman Boulevard and W. Congress Street. The neighborhood offer 380 units with 1-, 2- and 3-bedroom apartments centered around several amenities: [Parklawn YMCA](#), [Central City Cyberschool](#), [Day Care Services for Children](#), and the beautiful Monument Park that features a gazebo and historic statues created by artists associated with the Wisconsin Federal Art Project, a division of the National Works Project Administration in the 1930's. Parklawn is located near the many shops, restaurants and services of the Midtown Shopping Center.

Neighborhood Amenities

- Public transportation nearby
- Grocery store
- Bank
- Park
- Community/neighborhood center
- Restaurants
- Parklawn YMCA
- Central City Cyberschool
- Daycare Services for Children
- Midtown Shopping Center
 - Parklawn to [Parklawn YMCA](#):
 - Parklawn to [Central City Cyberschool](#):

- Parklawn to [Day Care Services for Children:](#)
- Parklawn to Midtown Center (shopping, worship, services, etc.)

Walking distance (1 to 1.2 mile): 21 – 24 minutes from Parklawn to Midtown Center

Driving Distance: 6 – 7 minutes via vehicle

Public Transportation: 15 – 20 minutes via Route 62 (every 40 min. – include 10 min. walk 0.5 mile to Capitol, take Route 62 (2 min. ride/4 stops – get on N47 & get off N56), then walk 3 more min. (0.2 mile) to Midtown Center to desired location(s)

Restaurant: Chain Fast Food – Culver’s, Burger King, Starbucks, Pizza Hut, Subway, Taco Bell, Gene’s Supper Club

Grocer – Pick’n Save, Piggly Wiggly

Retail – Hayat Pharmacy, Citi Trends, Planet Fitness, Ashley Stewart, T-Mobile, Foot Locker, rue21, Stereo 1, Walgreens, Eve Jewelry

Business – U.S. Bank, Firestone Complete Auto Care, National Muffler & Brake, Cypress Cleaners, Speed Wash Coin Laundry, Quigley Tax Services, Midas, Securant Bank & Trust, Franklin finance Corporation

Worship: Holy Temple Missionary Baptist, Capitol Drive Lutheran Church,

Services: Children's Garden Development Center, Tendercare Child Care Center, Community Opportunities Club, Wee Care Day Care Nursery Center

3) Hillside Terrace, 1419 N. 8th Street, (421 units)

Property Description

Hillside Terrace is a family housing development with 470 1-, 2-, 3-, 4- and 5-bedroom apartments conveniently located just north of downtown Milwaukee. Residents of Hillside Terrace enjoy the programs and services of the Hillside Terrace Family Resource Center, which include the Hillside/MATC Learning Lab, [Progressive Community Health Center](#), Pieper-Hillside Boys & Girls Club, and Tomorrow's Future Early Childhood Center.

Neighborhood Amenities

- Hillside Terrace Family Resource Center
- Public transportation
- Restaurants
- Schools
- Downtown attractions
- Milwaukee Area Technical College

School: Golda Meir School, Elm Creative Arts School, Roosevelt Middle School of the Arts, Milwaukee Area Technical College,

Grocery stores: Fresh Thyme Farmers Market, Metro Market, Pick'n Save

Restaurants: Wolf Peach, Sanford Restaurant, Buca de Beppo Milwaukee, Jersey Mike's Subs, Chipotle Mexican Grill,

Worship: Most Worshipful Price Hall, Ethnos Church,

Services: Milwaukee Youth Arts Center, Sojourner Family Peace Center, Boys & Girls Clubs of Greater Milwaukee,

Industry: Blast Fitness-Milwaukee, Jacob Leinenkugel Brewing Company,
Miller's Bakery, Inc., Mike Giordano & Co., Hein Electric Supply,
Advanced Plating Technologies, J H Findorff & Son, Brester Eitel
Framing Gallery

Hi, my name is Nancy Chu. I am a doctoral student from the **University of Wisconsin-Milwaukee**, School of Architecture and Urban Planning. Part of my research is to gather your points of view as a resident living at Westlawn. Your opinions and concerns are valued. Please help with this research by completing the survey questions listed on both side of this sheet.

Please note that all information you have provided are used solely for research purpose and will be kept confidential. Your name and responses will never be shared or identified to the Housing Authority of City of Milwaukee in any presentation or publication.

Please insert your completed survey into the “Walkability & Accessibility Survey” collection box located at the reception area at the Main Entrance of the Silver Spring Neighborhood Center, during office hour (M-F 8 a.m.-6 p.m.), by Thursday Aug. 6, 2015.

- =====
- 1) I live in the neighborhood of: **(a) Westlawn West (____)** **(b) Westlawn Gardens (____)**
 - 2) Length of residency: Years ____; Months ____; Weeks ____; Days ____
 - 3) Gender: Male ____; Female ____
 - 4) Are you: Single ____; Married ____; Separated/Divorced ____; Widow/Widower ____
 - 5) Age: 18-24 ____; 25-34 ____; 35-44 ____; 45-54 ____; 55+ ____
 - 6) Employment: Full-Time ____; Part-Time ____; Not employed ____
 - 7) How do you characterize your race/ethnicity?
 African American/Black ____; Asian/Pacific Islander ____; Caucasian/White ____; Latino/Hispanic ____; Other ____
 - 8) Education: some H/S ____; H/S or GED ____; Some form of Certification ____; 2 Yr. Associate Degree ____; 4 Yr. College Degree ____
 - 9) I would rate my personal **physical** health as: Excellent ____; Good ____; Fair ____; Poor ____; Don't Know ____
 - 10) I would rate my personal mental health as: Excellent ____; Good ____; Fair ____; Poor ____; Don't Know ____
 - 11) **How often** do you **go to** one of the following location(s)?
 - ***Silver Spring Neighborhood Center*** (it includes school, daycare, nursing center, computer center, fitness center, etc.);
 Daily ____; 2-3 times/week ____; 4-5 times/week ____; Once a week ____; Don't Know ____
 - ***Milwaukee Public Library Express Station***: Daily ____; 2-3 times/wk ____; 4-5 times/wk ____; Once a wk ____; Don't Know ____
 - ***Community Garden & Playground Area***: Daily ____; 2-3 times/wk ____; 4-5 times/wk ____; Once a wk ____; Don't Know ____

Optional: Please describe your experience **when you go to** any of these location(s) _____

 - 12) **How many times** do you **walk to** one of the following location(s)?
 - ***Silver Spring Neighborhood Center*** (it includes school, daycare, nursing center, computer center, fitness center, etc.);
 Daily ____; 2-3 times/week ____; 4-5 times/week ____; Once a week ____; Don't Know ____
 - ***Milwaukee Public Library Express Station***: Daily ____; 2-3 times/wk ____; 4-5 times/wk ____; Once a wk ____; Don't Know ____
 - ***Community Garden & Playground Area***: Daily ____; 2-3 times/wk ____; 4-5 times/wk ____; Once a wk ____; Don't Know ____

Optional: Please describe your experience **when you walk to** any of these location(s) _____

13) **How long** does it take you to **walk to** one of these location(s) from your home?

- **Silver Spring Neighborhood Center** (it includes school, daycare, nursing center, computer center, fitness center, etc.);
Less than 5 min. ____; 6-10 min. ____; more than 10 min. ____; Don't know ____
 - **Milwaukee Public Library Express Station:** Less than 5 min. ____; 6-10 min. ____; more than 10 min. ____; Don't know ____
 - **Community Garden & Playground Area:** Less than 5 min. ____; 6-10 min. ____; more than 10 min. ____; Don't know ____
- Optional:** Please describe your experience **when walking** to one of these location(s) from your home _____
- _____
- _____

Optional: Please describe **what you think it would feel if you walk** to any one of these location from your home _____

(14) Please rate your satisfactory level with an (x) for each of the following condition in your neighborhood:

	My opinion is ...	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't Know
1	It is easy to walk					
2	It is pleasant to walk					
3	It is easy for me to walk to shop for my daily needs					
4	It is easy to walk to quality food stores					
5	It is easy to walk to public transportation					
6	There is a lot of traffic					
7	The traffic speed is fine					
8	I feel safe to walk during the day					
9	I feel safe to walk after dark					

Optional (Your participation in this study is voluntary):

If you are willing to help with this research project and **would like to be part of an interview/focus group**, this is the time to express your opinion/concerns about your living experience in Westlawn. All opinions are valued and there is no right answer. The interview/focus group will be scheduled to meet at the Silver Spring Neighborhood Center or Community Garden Gazebo (if weather allow) and will last approximately 45 minutes. Meeting time will be scheduled based on the preference by the majority and you will be notified via mail. Light snacks will be served. The purpose of this focus group is to gather your points of view, as a resident at Westlawn, and to find out **your opinion whether your neighborhood is walkable and/or accessible to local resources** (i.e. Silver Spring Neighborhood Center, Community Garden/Playground area, grocery shopping, public transportation, etc.). Please provide the most convenient time to contact you to schedule a focus group appointment

(e.g. **Wednesday – Afternoon 3-4 p.m.**)

Your Name/Address: _____
 Your Contact Phone No. _____
 Day of the week: Mon ____; Tues ____; Wed ____; Thurs ____; Fri ____; Sat ____; Sun ____
 Time of day: Morning ____ A.M.; Afternoon ____ P.M.; Evening ____ P.M.



Thank you for your participation!

WESTLAWN Residents Walkability & Accessibility Survey – **Part B (Focus Group Discussion questions)**




1. Gender: Male () Female () 2. Age: 18-24 () 25-34 () 35-44 () 45-54 () 55+ ()

3. Your Street Address a) Westlawn Gardens _____
b) Westlawn West _____

Please mark with an (x) in the space provided, that is best apply to you and your neighborhood.

My opinion is ...		Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't Know or Do not apply
In my neighborhood ...						
4.	I can do most of my shopping <u>within 5 minute walk</u> from my home.					
5.	I frequently <u>rely on the bus</u> to go shopping.					
6.	It is <u>easy to walk to a bus stop from my home</u> .					
7.	There are <u>sidewalks on most of the streets</u> in my neighborhood.					
8.	The sidewalks on my block are well maintained.. i.e. they are even, nicely paved, and not a lot of cracks.					
9.	I feel safe when I take the <u>sidewalks</u> that are <u>separated</u> from the road/traffic <u>by parked cars</u> . 					
10.	I like to have a <u>Grass Strip</u> that <u>separate the streets from the sidewalks</u> on my block. 					

WESTLAWN Residents Walkability & Accessibility Survey – Part B (Focus Group Discussion questions)

In my neighborhood ...		My opinion is ...	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't know or Do not apply
11.	I would like to have a bio-swale that separate the streets from the sidewalks on my block. 						
12.	There are many attractive natural sights on my block e.g. Nice landscaping with trees and flowers						
13.	There are attractive buildings e.g. enjoyable to look at while walking down my block						
14.	My neighborhood is generally free from litter.						
15.	I like the building style(s) on my block e.g. modern vs traditional appearance						
16.	I like the building height(s) on my block. e.g. 3-story building vs 1-story ranch						
17.	I like the distance(s) between building(s) on my block. (e.g. too close or far enough between buildings)						
18.	I like the green space(s) between building(s) on my block.						
19.	I like the distance(s) between buildings and the street on my block. (e.g. too close or far enough between buildings)						
20.	I like the green space(s) between buildings and the street on my block.						
21.	The pedestrian crosswalk sign(s) make me feel safe to cross the streets in my neighborhood. For example: 						
22.	The pedestrian signals make me feel safe to cross the streets in my neighborhood. For example: 						
23.	I feel unsafe to walk on my block because there is a lot of traffic.						
24.	There is a lot of exhaust fumes from cars & buses while walking in my neighborhood.						
25.	My neighborhood streets are well lit after dark .						
26.	The crime in my neighborhood makes me feel unsafe to walk during the day .						
27.	The crime in my neighborhood makes me feel unsafe to walk after dark .						

Thank you for your cooperation!

Part B – page 2

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Education

University of Wisconsin-Milwaukee

Ph.D. in Architecture	Graduated 05/17
Ph.D. Dissertator Status in Architecture	02/15
Ph.D. Program in Architecture	09/11
Graduate Certificate in Applied Gerontology	05/13
Masters of Architecture (GPA 3.7)	05/11
Bachelor of Architecture & Urban Studies with Honors (GPA 3.6)	12/08

Fellowships and Scholarships

University of Wisconsin-Milwaukee

Helen Bader Scholarship for Studies in Aging	2013
Advanced Opportunity Program Fellowship	2010-2013
Jack L. Fischer Scholarship	2009
Chicago Studio Scholarship	2009

Organization of Chinese Americans, Wisconsin Chapter

Carr Social Justice Scholarship	2010
---------------------------------	------

Awards and Recognition

City of Greenfield, Greenfield, WI

First Place in Design Competition – Konkel Park	1997
Revitalized an existing neighborhood park (Built 2002)	

Home Insurance, Chicago, IL

Certificate of Recognition – First in Service Mid-West Region	1995
---------------------------------------------------------------	------

Conference (Paper Presentation)

Aging & Society Conference

at the University of British Columbia, Vancouver, B.C.	2012
--------------------------------------------------------	------

Cultural Sensitive Housing: Individualism and Collectivism
Views towards Caring for Elders

Consulting Design Experience

Architecture

University of Wisconsin-Milwaukee 2010-2011

Graduate Design Consultant 2009-2014

Community Design Solutions/City of Milwaukee

Landscape Design

Wisconsin State Fair Park - Sesquicentennial Project 1997-1999

Academic Work Experience

University of Wisconsin-Milwaukee

Adjunct Instructor – Walkability and Accessibility Communities 2017

Guest Lecturer – Accessibility and Aging in Place 2016

Graduate Research Assistant 2015-2016

Center for Excellence in Teaching and Learning

Design Studio Guest Critic 2013-2014

Senior Under-graduate mid-term & final presentation

Research Advisor 2009-2011

School of Architecture and Urban Planning

Team collaboration proposed to develop a standard design
and development of procedures for a senior care facility
in China

Architectural Drawing – Teaching Assistant 2009

Community Service and Other Skills

Growing Power Inc. 2016

Project Planning and Architectural Design Workshop

Community Building Milwaukee 2016

Community Building Workshop

The Westlawn Partnership for a Healthier Environment 2013-present

Community Action for a Renewed Environment (CARE) program

Lower 9th Ward 2014-2015

Memorial Design

Sacred Heart at Monastery Lake, Franklin, WI 2011-present

Facilitated cognitive stimulation activity with senior residents 2013

(Storytelling)

Assist in annual variety show 2013-2015

Associate of Arts in Landscape Horticulture & Landscape Design (GPA 4.0) 1997

Milwaukee Area Technical College