

# *Active Living Research*

Using Evidence to Prevent Childhood Obesity  
and Create Active Communities



*Photo by Gary Hack*

## **Business Performance in Walkable Shopping Areas**

**TECHNICAL REPORT**  
*November 2013*

# Business Performance in Walkable Shopping Areas

*This technical report was prepared by Gary Hack, PhD, Professor of Urban Design at the University of Pennsylvania.*

*For updates and a Web-based version of this report, visit [www.activelivingresearch.org](http://www.activelivingresearch.org).*

## TABLE OF CONTENTS

Executive Summary.....	3
Introduction .....	4
Defining Walkable Commercial Areas.....	4
What Research Tells Us About Walkable Shopping Areas.....	8
What Retail Experts Say About Walkable Shopping Areas .....	13
A Look at Examples of Walkable Shopping Areas .....	16
Traditional Shopping Streets.....	16
Case Study: Little Village, Chicago.....	20
Transit-oriented Shopping Areas .....	22
Case Study: Clarendon, Virginia.....	25
Case Study: Columbia Heights, Washington, DC.....	27
Case Study: Orenco Station, Hillsboro, Oregon.....	29
Larger Suburban Town Centers .....	31
Case Study: Kentlands Downtown, Gaithersburg, Virginia.....	33
Summary: What We Know About Walkable Shopping Areas .....	36
Learning More about Retail Performance .....	37
Additional Resources.....	39

## ACKNOWLEDGEMENTS

This report was supported by the Robert Wood Johnson Foundation through its Active Living Research program. The author was greatly assisted in the preparation of this report by Lynne B. Sagalyn and John Robinson. Anastasia Loukaitou-Sideris, Anne Vernez Moudon, William Ascher, James Sallis and Christopher Leinberger also contributed wise comments, suggestions and information.

# Active Living Research

Using Evidence to Prevent Childhood Obesity  
and Create Active Communities

## TECHNICAL REPORT

November 2013

# Business Performance in Walkable Shopping Areas

## Executive Summary

Walkable commercial districts are a key component of communities that promote active living. Walking has great health benefits, including helping people maintain a healthy weight. This report examines whether there are also economic benefits to businesses in walkable communities. The study consisted of a meta-analysis of 70 studies and articles. However, there have been few studies that address economic performance directly and the author conducted an exploratory study of 15 walkable shopping areas judged as successful to examine the sources of success.

## KEY FINDINGS

- There is great enthusiasm for walkable shopping areas among retail experts, developers and many residents of urban and suburban areas;
- Walking shopping areas have a potential to prosper as a result of demographics, increased gas prices, public policies encouraging higher densities and changing life style preferences;
- Businesses can be successful if such areas reach a critical mass, cater to diverse needs, are located in higher density areas or have good mass transit service, and have a supermarket as an anchor;
- With success, enterprises in walkable shopping areas are able to pay higher rents for their space, and housing near walkable commercial areas commonly sells for higher prices than in more distant areas.

## IMPLICATIONS

While the economic performance of walkable shopping areas is worthy of continued empirical research, including interviewing merchants, all the evidence seems to suggest that walkable retail is on the upswing, and likely to grow over the next several decades. Since 45% of daily trips, on average, are made for shopping and running errands, encouraging walking is an important strategy in reducing obesity and improving health. It is also important to reducing energy usage and carbon emissions.



## Introduction

A growing body of research has established that walkable communities promote healthy living patterns.<sup>1,2,3</sup> Researchers also argue that compact walkable settlement patterns are important as a strategy for reducing automobile travel and lowering greenhouse gas emissions.<sup>4,5</sup> An essential aspect of walkability is having local shopping areas near the places people work and live. It seems self-evident that walk-in patronage would improve the prospects of local shopping areas. It should follow that walkability improvements made in commercial areas should improve the performance of businesses. Anecdotes abound about successes and failures of commercial districts that serve walk-in populations, yet this issue has been little studied in any systematic way.

This report assembles existing data, published studies, and consultant reports, to the extent we are able to identify them, on the subject of walkable shopping areas. The author also visited a number of walkable commercial areas and shares his impressions and conversations with merchants and owners in these areas.

## Defining Walkable Commercial Areas

Ultimately every person who shops arrives at a store on foot – except, of course, Internet shoppers and those who drive up to the windows of banks or fast food outlets. The shopper may have walked 50 feet from a car or half a mile from a home or office. The trip may involve one or multiple stops, combining shopping with a visit to a restaurant or an appointment with a dentist. Defining a commercial area as “walkable” requires distinctions to be made beyond how shoppers arrived at their destination and what they do once they arrive.

Those advocating the creation of walkable commercial areas can have in mind several quite different things. The prototypical image of a walkable commercial area is of a lively neighborhood-serving a cluster of shops, restaurants, bars and offices, lining a street and serving the needs of a nearby residential population. This is also the historical image of Main Street U.S.A., but a closer look at the reality on the ground reveals that these areas can be quite varied. Broadway, which extends for several miles as the spine of the Upper West Side of Manhattan, draws almost all of its patronage from pedestrians on foot, including many who live directly over the shops. In suburban shopping strips, such as Germantown Avenue in the Chestnut Hill section of Philadelphia, half or fewer of the shoppers may come on foot, with the balance driving and parking in lots behind the shops. The street may be bisected by heavy traffic (although with generous sidewalks, as on Broadway) or may be along a street where traffic has been “calmed,” and it is possible to park in front of a shop and cross from side to side with abandon, as on Water Street, the main street of Celebration, Florida. Or it may be a street closed to traffic entirely.

With all this variation, when do we call a commercial street a walkable area? The accessibility of the street, its friendliness to pedestrians, and the mix of uses along it qualify it as a walkable commercial area, rather than any particular physical characteristics. A “walkable commercial area” usually means that it is possible for a

significant fraction of patrons to arrive by some other mode than driving, and that they are in a welcome environment for strolling, meeting others and resting for a few moments. In short, they do not have to get in their car to visit store after store. In commercial terms, retail districts serving mainly nearby residents are usually referred to as “neighborhood shopping areas” or “community shopping areas,” depending upon their size and components.<sup>6,7</sup> They typically contain grocery and drug stores, hardware, dry cleaners, clothing and shoe stores, wine and beverage shops, and other stores catering to regular needs, as well as widely used services such as banks, hairdressers, and insurance agents. They may contain a sprinkling of restaurants and bars, and on occasion a movie theater or entertainment venue. Community retail centers typically cater to 10,000-30,000 residents or more. Unless they are in an area with high densities (such as Manhattan or the North Loop in Chicago) or have excellent transit access that creates an extended trade area, they have to rely upon people arriving in their cars as well as walk-in patronage.

Many neighborhood and community shopping areas have their origins in the web of historical streetcar lines that extended out from the centers of North American cities. Where these have been retained, as in Toronto, and parts of San Francisco, Philadelphia and New Orleans, or replaced by electrified trolleys as in Vancouver and Seattle, streets continue to play a vital role in serving the adjacent communities. Underground mass transit often reinforces the role of street-oriented shopping by creating a destination for commuters who shop before or after using transit.

Neighborhood and community shopping areas are distinguished from more local “convenience centers” that may consist simply of a 7/11 store and possibly a dry cleaners and one or two more shops, and from “regional centers” usually anchored by one or more department, discount, or home improvement stores and a large cluster of shops. Many regional centers (and all “super-regional centers”) have large areas devoted to pedestrians, but are usually oriented inwards, off the street, and only a handful of their patrons will come on foot. Despite the amenities they provide for pedestrians, they are not considered walkable commercial centers.

The term “walkable commercial area” is also typically applied to downtown pedestrian zones, where traffic has been removed or restricted, as on Third Street in Santa Monica California, Pearl Street Mall in Boulder Colorado, or Church Street Marketplace in Burlington Vermont. Frequently the mix of uses in these areas is shaded towards restaurants, entertainment and boutiques, rather than shopping for necessities. The majority of the patronage for such areas usually comes by transit or car, but many such areas have made concerted efforts to attract offices and residential uses nearby so that that they have a 24/7 life. However, the distinction between walkable centers and regional urban entertainment districts, such as Kansas City Light and Power or LA Live, is not easily settled by judging their walkability; unless they have a significant residential or work population (beyond those working in the commercial outlets) they probably should be considered in the same category as regional malls.

Photos by Gary Hack



Germantown Avenue, Chestnut Hill, Philadelphia



Broadway, Upper West Side, New York

**TABLE 1  
URBAN LAND INSTITUTE'S COMPARISON OF RETAIL CENTER TYPES<sup>8</sup>**

<b>Convenience Shopping Center</b>	
Anchors	Convenience grocery, drug store
Number of Stores	3 – 20 stores
Total Retail Space	10,000 – 30,000 square feet
Site Area	1 – 3 acres
Market Area Population	Under 20,000 people
Market Area Radius	Under 2 miles
<b>Neighborhood Shopping Center</b>	
Anchors	Supermarket and Drug Store
Number of Stores	10 – 40 stores
Total Retail Space	30,000 – 100,000 square feet
Site Area	1 – 3 acres
Market Area Population	10,000 – 30,000 people
Market Area Radius	1 – 3 miles
<b>Community Shopping Center</b>	
Anchors	Junior department or Discount Store
Number of Stores	25 – 80 stores
Total Retail Space	100,000 – 450,000 square feet
Site Area	10 – 30 acres
Market Area Population	30,000 – 75,000 people
Market Area Radius	3 – 8 miles
<b>Regional Shopping Center</b>	
Anchors	1 or 2 full-time department stores
Number of Stores	50 – 100 stores
Total Retail Space	300,000 – 750,000 square feet
Site Area	30 – 50 acres
Market Area Population	100,000 – 250,000 people
Market Area Radius	8 – 15 miles
<b>Super-Regional Shopping Center</b>	
Anchors	3 or more full-time department stores
Number of Stores	100 – 300 stores
Total Retail Space	600,000 – 2,000,000 square feet
Site Area	40 – 100 acres
Market Area Population	250,000 – 600,000 people
Market Area Radius	12 – 50 miles

A third type of walkable commercial center is the town center. Downtown areas served this purpose traditionally, and the revival of Main Streets in many smaller communities has been promoted by emphasizing their walkability. In most cities they do not compete directly with shopping centers or big-box malls, but serve a niche market of providing boutiques, entertainment, dining and drinking.

The contemporary counterparts of Main Street are the planned town centers in large suburban developments, such as Reston Town Center in suburban Washington and Valencia Center in California. These centers, which have substantial and growing residential populations and large office employment, offer shopping, dining and entertainment opportunities to residents and workers without getting into their car. They emphasize the public realm, and often have programmed activities to encourage shopping in the evenings and on weekends. At a smaller scale, many new urbanist developments have created centrally located clusters of shops that are surrounded by higher density housing, and are easily reached on sidewalks. The town center at Laguna West near Sacramento, and downtown Kentlands, in Gaithersburg Maryland are two examples.

Finally, transit-oriented centers are a fourth type of walkable commercial area. There is a long tradition of such centers, dating from the development of commercial centers around suburban rail stations in the late nineteenth Century. Wayne Pennsylvania and Lake Forest Illinois are good examples. In recent years, the development of new light rail or metro transit lines has stimulated the growth of walkable commercial centers around stops. Washington D.C. has many such transit-oriented centers including Friendship Heights, Bethesda and Clarendon in suburban areas and Columbia Heights in the District. Large numbers of high-density housing units and offices provide much of the support for retail and entertainment uses adjacent to the transit station. Fruitvale Village in Oakland California, the Mockingbird Station area in Dallas Texas, the North York station area in Toronto, and Orenco Station in Portland Oregon are other examples of the growing number of transit oriented developments. They become walkable shopping areas when they draw a substantial fraction of their patronage from offices and housing located near the station, and from commuters who live in the surrounding neighborhoods.

There are of course, many other types of walkable shopping areas, including tourist-oriented areas (German Village in Columbus Ohio, the Gaslamp Quarter District in San Diego California, Granville Island in Vancouver, Washington Harbor outside of D.C.), waterfront-living areas with retail space (Harbourfront in Toronto, False Creek in Vancouver, Bayside in San Francisco), historic districts with local shopping (Society Hill in Philadelphia, the North End in Boston, Pike Place and Pioneer Square areas in Seattle), resort towns (Edgartown on Martha's Vineyard, the Village at Haile Plantation in Gainesville Florida) and college- town collections of stores (Harvard Square in Cambridge, Walnut Street adjacent to Penn in Philadelphia, Telegraph Street in Berkeley California). And, of course, there are many hybrid examples. For our purposes here, we use the term "walkable commercial area" to describe places with a diverse range of local-serving shops and services, where a substantial fraction of patrons arrive by walking, cycling or taking mass transit,

where there are good pedestrian links to adjacent neighborhoods, and where pedestrians are treated well once they arrive.

## What Research Tells Us About Walkable Shopping Areas

There is a surprising paucity of studies of how well walkable retail areas actually perform, in economic, social or functional terms. Most of the studies focus on collectively managed neighborhood and community shopping centers, employing readily available data. For diverse street-oriented commercial areas, much of the evidence is anecdotal, and fails to distinguish the demographics or income potential of the areas being served. The sheer diversity of locations and types of retail areas makes it extraordinarily difficult to separate local circumstances from generic issues and attribute results to walkability or other particular variables. The slippery definition of what constitutes a walkable commercial area adds to the difficulty of reaching conclusions. Retail outlets are also notoriously transient, making comparisons over time extremely difficult. One study based on U.S. Census data estimates that more than 50% of the retailers operating in any given year will cease operations within five years.<sup>9</sup>

It seems clear from research that a significant fraction of urbanites in the US would prefer to locate in an area where there are shops, restaurants and services within a walkable distance. A two-city consumer preference study found that 29% of Atlanta residents surveyed and 40% of their counterparts in Boston would prefer living nearby such opportunities.<sup>10</sup> While the fractions vary from city to city, between one third and half of US households appear to prefer walkable neighborhoods.<sup>11</sup> A recent national consumer preference study put the figure much higher: fully 66% of respondents expressed a preference for “living within walking distance of stores, restaurants and other places in a community.”<sup>12</sup>

Studies in Atlanta have shown that many individuals now living in areas where businesses and services are not within walking distance would also prefer to be in more walkable neighborhoods, but cannot find housing that suits them in such areas.<sup>13</sup> When new housing is available and attractive in walkable neighborhoods, it can command a premium of \$20,000 for similar amounts of living space, trading off smaller yards.<sup>14</sup>

Premiums for downtown housing over suburban housing range from 40% in Detroit to 150% in Denver to 200% in New York. Where there are walkable suburban opportunities, as in Kirkland, Washington, the premium is 51% in favor of walkable locations.<sup>15</sup> A careful study in 15 cities, controlling for a variety of contextual factors, found that shifting from average to above-average Walk Score® ratings raised the housing values by \$4,000 to \$34,000, depending upon the metropolitan area. The amounts tended to be greater in dense urban areas such as Chicago and San Francisco and lower in low-density cities such as Tucson and Fresno.<sup>16</sup>

Perhaps not surprising, in walkable neighborhoods the best predictors of whether people actually walk is the presence of nearby attractions. For home-based trips,



nearby grocery stores, eating places (not fast food), retail stores and banks are strongly correlated with pedestrian activity.<sup>17,18</sup> This means having such opportunities within one-third of a mile of residential units,<sup>19</sup> or having effective transit links that support home to shop travel in 20 minutes or less. Very few suburban neighborhoods provide such access to commercial opportunities and services, although areas adjacent to commercial strips and older neighborhoods along old streetcar corridors meet these criteria in many cities.

Does this demand for walkable locations also translate into better business opportunities for merchants and organizations providing services? All the evidence about this is indirect, mainly based on differences in rent charged for commercial spaces. Higher rent is taken as a surrogate for better business opportunities, on the presumption that if businesses are willing or able to pay more for rent their revenues must be correspondingly higher.

Studies in the Washington D.C. metropolitan area by RCLCo show that rent for office space in downtown Washington, with high walkability, commands a 27% premium over comparable space in car-dependent suburban locations.<sup>15</sup> An important large-scale national study of retail, office and residential properties confirmed these findings. Comparing 10,000 properties for which NAREIT data was available, and accounting for other variables, the study found that retail properties with a Walk Score® ranking of 80 were valued 54% higher than properties with a Walk Score® ranking of 20. This was accompanied by an increase in net operating income (NOI) of 42% for the more walkable properties. Office properties showed identical higher premium values, although rental apartments showed only a 6% premium if they were in walkable locations.<sup>20</sup>

These findings seem to confirm the assumption that services and shops in walkable environments are financially more attractive to their tenants, resulting in higher rents to the owners of the properties. However, the results are far from conclusive, partly because of how researchers have estimated walkability. The Walk Score® tool measures walkability by assessing the distance to the nearest educational (schools), retail (groceries, books, clothes, hardware, drugs, music), food (coffee shops, restaurants, bars), recreational (parks, libraries, fitness centers), and entertainment (movie theaters) destinations. The Walk Score® tool was designed mainly to score residential properties in terms of the proximity of nearby shopping and facilities, although it has also been applied to neighborhoods and whole cities to provide a comparative measure of walkability. For office space – which could be occupied by local services or by national corporations that have little to do with their surroundings – high walkability locations are places where employees can easily walk to lunch spots, take in a movie or exercise or go to a bar after work, and do their shopping nearby. The employees may well have driven to work since the Walk Score® rating does not correlate workplaces, shopping and residential locations. For retail properties, high Walk Score® ratings are a measure of the clustering of retail outlets and other services, an index of agglomeration, not an indicator of whether patrons walked to the store from their homes. About all that can be said is that retail areas with high walkability scores offer the potential for shoppers to make multiple

stops in stores without getting back in their cars, and can walk from the shopping area to public and recreational facilities nearby.

There is also an issue of whether rent levels and appraisals of properties are good indicators of the health of commercial areas that provide services to local populations. Commercial areas with high rents are more likely to be occupied by national chains rather than startup or even established local stores. While many local consumers may value and patronize these, the most interesting commercial areas have a mix of unique and generic stores. This requires a mix of low rent properties as well as those commanding high rents. The flowering of restaurants in Center City Philadelphia and in many other walkable locations has a great deal to do with the presence of inexpensive space. When national chains arrive with their standard retail format, many urbanites see them as signaling the demise for neighborhood commercial areas. From a real estate perspective, however, obtaining high retail rents and attracting “credit tenants” may be the critical factor in encouraging developers to undertake mixed-use projects that add to local shopping opportunities.

Researchers, nonetheless, favor rent levels as an index of viability of commercial areas because large data sets are generally available, and they provide a relatively consistent basis for comparison. Identifying the determinants of rents in retail areas has been a long-term preoccupation of land economists. A study of shopping centers in Quebec City concluded that the household income levels of the area where the center is located and the mix of tenants in a center (particularly the presence of anchor stores) trumps proximity in producing high rents – and by extension, high business revenues.<sup>21</sup> Other authors, focusing on rents in community shopping centers, conclude “purchasing power matters greatly,” as does the distance between consumers’ homes and the center. However the value of proximity quickly dissipates beyond four tenths of a mile.<sup>22</sup>

The image of the shopping area also contributes to the rent levels in neighborhood and community centers, according to one study of shopping centers in the Atlanta area. Having a recognized supermarket chain as the anchor for a neighborhood shopping area increases the rent potential of adjacent spaces, as does the diversity of shopping opportunities that are present. L-shaped centers tended to perform better than strip centers, although the differences are slight.<sup>23</sup> The importance of having a dominant (by market share) supermarket chain confirms the findings of an earlier Denver study.<sup>24</sup>

Density has been shown as explaining much of the variation in performance of retail areas, although other factors also make a difference. A study of transportation choices found that “three D’s” – density, diversity and design – generally result in fewer driving trips and encourage non-auto travel.<sup>25</sup> A survey of walking behavior, conducted among a sample of residents in six US cities, found that residential densities and the presence of significant retail opportunities were positively correlated with the probability of residents walking.<sup>26</sup> We know from neighborhood studies that residents of areas with net densities of 21.7 units per acre or more are more likely to walk to destinations in their neighborhood.<sup>19</sup> This correlates with

residential areas that have a mix of apartments, townhouses and small-lot single-family houses.

Neighborhoods that are friendly to pedestrians often attract a disproportionate amount of commercial activity. A study of transportation diaries of shoppers in the South Bay area of Los Angeles compared four typical linear shopping strips in auto-oriented corridors to more compact shopping areas considered to be examples of “smart growth.” Trips to the more compact centers were more likely to be shorter and more likely to be on foot. It also found that business concentrations in walkable neighborhoods are “from three to four times as large as can be supported by the local resident base, suggesting that the pedestrian-oriented neighborhoods necessarily import shopping trips and hence driving trips from surrounding catchment areas.”<sup>27</sup> In short, there appears to be an unfilled demand for walkable retail uses, even in suburban areas.

Studies of the results of improving the pedestrian environment in shopping areas have generally shown that lowering the speed of traffic passing through an area and providing amenities for pedestrians (wider sidewalks, landscaping, streetscape improvements) pays dividends in terms of retail patronage and sales. Improvements to School Street in Lodi California, coupled with economic incentives, have helped attract 60 new stores, lowering the vacancy rate to 6 percent from 18 percent and resulting in a 30% increase in sales tax revenues (mirroring increased sales) since the improvements were completed in 1997.<sup>28</sup> In 1995, the City of West Palm Beach Florida made major investments in traffic calming and pedestrian realm improvements along Clematis Street, its traditional main street, including restoring the street to two-way movements. Improvements extended into the adjacent neighborhoods, making them more pedestrian-friendly, encouraging residents to walk to Clematis Street. Property values have doubled along the street, with retail rents rising from an average of \$6.00 to \$30.00 per sq ft.<sup>27</sup> Of course, many factors may have contributed to these increases. The changes occurred contemporaneous with the development of City Place, a large mixed-use center, itself a model of a walkable urban development that has attracted many new residents and visitors to the city.

In some cities, a significant fraction of shoppers arrive on bicycles rather than by walking, driving or taking transit, and there has been a rapid growth in efforts to encourage cycling in most cities. Bicycle lanes were added to Valencia Street in the Mission District of San Francisco by reducing driving lanes from two to one in each direction, while retaining on-street parking. Merchants were surveyed about its impacts. The results were encouraging: 63% felt that the number of customers arriving by bicycle increased, 56% felt that the number of local residents shopping there had increased and 37% reported sales increases – although 30% felt that there had been no real increase in business.<sup>29</sup> Interestingly, this occurred even as merchants reported a reduction of automobile traffic on the street. The results of adding bicycle lanes will undoubtedly vary depending upon the population of local neighborhoods and the nature of shops along the street, and in many cities merchants have strongly opposed allocating scarce street space to cyclists.

Improving the quality of the pedestrian environment is a favored strategy for promoting walk-in patronage in neighborhood and community shopping areas. Beginning in the 1960s about 200 American cities turned shopping streets into pedestrian malls, seeking to emulate the car-free environment of shopping centers.<sup>30</sup> Many of these efforts were aimed at reversing the decline of shoppers, as suburban shopping malls captured an increasing share of disposable income. Entertainment and programming was organized in the newly expansive pedestrian spaces. Some cities created transit malls, allowing only busses to travel along them, with expanded pedestrian sidewalks – Nicollet Mall in Minneapolis, Chestnut Street in Philadelphia, and 16th Street in Denver, are examples.<sup>31</sup>

Dozens of studies have been done on the impacts of these pedestrian malls, and the results are decidedly mixed.<sup>30</sup> The improvements have had a variety of impacts on businesses. Some businesses failed during the lengthy period of reconstructing the street, in part because it was difficult for shoppers to reach their stores. Many of these were businesses that were at the edge of failure before the improvements. Most studies indicated a bump in walk-in trade shortly after the mall was opened, after which sales in some areas stabilized, while others returned to their previous downward trend.<sup>32</sup> However, there were also success stories, particularly in college towns where the zones of leisure proved an attractive diversion – Pearl Street in Boulder Colorado, and East Main Street in Charlottesville, Virginia are good examples. Merchants in some shopping areas, including Church Street Marketplace in Burlington Vermont, reoriented their offerings to emphasize the new clientele and successfully revived their businesses. Other areas the mix of businesses evolved, emphasizing food, beverage and entertainment and have enjoyed success. Lincoln Road Mall in Miami Beach, Fourth Street in Louisville, and Third Street in Santa Monica are good examples. In the majority of cities, though, pedestrianization failed to revive the prospects of the business district, and vehicular traffic was restored to the streets, at the merchants' and property owners' insistence.<sup>33, 34</sup>

The favored approach to improving the pedestrian experience today is narrowing or reducing the number of traffic lanes while retaining or restoring on-street parking, widening sidewalks, adding bicycle lanes, improving the quality of materials on the street surface, adding pedestrian scale lights, benches and street trees, and creating zones for sidewalk cafes to add activity to the street. This balancing act is sometimes called creating “complete streets.”

Of course, neither transportation nor streetscape improvements will guarantee the success of a shopping area. Only strong merchants that attract customers can do that. But they can create the conditions where local patronage is encouraged, improving the base of support for stores. Ultimately, other factors will come into play as well, including the size of the area being served, competing opportunities, the cost and availability of sites for commercial uses, and the presence of businesses willing to make a commitment to the area. Most successful shopping streets have created business improvement districts (BIDs) to lead efforts in promoting, maintaining and marketing the attractions in their area.

## What Retail Experts Say About Walkable Shopping Areas

Often formal research lags the knowledge gained in the field by professionals involved directly in urban development. What the professionals know may be based on anecdotes and single -case experiences, but through them they gain a detailed understanding of how factors are weighed by firms and entrepreneurs looking for locations to establish their businesses. And as businesses succeed or fail over time, they reach conclusions about successful circumstances for retail development.

There is considerable enthusiasm for walkable shopping areas among economic development officials, marketing consultants, and real estate research firms. One source of optimism is the changing demographics and life-style preferences of households. Currently, only one third of U.S. households have children, and over the next two decades only 12% of new households being formed will have children.<sup>35</sup> Childfree households are prime candidates for locating in denser areas of cities, within walking range of commercial services and entertainment. Households with two working parents are also increasingly seeking to live in urban areas to simplify their lives, taking advantage of child-care services and after-school educational opportunities available in urban areas. The major deterrent is the quality of public education and the cost of private school alternatives, but charter schools and improving public schools may make this more of an option for young households in the future.

The large number of retiring baby boomers is a second demographic shift that could add support to retail prospects in dense urban areas. A substantial fraction has voiced a desire to be in urban settings, close to cultural and entertainment opportunities, and near high-quality health-care facilities. Many of these retirees are looking forward to a time when they can give up driving, hoping that it is sooner rather than later.<sup>36</sup>

Businesses are realizing the potential of locating in dense urban areas and are changing their formats to fit urban sites. Led by Whole Foods, supermarkets were among the first to adapt to the increased preferences for urban living, creating smaller stores, offering fresh produce and more prepared foods, reducing the parking they expect, and in some cases occupying multiple levels and offering home delivery service.<sup>37</sup> The success of urban pioneers has spawned a host of new entrants into the urban grocery field, and forced longstanding chains to adapt their retailing approach.<sup>38</sup>

Other businesses are also discovering the potential for sales in walkable locations. Formerly big-box retailers including Target and Staples have created scaled-down and multi-story stores in community retail locations, and chains such as Tesco and Safeway have been experimenting with urban prototypes. Reportedly, Wal-Mart has opened a mini-store of only 3,500 sq ft on the University of Arkansas campus – smaller than Sam Walton's original five and dime store.<sup>39</sup> In Vancouver, Home Depot has located in a mixed-use complex (The Rise) in the midst of a residential neighborhood, sharing the footprint of the site with a supermarket and other shops, with office space and housing located above them. Most large-format stores are

exploring how to adapt their retailing strategies to allow them to locate in vertical complexes, particularly where they can serve customers who arrive on foot, by transit as well as by automobile.<sup>40</sup> At the retail complex D.C. USA, located at Washington's Columbia Heights metro stop in the center of a diverse neighborhood, the large-format stores discovered that they had greatly overestimated the number of parking spaces they needed to make their sales targets. Their shoppers are largely people who walk to the complex or arrive by transit.

While supermarkets and chain stores are actively seeking locations in downtown areas and gentrifying neighborhoods, many low-income areas of cities remain underserved by such retail opportunities. Initiatives by The Retail Initiative of the Local Initiative Support Corporation (LISC) and The Reinvestment Fund's (TRF) retail program in Philadelphia, among other financial intermediaries, has resulted in dozens of supermarkets being built in underserved areas providing the anchors for neighborhood shopping areas.<sup>41</sup> And new retail chains that target neighborhood-shopping areas have emerged, including Villa (urban inspired apparel and shoes), Fresh Grocer and Harris Teeter (groceries and prepared foods), Mugshots Coffee House and Gothic Cabinet Craft (furniture).<sup>42</sup>

Every business has its own decision rules about where to locate. For some organizations the rules are formalized: they seek areas with a threshold of a specific number of residents and amount of purchasing power, and look for areas with high rates of growth in income. For others, it is largely an art of finding areas that "feel right." Nonetheless, retail experts offer guidelines for the average number of residents needed to support specific types of neighborhood or community businesses (see Table 2). By one estimate, an average household can support 72 sq ft of retail development. Of this, approximately 40 sq ft are in categories typically present in neighborhood retail areas, such as grocers, drug stores, cleaners, florists, video/entertainment, and eating/drinking establishments.<sup>43</sup> Of course, not all of a household's purchases in these categories will be made in the nearest neighborhood retail area, and an estimate of 15 to 20 sq ft per household is probably a safe estimate of what can be supported locally. Thus, if a neighborhood shopping area has 50,000 sq ft (of which 30,000 is a supermarket), it will require approximately 2,500 to 3,300 households or a population of 5,000 to 6,500 to support such a center.

Many of the new walkable urban shopping areas are being built as mixed-use projects with housing or offices above ground-floor retail outlets. In the past it was difficult to finance mixed-use projects because of lender restrictions such as the Federal National Mortgage Association's (Fannie Mae) limit of no more than 5% retail space in residential projects it financed. However, today there is a growing receptivity in the investment community to support such projects.<sup>14,44</sup> Lenders believe that these projects generally cost about 10% more to develop, but this is not a deterrent to attracting financing.<sup>45</sup> Developers see mixed-use projects as providing marketing advantages and diversification of the products they are offering.<sup>14</sup>

The retail landscape is also continuing to churn, as a result of the continued growth of on-line purchasing, the demise of several large national chains, the consolidation

of department stores, and the great recession that has changed consumer buying habits. Retail space in many US cities is over-built, resulting in high vacancies in many shopping centers, particularly in older malls and community shopping centers. Even before these changes, several large national chains, including The Gap began to diversify their retail locations, adding street-oriented retail outlets in communities with growing purchasing power.<sup>46</sup>

**TABLE 2**  
**SUPPORTABLE SQUARE FEET OF RETAIL PER HOUSEHOLD<sup>47</sup>**

Store Type	Supportable Sq. Ft. Per Household	% Neighborhood	Neighborhood Sq. Ft. Per Household
Building Material	2.6	0.0%	---
Hardware	0.5	5.0%	0.0
Department/Variety	13.4	0.0%	---
Food/Grocery	11.6	45.0%	5.2
Auto supply	2.6	5.0%	0.1
Gas Stations	5.5	0.0%	---
Apparel	4.5	17.5%	0.8
Shoe	1.3	17.5%	0.2
Furniture	3.5	5.0%	0.2
Home furnishings	1.6	5.0%	0.1
Appliance	0.5	5.0%	0.0
Radio/TV/Computer/Music	2.3	5.0%	0.1
Eating Places	12.4	45.0%	5.6
Drinking Places	1.5	45.0%	0.7
Drug	3.1	45.0%	1.4
Sporting Goods	1.4	5.0%	0.1
Book	1.0	17.5%	0.2
Hobby/Toy	1.0	17.5%	0.2
Gift	1.0	17.5%	0.2
Flower	0.5	17.5%	0.1
<b>Total</b>	<b>71.8</b>		<b>15.1</b>

The ongoing restructuring of retail areas as a result of the entry of large chains such as Target and Wal-Mart into local areas – particularly as they penetrate urban areas – has resulted in the loss of general merchandise, groceries, apparel, electronics, home furnishings and building supplies from downtown and community shopping areas, and their replacement by new businesses such as restaurants, coffee shops, art galleries, antique stores and professional service firms.

Perhaps the greatest uncertainty on the retail horizon today is the long-term implications of rapidly increasing Internet sales. While such sales make up only a small part of the retail pie – about 4.6% in 2011 – sales have been growing by 17% annually.<sup>48</sup> Internet sales are eating into the volumes of many retail outlets, but at the same time firms that have a good web presence have seen their sales explode. Among the casualties in the shift is Borders Books, which was too late in recognizing the implications of Internet book sales and downloads. Their demise has left vacancies in many community shopping areas. In some urban locations Internet sales of groceries is having an effect on supermarket revenues. Many merchants are pursuing a “bricks and clicks” strategy of leveraging their supply chains and local presence to provide rapid Internet service. Businesses selling commodities are likely to be affected more than those with unique products or providing entertainment along with consumption.

These changes are the latest examples of creative destruction Schumpeter spoke about.<sup>49</sup> Many of the functions that lost are being reinvented, with boutique grocery outlets, high-touch services, seasonal pop-up shops and increasingly specialized retailing showing their face in community shopping areas. Retail experts continue to be bullish about the development of “street-based retail” in areas with the potential for a large walk-in population.<sup>14</sup>

## A Look at Examples of Walkable Shopping Areas

Much can be learned about the current status of walkable shopping districts by visiting examples of where they appear to be functioning well. Most cities have a few areas which benefit from walk-in patronage, many cities are promoting the revival of walkable shopping districts, and there are a growing number of new centers being created that aim for a balance of neighborhood serving outlets as well as shops that cater to a wider market area. The following vignettes capture some of the successful types of walkable shopping areas. Recognizing the limitations of Walk Score® ratings, they have been calculated for a central location in each area mentioned.

### Traditional Shopping Streets

Germantown Avenue in the Chestnut Hill and Mount Airy neighborhoods (Walk Score® rating = 89) in Philadelphia is every person’s archetype of a neighborhood shopping street. Following an historic streetcar route (the tracks remain, but trains have been replaced by buses), the cobblestone street slows traffic, and pedestrians cross from side to side easily. Many of the shops have been there for years, including a jeweler in Chestnut Hill that dates from 1912 and is now run by the third generation, but each year enough new shops open to add interest to the street. The street’s allure is the rich diversity of outlets, catering to everyday needs (hardware, food shops, a wine and spirits stores, bakeries, drug stores, dry cleaners, banks, barber and hairdressers), but also offering fashion items for men and women, gourmet foods, gifts, antiques, galleries, home furnishings, kitchen supplies, hobby and craft shops, electronic stores, music stores and academies, cafes, coffee shops, restaurants, and spas. More than 140 shops line the mile-long shopping strip along Germantown Avenue in Chestnut Hill, and at least 50 business and professional

Photo by Mike Szilagyi



Germantown Avenue Streetcar Line

Photo by Gary Hack



Germantown Avenue Shops, Chestnut Hill



services, associations and institutions. Dozens more may be found along the avenue in Mount Airy, a mile away.

Residents of Chestnut Hill and Mount Airy have great loyalty towards their local shopping districts. They value the mix of local and national outlets, and have debated at great length whether to allow large national chains to locate there. The most recent entry of a large new outlet was Borders Books, which for a decade became an anchor at the western end of Germantown Avenue, but now stands vacant looking for a new life. Many local residents walk ten or fifteen minutes to the shopping area, but many more drive there, park and shop several blocks of the street. The Chestnut Hill transit station located on the avenue provides a steady flow of commuters who pass by shops on their way to and from home.

Germantown Avenue is the kind of local shopping street many communities would like to have. However, it is the product of a long, slow evolution that cannot be duplicated overnight. Those who run the shops own many of the structures, and the inventories and fixtures have long since been paid for. The problem for many is succession, not startup costs. Community activism serves as a barrier to large new outlets locating nearby. And the incomes of Chestnut Hill residents are among the highest of any neighborhood in Philadelphia, providing the potential to support many retail functions.

At the opposite end of the spectrum is Broadway on the Upper West Side of Manhattan (Walk Score® rating = 100), a four-mile continuous shopping street that serves as the main street for a community of 200,000 residents. At 60,000 persons per sq mile and household purchasing power that is roughly 200% of the national average, the area is able to support virtually every shopping need of its residents. No one is more than 10 minutes from Broadway, and virtually everyone walks to shops from their home. There is good bus service along the street and mass transit operates below it, with stations spaced six to ten blocks apart (1,500-2,500 feet). This makes it possible to shop by transit along the length of Broadway.

Along Broadway there is a drug store every four blocks, grocery store every six, and florists, convenience stores, hardware and dry cleaners every two to three blocks. Most blocks have at least one restaurant or bar. Every banking chain has distributed its branches regularly along the street. Some areas along Broadway have developed special identities, often centered on New-York-centric shops such as Zabar's, Citarella, and Fairway. The area near Lincoln Center is the zone of cinemas and other entertainment venues. National chains are well represented along Broadway, but there are thousands of local one-of-a-kind stores that local residents swear by. Many of the grocery stores provide home delivery, and virtually every small restaurant delivers take-out orders to nearby resident's doors.

Because of the high cost of space, stores have to make concessions on their layout to locate on Broadway. Fresh Fields operates its highest grossing store entirely on the basement level. A scaled-down Trader Joe's is split between two levels below ground, with a small shop front on the street, as are Staples and many of the drug

Photos by Gary Hack



Germantown Avenue Shops, Chestnut Hill



Germantown Avenue, Mount Air

stores along the street. It is also interesting to note what cannot be found along Broadway: no department stores or large general merchandise discount stores, no branded hotels (north of 66<sup>th</sup> St.), few furniture stores, only one white goods appliance store, and no automobile dealerships or gas stations. All of these are accessible by subway (or car) within a few minutes from the Upper West Side.

Few cities have either the high densities or long traditions of street oriented shopping just cited, but there are thousands of local shopping districts, which command loyalty and provide services within walking distance of where people live. Loyalty is what sustains ethnic shopping areas, attracting customers from many miles who add to the walk-in trade from the neighborhood. A study of three Los Angeles ethnic shopping strips found that half or more of the customers drove one to five miles to obtain foods and goods popular in their culture and to socialize with others with their heritage.<sup>50</sup>

Pacific Boulevard in Huntington Park (Walk Score® rating = 86) reconstituted itself after the Watts Riots as a Latino shopping district and has become the cultural center for groups from Mexico and Central America. The streetscape has been improved and benches added to allow patrons to linger and socialize. The majority of the stores are small, although some larger Mexican chains have located along the one-mile strip. About 40% of the 127 stores were oriented to the fashion preferences of Latinos (including fiesta dresses and tuxedos); 20% offered shoes, and the balance included general merchandise and food stores, jewelry shops, music and electronic stores, restaurants, and fast-food outlets. Six shops specialized in bridal gowns and wedding goods. Much of the street is devoted to discount and value-oriented merchandise. Shoppers come for the special atmosphere of the street, but also to find goods at an affordable price.<sup>50</sup>

Little Village (Walk Score® rating = 78) is Chicago's version of Pacific Boulevard, and represents the center of Latino commerce in the city. With over 1,000 businesses along West 26<sup>th</sup> Street and a large Mexican-American population nearby, it serves an important role in supporting Latino culture. Most Little Village residents spend some time on the street each week. Part of its attraction is the wide array of services available in Spanish, many of them (such as immigration services) critical to Latino residents. While other shopping areas in the city may offer better value priced goods, none of them is able to serve the regular needs of an immigrant population whose first language is Spanish.

Commercial streets catering to Chinese and other Asian groups also garner wide loyalty and illustrate the special retailing dynamics of ethnic shopping districts. Shops in the commercial strip along Valley Boulevard in San Gabriel, a "suburban Chinatown," are almost equally divided between outlets owned by businessmen, and family owned and run enterprises. The family-operated shops are small, generally with one to five employees (often all family members) running mainly bakeries, dry cleaners, hair salons, and pharmacies. The larger supermarkets, electronics stores, furniture stores and large restaurants, which require greater amounts of capital to establish and run, are owned by a wide array of businessmen from Asian and other countries, and employ a more diverse group of employees, including Mexican

Photos by Gary Hack



Broadway, Upper West Side, New York



Broadway, Upper West Side, New York

Americans.<sup>50</sup> Extending business opportunities to their family is as important to many Asian business owners as making a large profit. They use surplus funds to buy similar stores in other areas, often tapping loan funds from others in their community. As areas become established, Asian-oriented commercial areas have evolved with the construction of small enclosed or L-shaped malls with crowded off-street parking areas to accommodate the growing proportion of shoppers who drive to the centers.

Street oriented retail areas usually reflect and, on occasions, foreshadow ethnic and demographic shifts in the area they serve. The Wicker Park-Bucktown neighborhood in Chicago (Walk Score® rating = 88) has seen a procession of immigrant groups: Germans through 19<sup>th</sup> Century, replaced by Poles who predominated through the 1960s (the area takes its name from the large number of goats or ‘bucks’ kept by the Poles), succeeded by Puerto Ricans and other Latinos until the end of the century, and most recently replaced by a growing artists community and young professionals. The prime location of the neighborhood, near the Loop and well served by subways, has made it a desirable location for new urban households. Houses with good bones in the neighborhood have been renovated, vacant lots filled with modernist houses, and smaller homes replaced by new one and two family structures. This is a classic pattern of gentrification.

With each new ethnic group, the commercial strips along North Milwaukee, West North and Damen Avenues have changed their character. In their most recent incarnation, they have become among the trendiest streets in Chicago, with over 150 restaurants, many coffee houses (16 at last count), unique bars, music spots, theaters, and other entertainment venues. The shopping streets have been transformed, building-by-building, into galleries, boutiques, and shops specializing in everything from apparel and jewelry to crafts and home furnishings. In the process, many older neighborhood-oriented shops have been priced out – many catered to the Latino population that has also been displaced or sold out to capture their gains. But there remain at least 13 food stores, and a new conventional shopping center has been constructed the southern end of the neighborhood, anchored by a large grocery/drug store. Matching street-oriented shopping with a well-sited center containing large-format stores, all within easy walk of residents, has become the preferred strategy in urban shopping locations. Keeping two miles of retail frontages alive in an urban area requires a combination of citywide patronage (particularly supporting the restaurants, entertainment and boutiques), with people arriving by transit or car, and local residents walking to the shopping streets.

Photos by Gary Hack



North Milwaukee Avenue, Bucktown, Chicago



North Milwaukee Avenue, Bucktown, Chicago

## CASE STUDY: Little Village, Chicago

Walk Score® rating = 78

Photos by Gary Hack



W. 26<sup>th</sup> Street, Little Village



W. 26<sup>th</sup> Street, Little Village

Little Village is reputed to be the largest shopping area, judged by retail sales, outside Central Chicago. It is also the cultural center of Latino groups, hosting the Mexican Independence Day parade and celebrations annually. The shopping street along 26<sup>th</sup> Street centers a well-maintained neighborhood of single, duplex and small apartment houses between Western Ogden, Costner and I-55. About 91,000 residents live in the Little Village area, and over 80% have Mexican origins. The shopping street is 2-4 blocks from the nearest mass transit stations.

Over 1000 businesses make their home in *La Villita*, as it is called locally, most along 26<sup>th</sup> Street. Most merchants are Mexican immigrants or their children, although a significant minority of Korean merchants is also present. The most common businesses are Mexican restaurants and dance clubs, taquerias, hellados, laundromats, supermarkets, banks actively soliciting the “unbanked,” bakeries, clothing stores, shoe stores, travel agencies, thrift stores and furniture stores. At least four bridal shops are located along the street, and other shops cater to Mexican fiesta ware. The shopping street may be one of the few places left in Chicago to find fresh killed poultry. Street vendors complement the stores, offering crafts, trinkets, bargain items, ice cream and flowers. Side streets intersecting with 26<sup>th</sup> Street include auto repair shops, auto body outfits and a variety of services that do not require street frontage.

One of the features of *La Villita* is the heavy presence of specialized services catering to the immigrant community. Upper floors of shops (and some shop fronts) accommodate lawyers, immigration experts, insurance agents, check cashing services, accounting and income tax services, medical clinics, veterinarians, social

service organizations and employment agencies. Accessing services in Spanish is an important draw for many shoppers.

Like all such districts Little Village is undergoing changes, some the result of success, others a normal process of succession. Restaurants continue to open, and shops are seldom vacant for long. Many of the small family operated retail businesses are giving way to fast food outlets or dollar stores. The longstanding plans for redeveloping a 40-acre vacant former industrial site at the western end of 26<sup>th</sup> Street have floundered for a variety of reasons, including disputes over the kinds of uses that would reinforce the existing commercial uses. Many residents would like to attract a Wal-Mart store to the neighborhood, while many merchants see such a move as the demise of value oriented commerce on the street.

## Transit-oriented Shopping Areas

Transit-oriented shopping areas date from the extension of railroads out of major cities. Philadelphia's Main Line towns, many of the suburbs of Westchester County, and the communities along Chicago's North Shore all owe their origins to passenger railroad service begun in the 19<sup>th</sup> Century. Many of these suburban town centers have remained important to their communities and some have seen a retail revival in recent years.

Lake Forest Village, north of Chicago, is an important model of a shopping district adjacent to a suburban railway station. Opened in 1916, Market Square was designed to house a mixture of shops, offices for local services and apartments across the road from the Union Pacific station. Modeled on Forest Hills Village in Queens New York, it has a green square at its center, surrounded by handsome commercial buildings. Side streets and courtyards beyond the square provide less expensive (and less visible) spaces for other shops that cannot afford premium rents. The complex has had its ups and downs over the years, although until 2006 was anchored by a Marshall Field's junior department store. Perhaps a sign of the times, it has been replaced by a spa. Market Square now has a wide mix of national outlets (Talbots, William Sonoma, J. Crew, Einstein Bros Bagels) and unique local shops, including several exclusive women's boutiques, shoe stores, gourmet foods, a wine shop and a fine independent bookstore. Most of the national chain shops are a scaled down version of their shopping center prototypes.

The shops of Market Square (Walk Score® rating = 85) appear well supported by its community, which is one of the wealthiest in the US. Perhaps a third of the shoppers arrive there en route to or from the rail station, a smaller fraction arrive on foot, mainly students from the nearby Lake Forest College, and the balance drive to the shopping area, parking on the street or in a small parking area behind the complex. Lake Forest is blessed with having stations on two METRA lines, and over the years the Milwaukee District line on the west side of the town has grown in volume at the expense of the historic station. Along with it, shops and services have been built adjacent to the West Lake Forest station. Nonetheless Market Square remains a fine example of a longstanding walkable shopping area that towns would do well to emulate.

Over the last several decades, the construction of mass transit lines has created the opportunity for new transit-oriented developments. In some metropolitan areas, including the Bay Area and Boston, residents near transit stations have resisted new development that might change the character of their neighborhoods, down-zoning sites surrounding stations, and forcing stations to be located far from any concentration of population (as at the Alewife Massachusetts Bay Transportation Authority (MBTA) station in Cambridge). An exception to this trend has been the development of the Washington Metropolitan Area Transit Authority (WMATA) system in Washington D.C., which has been accompanied by a concerted effort to stimulate station area development. WMATA has aggressively purchased excess land

Photos by Gary Hack



Market Square from Lake Forest Station



Market Square, Lake Forest, Illinois

around stations (harvesting the gains in land value after the station opens to cover portion of the capital costs of the line) and worked with local cities and counties to plan and promote transit oriented development. Projects within walking distance of the transit station lock in patronage for the system, while allowing residents to live and work in the area without the necessity of driving.

There are at least a dozen excellent examples of station-area developments in the Washington area. Each responds to local circumstances and opportunities. The Friendship Heights station at the District boundary has helped create one of the most exclusive shopping districts in the region; the Alexandria Station (Walk Score® rating = 98) has brought tourism to its charming historic district; the Bethesda Station (Walk Score® rating = 97) has stimulated the growth of a major office district and made possible the creation of a large entertainment, retail and restaurant district beside it, and the recently opened inner-city New York Station (Walk Score® rating = 78) has stimulated the development of a new office and residential sector of the city dubbed NOMA (North of Massachusetts Avenue). Perhaps the two most interesting transit oriented developments from a walkability perspective are adjacent to the Clarendon and Columbia Heights stations.

Clarendon (Walk Score® rating = 94) and Columbia Heights (Walk Score® rating = 94) could hardly be more different. Clarendon caters to an upscale, generally young population that works in the suburbs or commutes to downtown Washington using the Metro. Many have young children, are in the process of acquiring furnishings for their homes, and shop in the neighborhood after work or on the weekends. During the day and evening hours the substantial number of people who work in the area or go there for dining and entertainment joins residents on the streets. Since most residents have an automobile, they retain the option of driving to regional malls and other shopping areas a few minutes away for clothing and other purchases. Columbia Heights, on the other hand, has a more captive population of residents, who shop for a broader array of goods at Target and other stores. They have fewer nearby entertainment and dining choices and depend upon the area for their medical and other service needs. Each center is successful in its own terms and demonstrates the virtue of local shopping areas near public transportation, which can multiply the trade area beyond the walk-in population.

Columbia Heights and Clarendon each had a long retailing tradition, albeit one that had been in decline for many decades. However, creating a transit-oriented neighborhood shopping area *de novo* is a vastly more difficult task. Such opportunities exist in cities with aggressive programs of extending light-rail lines to the suburbs.

An excellent example of a new suburban transit-oriented development is Orenco Station in Hillsboro Oregon (Walk Score® rating = 62). Its mixed-use center is two blocks from a new light rail station, and is beginning to attract shoppers from the growing community. A comparative study of Orenco Station and three areas of the city that are demographically comparable (one in the urban grid, and two suburban residential areas one near and the other distant from light rail transit) revealed that

Orenco Station residents walked more and used transit for more commuting trips. In a typical week, 50% of Orenco residents walked to a local store five or more times, compared with only 5% of residents in the Beaverton area, with similar demographics. The number walking regularly to shops in Orenco increased substantially from 2002 to 2007. In 2007, being “close to shops,” topped local residents lists of things most liked about the Orenco community.<sup>51</sup>

New suburban walkable centers need to build habits of use and loyalty in a competitive retail environment, where the majority of shoppers are already in their cars. Until there is a critical mass of residents within walking distance, shops struggle to stay afloat. When shops are not directly adjacent to the transit station, they need to persuade commuters to divert from their most direct path to patronize the stores. Developers and merchants need to have patience in nurturing new transit-oriented developments until the area becomes established.



## CASE STUDY: Clarendon, Virginia

Walk Score® rating = 94

Photos by Gary Hack



Clarendon Metro Station



New Development Adjacent to Clarendon Metro

Clarendon is possibly the most successful transit-oriented development area in the country. It has its origins in the decision by Arlington County to put the Metro line destined to Ballston underground through the center of this historic village and to promote the area as a mixed-use 24/7 living/working/shopping/entertainment area. Over 1.1 million sq ft of office space, 2,300 housing units and nearly 600,000 sq ft of retail space have been constructed in the area in recent years. Its streets are filled with urbanites young and old who live or work nearby. Its easy access to downtown Washington and other areas via the Metro makes it a destination for visitors meeting friends in restaurants and entertainment venues.

Clarendon was one of Northern Virginia's most important retail centers through the 1960s, boasting several department stores and a range of downtown retail uses. These stores gradually faded as regional malls were built, and the area became an ethnic Vietnamese area. The large sites in the area (Sears store, auto dealership and other historic uses) provided readily assembled parcels for mixed-use developments.

Two events changed character of Clarendon: the arrival of the Metro station in the 1980s and the location of a Whole Foods store on a former car dealership three blocks from the station. The past two decades have seen an explosion of mixed-use projects with ground floor retail spaces (and second floor, in some projects), with 4-10 story housing and office spaces above. Shopping opportunities now include large national chains (Crate and Barrel, the Container Store, Barnes and Noble, Williams Sonoma, Pottery Barn, an Apple Store) and a variety of local and home-grown establishments. There are very few vacancies on the commercial frontages. On side streets, in less expensive space, barber shops, hair salons, and a variety of local services remain in older and renovated spaces. Clarendon has become known for its

dozens of restaurants and entertainment places, which are filled with office workers at noon and attract people from the region after working hours throughout the week and weekend.

Photos by Gary Hack



Whole Foods Supermarket at Clarendon



Clarendon Commons Mixed-Use Development

The majority of local shoppers live in new high-rise housing near the station, although a significant stock of older housing within walking distance of the shopping is being upgraded for new owners. While many shoppers are walk-in customers, two large parking garages have been constructed (with shops lining the street levels) to accommodate those who drive to Clarendon. The range of shops requires a much larger base of support than living nearby.

Approximately 7,600 people live within one-half mile of the Clarendon Metro Station, and over 10,000 work within this radius. Transit enjoys a 44% modal split among these residents and employees. Transit ridership has grown by 119% since the station opened.

The Clarendon Metro Station occupies the space created by four major arterial streets – Clarendon and Wilson Boulevards (both designed Great Streets by APA), Washington Boulevard and Highland Street. While each can be congested during peak hours, it does not deter pedestrians from shopping along the sidewalks and in the courtyards and plazas created in the Market Common complex. Streets have been landscaped, crossings improved for pedestrians, and the central park adjacent to the Metro station is in the process of being upgraded.

The lessons from Clarendon include the importance of transit access in stimulating mixed-use development, the critical mass needed to attract flagship stores, and the synergy gained by mixing nighttime with daytime uses.

## CASE STUDY: Columbia Heights, Washington, DC

Walk Score® rating = 94

Photos by Gary Hack



*Metro Station with D.C. USA Development*



*Tivoli Theater, Supermarket, New Housing*

Columbia Heights is located along the 14<sup>th</sup> Street Corridor, an area badly scarred by the riots of 1968. Many shops and houses remained vacant for years, and there have been countless efforts to revive the historic shopping district. Beginning in the 1990s, the population of the area became more diverse, with Hispanics moving in, and the wave of gentrification moving northward into Columbia Heights. In 2010, the area was arguably D.C.'s most ethnically diverse neighborhood with a 44% African American, 28% Hispanic, 23% white, and 3% Asian population.

The transition of the area to a shopping magnet began in 1996, a major initiative of the D.C. government anticipating the opening of the Columbia Heights Metro station, which opened in 1999. The Tivoli Theater, once a high spot of the neighborhood culture, was restored, and its street facing shops were re-tenanted. A Giant food store located on an adjacent site and several new housing projects were developed for market rate and assisted tenants. The key to the area's revival was the construction of D.C. USA, a 546,000 sq ft retail complex across from the Metro Station, which opened in 2008. Anchored by Target, Best Buy, Bed Bath & Beyond, and Washington Sports Club, it also includes 390,000 sq ft of underground parking – demanded by the major retailers as a condition of locating there – which has never been fully used. In recent years the Dance Institute of Washington opened a new facility next door on 14<sup>th</sup> Street, and the area remains a home for several embassies and the Mexican Cultural Institute.

Columbia Heights attracts shoppers across a broad spectrum of households and income levels. Approximately 29,000 people live within one-half mile of the Metro

station, the largest number for any station on system, 17% travel by transit to their destinations. The area's sidewalks (with newly installed streetscape) are crowded through much of the day and on weekends. While there is turnover among the smaller merchants, the vacancy rate is much lower than in the past. A number of new bars and restaurants have opened on side streets, and some of the nearby housing is being converted for small businesses. New types of shops, addressing the preferences of each group in the neighborhood – the “hip” younger set, working professionals, Hispanic families, middle class households, elderly, students) – continue to open, and the upper floors of buildings are occupied by a broad range of health and professional services.

## CASE STUDY: Orenco Station, Hillsboro, Oregon

Walk Score® rating = 62

Photo by Costa Pacific Realty

Photo by Steve Szigethy



Town Center, Orenco Station



Town Center, Orenco Station

Orenco Station draws its name from the Oregon Nursery Company which had created the rudiments of a company town on the site prior to going bust in the Great Depression. When Portland's TriMet Westside light-rail line was extended out to Hillsboro, the 209-acre site became the logical location for a "town center" in the 2040 metropolitan plan. Located close by is an employment center with 15,000 workers, the "silicon forest," and the Orenco MAX station is the nexus of a web of bus routes funneling commuters to the transit line.

The core of the site is a 49-acre walkable mixed-use center, with housing over shops along Cornell Street, the area's new main street. The first stage of the center opened in 1997, and it continues to develop. Retail uses build on the well-known Hillsboro Sunday farmers market, which has been a local destination for many years. A home grown supermarket, New Seasons, continues the fresh food tradition. Other early shops include two restaurants, cleaners, a kitchen supply store, women's clothier, coffee shops, gift shops, video shop, print shop, bank, and pet market. The Orenco hotel adds a spa and restaurants to the town center. Many of the merchants live in the town, several in live-work townhomes designed for this purpose. Nearby, also within walking distance, is Crossroads at Orenco Station, a more conventional community shopping center anchored by a large grocery store, discount store, and drug store.

A comparative study of Orenco Station and other areas revealed that Orenco Station residents walked more and used transit for more commuting trips. In a typical week, half of Orenco residents walked to a local store five or more times, compared with only 5% of residents in comparable areas.

Nonetheless, shops in the town center have continued to struggle to build their sales volumes. As more housing units are added nearby and the area becomes better known as a destination, sales will grow. One of the difficulties is that the shopping area is two blocks from the station itself, although most pedestrians and buses pass the town center en route to the station. It demonstrates the importance of having shops visible from the transit station.

## Larger Suburban Town Centers

Two privately developed new towns were begun in the Washington metropolitan area in the 1960's: Columbia Maryland and Reston Virginia. Neither is served by transit to Washington or Baltimore, forcing their designs to be largely auto-oriented. Both created systems of neighborhood retail centers distributed throughout the community, some of them quite innovative. Columbia's neighborhood centers cluster schools, religious facilities, and other institutions around retail uses, allowing residents to avoid multiple trips. For their town centers, each developed a mix of office, retail and residential uses, but their designs are poles apart. Columbia, developed by the Rouse Company that was best known for its regional malls, developed a multi-level mall at its center, surrounded by parking. While it was possible to walk from to mall to nearby offices, the library and the waterfront, few people actually did – they behaved as if they were going to a suburban mall. Reston viewed its town center as an organic development built on the principles of older downtown areas, with a grid of streets and development sites. Today, forty years later, Columbia is contemplating the demolition of its original mall, while Reston is celebrating the success of its town center, which continues to add businesses and residents.

Reston Town Center (Walk Score® rating = 83) is a walkable environment that serves as a mecca for surrounding suburban areas, drawing as many people on weekends as during the week. People actually drive to the area in order to enjoy an urban environment with brick sidewalks, shops, parks, squares, and entertainment places. Its office space commands premium rents, housing sells or rents briskly, and the town center now boasts of more than 50 retail outlets, 30 restaurants, a multiplex cinema, and a Hyatt Regency hotel. The Pavilion at the center of downtown hosts special events, concerts and ice-skating in the winter. Through the summer months there are festivals that draw thousands to the area, and a procession of meetings and conferences at the hotel brings visitors to Reston each day.

Retail uses at Reston Town Center are dominated by restaurants and bars, entertainment venues, upscale clothing, gourmet foods, and boutiques of various kinds, including the best-known national chains, serving the needs of employees and visitors. The growing resident population in and around the center is not well served by the offerings in the town center. But hedging their bets, the developers also created the Spectrum Center next door to the town center with a full-scale supermarket and other large-format shops. If you live in or near the town center, it is possible to walk to the Spectrum Center, but few people actually do; many more stop by on their way home from work or make a weekend excursion for their weekly needs. Health care facilities, the regional library and a large building-supply outlet are also located a short distance from the town center.

The dream of Reston Town Center has always been to connect to the mass transit system and become part of the system of Washington-Baltimore's linked metropolitan sub centers. Currently a bus transit station at the edge of the town center provides service to the District and other nearby locations. With the extension of the

*Photo by Gary Hack*



*Reston Town Center*



*Reston Town Center*

Silver Line of the Metro system, Reston Town Center is scheduled to become fully accessible by rail transit in a few years.

Reston has taken 45 years to build and currently has close to 60,000 residents. In few places is there land available in single ownership to build a full-scale new town. The more usual situation is developing parcels of 500 acres or less, in an environment where there are competing claims on the shopping dollars of residents. The ambition to create community shopping area needs to be scaled down to what can be supported by the population on the site and its immediate environs.

Kentlands (Walk Score® rating = 86) in Gaithersburg Maryland is an ambitious attempt to build a diverse shopping place for an innovative walkable community and bears a careful look. It is successful in encouraging residents of Kentlands and the adjacent higher-density suburban areas to walk to local services, entertainment, and some shopping outlets. It struggles to attain a critical mass, however, and, ultimately, its success may, like Reston's, hinge on construction of a light-rail link to the regional metro system. Rent levels, particularly in Main Street shops, have been lower than hoped and there is more turnover than desired. But studies of housing prices in Kentlands have shown a significant premium on residential values that can be attributed, in part, to the walkable environment. The shopping area is planned so that over time, it has the opportunity to add new shopping opportunities, becoming denser, and adapting and changing with the needs of the population of community.



## CASE STUDY: Kentlands Downtown, Gaithersburg, Virginia

Walk Score® rating = 86

Photos by Gary Hack



Market Square, Downtown Kentlands



Main Street, Downtown Kentlands

Kentlands is one of the earliest examples of a New Urbanist Community in the U.S. Planned in 1988, it includes housing at a variety of densities from small-lot detached houses to townhouses to garden apartments, institutions, recreation facilities, and a large commercial area. Creating a successful commercial area was essential to the finances of the project, since it was expected to carry a large fraction of the site acquisition costs. However, after the development of the residential area began, the project became a casualty of the 1990 recession and the developer of the commercial area withdrew. The entire project was taken over by the lenders.

Revived in 1991 under new ownership, Kentlands has become a successful walkable residential development, with 1800 homes. An adjacent site, Lakelands, has been planned and developed in a similar manner, adding 1410 more homes. A study of housing prices in Kentlands found that buyers were willing to pay a 15% premium for their houses to live in the community, evidence of the value of walkable new urbanism.<sup>52</sup> Over the years, cultural institutions have been added to the community as well as schools, churches and a community recreation center. Adjacent to Kentlands, development includes a large pharmaceutical facility with several thousand employees, an R&D park, and a variety of more conventional subdivisions.

Developing the shopping area, however, proved problematic for many years.<sup>53</sup> After several false starts, it was ultimately developed as three linked areas:

- Kentlands Square, a large-format store area, developed with national chains including K Mart, Lowe's, Giant Supermarket, Panera Bread, Chipotle

Mexican Grill, and banks (complete with drive up windows). The area was planned with a grid of streets and blocks, so that residents of Kentlands can walk to the stores, and allowing it to change and become denser over time.

- Market Square, a largely one-story street-oriented shopping area with a mixture of national chains and local outlets, that include boutique clothing, bakeries, household furnishings, wines, gourmet foods and candies, pet supplies, and art supplies. The area also includes a professional office building, health care facilities, a cinema, several restaurants and a square where farmers markets are held during the summer months.
- Main Street, a three-story street-oriented mixed-use development, lined with shops on one side and portions of the other side, depending upon the preferences of the owners of properties.

Photos by Gary Hack



Kentlands Square, Downtown Kentlands



Offices in Market Square, Downtown Kentlands

*This is a unique attempt to create an "organic" shopping street, where individual property owners decide upon the ground floor uses. The majority of uses are professional services including dentists, hair and nail salons, judo and yoga studios, music academies, realtors, and the like. Retail stores include beer and wine, coffee shops, restaurants, jewelry and crafts, gallery and framing, and children's clothing. In some instances, owners of shops live in the upper stories above them; in other cases, the upper floors are condominiums, rental housing units, or small office spaces.*

Together the three areas provide a wide array of goods and services for residents of Kentlands, Lakelands, and adjacent communities. A few residents walk to Kentlands Square, but the majority of the patronage comes by car. Merchants would like greater visibility for their center, which turns inward, away from the nearby arterial streets. Market Square appears to attract a mix of walkers and drivers, including employees of the office space on the square. On-street parking makes it an attractive place to reach by car. The cinema is a magnet attracting people to dine in the area's restaurants, and sidewalks are busy with shoppers on weekends, less so during the week. A larger fraction of Main Street's patronage arrives by foot, and merchants in the area speak of loyal customers who visit their establishments regularly. Because of the diverse ownership of the area, the tenants are skewed to those who can deliver

dependable results drawing on the local market. As a result, the street has multiple dentists, hairdressers, and nail salons and has become a local service street rather than a traditional shopping area.

Seeking to develop the commercial area, businesses have joined together to form the Kentlands Downtown Partnership. They are advocating for the a light-rail connector from the downtown area to the major mass transit stop in downtown Gaithersburg, improved crossings on Great Seneca Highway (Route 119) to encourage pharmaceutical workers to walk to the downtown and increased festivals and other cultural events to attract more patrons to the area.

## Summary: What We Know About Walkable Shopping Areas

What does this collection of research, opinions and case examples tell us about the performance of walkable urban areas? There are at least nine conclusions that can be drawn:

1. *There is great enthusiasm for walkable shopping areas among retail experts, developers, and many residents of urban and suburban areas.* Demographics, increased gas prices, public policies that encourage higher densities, and changing life style preferences all point in the direction of greater support for walkable retail areas.
2. *Walkable retail areas have the potential to attract many people beyond the immediate walking radius.* An important finding is that walkable retail areas often attract more patronage and more retail stores than their immediate trade area would suggest. They realize a “place dividend” by developing a unique local identity.
3. *Businesses appear to do better in walkable commercial areas than in areas attracting mainly drive-to patronage.* Evidence suggests that rents in walkable shopping areas can be 27-54% higher than in non-walkable areas. Many of the most successful recent shopping developments have been located and designed to attract a substantial walk-in population.
4. *To be successful, walkable retail areas need to cater to diverse needs and reach a critical mass.* Successful retail areas need to encourage multi-purpose trips, which means offering not only unique local shops but also more generic larger-format outlets and services. One successful strategy is to couple specialized street-oriented retail with areas capable of accommodating large grocery, pharmacy, discount, and category killer stores.
5. *Supermarkets that have created attractive brands are important anchors for walkable neighborhood shopping areas.* Many successful local shopping areas were built around the arrival of a highly attractive supermarket. In underserved communities, developing supermarkets has been the most successful strategy to create walkable shopping areas.
6. *Mass transit is an important component of the best walkable retail areas.* The surest way to assemble a critical mass of shoppers is to locate a shopping area at a mass transit station. Coupling transit with high-density housing and workplaces can lock in patronage for a shopping area.
7. *While there is a great deal of turnover in neighborhood shops, over time the accumulated loyalty and equity in businesses help breed success.* Retail establishments generally have high turnover rates, and maintaining a stable core of shops and services is critical for developing loyalty towards an area. Turnover can also be an asset, allowing new shops to reflect changing demographics and creating new reasons for shopping in an area.

8. *Ethnic shopping areas and urban life-style areas have the built-in patronage to make local shopping a success.* Some of the most successful walkable shopping areas in the US are ethnic areas that have become the social as well as retail centers of their communities. Close behind are shopping areas catering to new urban lifestyles that tap the purchasing power of young households and families with an upward trajectory of income growth.
9. *The presence of nearby walkable shopping areas can yield dividends for home prices in surrounding areas.* A compelling conclusion of research is that walkable shopping areas increase nearby housing values. They are a reflection of the desires of a broad cross-section of urban residents to live in a more walkable environment.

## Learning More about Retail Performance

The very diversity of local shopping areas makes them difficult to study and creates difficulties in generalizing about the results. While a few standing public and proprietary data sources on retail sales can be mined, they it is not easy to correlate this with data on the size and number of shops in local shopping districts. In many cases an accounting of occupied commercial space is not available, and there is no historical record on the history and turnover of establishments. It is also hazardous to infer from sales data the trade area served by local shopping areas, since we know little about household consumption patterns in urban areas. As a result, field studies that focus on a local shopping area over time are required to get at the actual performance of businesses in walkable commercial areas. Surveys of merchants and establishments will be required to collect the fine grained data necessary to really understand retail dynamics, and an analysis of the demographics of the areas served is essential to dimension the demand for retail outlets.

It would be very useful to know:

- The types of businesses (by merchandise or service categories, and by types of ownership) that do well in local walkable shopping areas, and others that only survive under special circumstances.
- The average business revenues per sq ft of space of shops of various types and how these vary between local one-outlet shops and national chains.
- The level of patronage required to support these shops, and the densities within a 10-minute walking range that are required to deliver this patronage, accounting for income differences.
- Successful strategies for promotion and development of local shopping districts.
- The modal split of patrons of successful local shopping areas.
- Actual parking requirements for local shopping areas that depend upon a mix of patrons who walk, cycle and drive.

- The level of rent required to support new development as part of mixed-use projects on local shopping streets.

These issues cut across disciplinary lines, and will require the collaboration of real estate economists, business development professionals and planning professionals. The urgency of further research is clear, however: creating viable local commercial areas is one of the keys to making cities truly walkable.

## Additional Resources

1. Basker, E. (2007). The Causes and Consequences of Wal-Mart's Growth. *The Journal of Economic Perspectives*, 21(3), 177-198.
2. Ewing, R & Cervero, R. (2010). Travel and the Built Environment. *Journal of the American Planning Association*, 76(3), 265–294.
3. Gibbs, RJ. (2007). A Primer on Retail Types and Urban Centers. *New Urban News*, September 2007. Available at: <http://bettercities.net/article/primer-retail-types-and-urban-centers>
4. Goss, J. (2004). Geography of Consumption I. *Progress in Human Geography*, 28(3), 369-380.
5. Hankins, K. (2002). The Restructuring of Retail Capital and the Street. *Tijdschrift voor Economische en Sociale Geografie*, 93(1), 34-46.
6. Hardin, III, WG, Wolverton, ML, & Carr, J. (2002). An Empirical Analysis of Community Center Rents. *Journal of Real Estate Research*, 23(1/2), 163-178.
7. Kumar, V & Karande, K. (2000). The Effect of Retail Store Environment on Retailer Performance. *Journal of Business Research*, 49(2), 167-181.
8. Lagerfeld, S. (1995). What Main Street Can Learn From the Mall. *Atlantic Monthly*, November 1995. Available at: <http://www.theatlantic.com/past/docs/issues/95nov/malls/malls.htm>
9. Lee, Y, Washington, S, & Frank, LD. (2009). Examination of Relationships between Urban Form, Household Activities, and Time Allocation in the Atlanta Metropolitan Region. *Transportation Research Part A*, 43(4), 360–373.
10. Littman, TA. (2010). *Economic Value of Walkability*. Victoria, BC: Victoria Transport Policy Institute. Available at: <http://www.vtpi.org/walkability.pdf>
11. Ryan, B. (2003). *Economic Benefits of a Walkable Community*. Let's Talk Business, no. 83. Madison, WI: Center for Community Economic Development, University of Wisconsin-Extension. Available at: [http://www.gpred.org/siteadmin/images/files/file\\_59.pdf](http://www.gpred.org/siteadmin/images/files/file_59.pdf)
12. Saelens, BE, Sallis, JF, Black, JB, & Chen, D. (2003). Neighborhood-based Differences in Physical Activity: An Environment Scale Evaluation. *American Journal of Public Health*, 93(9), 1552-1558.
13. Southworth, M. (1997). Walkable Suburbs? An Evaluation of Neotraditional Communities at the Urban Edge. *Journal of the American Planning Association*, 63(1), 28-44.
14. Taylor, SL & Cosenza, RM. (2000). The Impact of E-Commerce on the Merchandising of Women's Clothing in Traditional Shopping Centers/Malls. *Journal of Shopping Center Research*, 7(2), 45-66.

15. Washington Metropolitan Area Transit Authority & Cambridge Systematics, Inc. (2009). *Transit Ridership Trends and Markets*. Washington, D.C.: Washington Metropolitan Area Transit Authority. Available at: <http://www.wmata.com/pdfs/planning/FINAL%20Transit%20Ridership%20and%20Market%20Trends%20Report.pdf>

#### **ABOUT THE PROGRAM**

*Active Living Research*, a national program of the Robert Wood Johnson Foundation, stimulates and supports research to identify environmental factors and policies that influence physical activity for children and families to inform effective childhood obesity prevention strategies, particularly in low-income and racial/ethnic communities at highest risk. Active Living Research wants solid research to be part of the public debate about active living.

#### **Active Living Research**

University of California, San Diego

3900 Fifth Avenue, Suite 310

San Diego, CA 92103-3138

[www.activelivingresearch.org](http://www.activelivingresearch.org)



---

## Endnotes

- <sup>1</sup> Handy, SL, Boarnet, MG, Ewing, R, & Killingsworth, RE. (2002). How the Built Environment affects Physical Activity: Views from Urban Planning. *American Journal of Preventative Medicine*, 23(2), 64-73.
- <sup>2</sup> Saelens, BE, Sallis, JF, & Frank, LD. (2003). Environmental Correlates of Walking and Cycling: Findings from the Transportation, Urban Design, and Planning Literature. *Annals of Behavioral Medicine*, 25, 80–91.
- <sup>3</sup> McCann, BA & Ewing, R. (2003). *Measuring the Health Effects of Sprawl: A National Analysis of Physical Activity, Obesity and Chronic Disease*. Washington, D.C.: Surface Transportation Project, Smart Growth America.
- <sup>4</sup> Transportation Research Board. (2009). *Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use and CO<sub>2</sub> Emissions*. Transportation Research Board Special Report 298. Washington D.C.: National Research Council.
- <sup>5</sup> Urban Land Institute. (2010). *Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions*. Washington, D.C.: Urban Land Institute.
- <sup>6</sup> Urban Land Institute & International Council of Shopping Centers. (2008). *Dollars & Cents of Shopping Centers/The Score 2008*. Washington D.C.: Urban Land Institute.
- <sup>7</sup> Gibbs, R.J. (2010). *Retail Markets, Smart Code Module, Version 9.2*. Chicago, IL: Congress for New Urbanism.
- <sup>8</sup> Urban Land Institute & International Council of Shopping Centers. (2008). *Dollars and Cents of Shopping Centers / The SCORE 2008*. Washington, D.C.: Urban Land Institute.
- <sup>9</sup> Jarmin, RS, Klimek, SD, & Miranda J. (2004). *Firm Entry and Exit in the U.S. Retail Sector: 1977-1997*. Unpublished Paper, Washington D.C.: U.S. Census Bureau.
- <sup>10</sup> Levine, J, Inam, A, & Torng, B-W. (2005). A Choice-Based Rationale for Land-Use and Transportation Alternatives: Evidence from Boston and Atlanta. *Journal of Planning Education and Research*, 24(3), 317-330.
- <sup>11</sup> Belden Russonello & Stewart. (2004). *2004 National Community Preference Survey*. Washington, D.C.: Smart Growth America. Available at: <http://www.smartgrowthamerica.org/documents/NAR-SGASurvey.pdf>
- <sup>12</sup> Spivak, J. (2011). *Walkable Communities Surveys*. Washington, D.C.: Urban Land.
- <sup>13</sup> Levine, J & Frank, L. (2007). Transportation and Land-Use Preferences and Residents' Neighborhood Choices: The Sufficiency of Compact Development in the Atlanta Region. *Transportation: Planning, Policy, Research, Practice*, 34(2), 255-274.
- <sup>14</sup> Urban Land Institute. (2005). *Creating Walkable Places: Compact, Mixed Use Solutions*. Washington, D.C.: Urban Land Institute.
- <sup>15</sup> Leinberger, CB. (2009). *The Option of Urbanism: Investing in a New American Dream*. Washington, D.C.: Island Press.
- <sup>16</sup> Cortright, J. (2009). *Walking the Walk: How Walkability Raises Housing Values in U.S. Cities*. Washington, D.C.: CEOs for Cities. Available at: [www.ceosforcities.org/files/WalkingTheWalk\\_CEOsforCities1.pdf](http://www.ceosforcities.org/files/WalkingTheWalk_CEOsforCities1.pdf)
- <sup>17</sup> Lee, C & Moudon, AV. (2006). The 3Ds + R: Quantifying Land Use and Urban Form Correlates of Walking. *Transportation Research Part D*, 11, 204-215.
- <sup>18</sup> Hoehner, CM, Ramirez, LKB, Elliott, MB, Handy, SL, & Brownson, RC. (2005). Perceived and Objective Environmental Measures and Physical Activity among Urban Adults. *American Journal of Preventative Medicine*, 28(2S2), 105-116.
- <sup>19</sup> Moudon, AV, Lee, C, Cheadle, AD, Garvin, C, Johnson, D, Schmid, TL, et al. (2006). Operational Definitions of Walkable Neighborhood: Theoretical and Empirical Insights. *Journal of Physical Activity and Health*, 3(S1), S99-S117.
- <sup>20</sup> Pivo, G & Fisher, JD. (2010). *The Walkability Premium in Commercial Real Estate Investments*. Working Paper, Responsible Property Investing Center, University of Arizona and Benecki Center for Real Estate Studies, Indiana University. Available at: [http://www.u.arizona.edu/~gpivo/Walkability%20Paper%208\\_4%20draft.pdf](http://www.u.arizona.edu/~gpivo/Walkability%20Paper%208_4%20draft.pdf)
- <sup>21</sup> Des Rosiers, F, Theriault, M, & Menetrier, L. (2006). Spatial Versus Non-Spatial Determinants of Shopping Center Rents: Modeling Location and Neighborhood-related Factors. *Journal of Real Estate Research*, 27(3), 293-319.
-

- <sup>22</sup> Hardin, III, WG & Wolverton, ML. (2003). Micro-Market Determinants of Neighborhood Center Rental Rates. *Journal of Real Estate Research*, 20(3), 299-322.
- <sup>23</sup> Hardin, III, WG & Carr, J. (2006). Disaggregating Neighborhood and Community Center Property Types. *Journal of Real Estate Research*, 28(2), 167-192.
- <sup>24</sup> Ownbey, KL, Davis, K, & Sundel, HH. (1994). The Effects of Location Variables on the Gross Rents of Neighborhood Shopping Centers. *The Journal of Real Estate Research*, 9(1), 111-123.
- <sup>25</sup> Cervero, R & Kockelman, K. (1997). Travel Demand and the 3Ds: Density, Diversity, and Design. *Transportation Research Part D: Transport and Environment*, 2(3), 199-219.
- <sup>26</sup> Rodriguez, DA, Evenson, KR, Diez Roux, AV, & Brines, SJ. (2009). Land Use, Residential Density and Walking: The Multi-ethnic Study of Atherosclerosis. *American Journal of Preventative Medicine*, 37(5), 397-404.
- <sup>27</sup> Boarnet, MG, Joh, K, Siembab, W, Fulton, W, & Nguyen, MT. (2011). "Retrofitting the Suburbs to Increase Walking: Evidence from a Land-use-Travel Study. *Urban Studies*, 48(1), 129-159.
- <sup>28</sup> Local Government Commission. (2000). *The Economic Benefits of Walkable Communities*. Sacramento, CA: Local Government Commission, Center for Livable Communities. Available at: [http://www.lgc.org/freepub/docs/community\\_design/focus/walk\\_to\\_money.pdf](http://www.lgc.org/freepub/docs/community_design/focus/walk_to_money.pdf)
- <sup>29</sup> Drennan, E. (2003). *The Economic Effects of Traffic Calming on Urban Small Businesses*. San Francisco, CA: Department of Public Administration, San Francisco State University. Available at: <http://www.sfbike.org/download/bikeplan/bikelanes.pdf>
- <sup>30</sup> Robertson, KA. (1990). The Status of the Pedestrian Mall in American Downtowns. *Urban Affairs Review*, 26(2), 250-273.
- <sup>31</sup> Rubenstein, HM. (1992). *Pedestrian Malls, Streetscapes and Urban Spaces*. New York, NY: Wiley.
- <sup>32</sup> Onibokun, A.. (1975). Comprehensive Evaluation of Pedestrian Malls in the United States. *Appraisal Journal*, 43(2), 202-218.
- <sup>33</sup> Smith, KL. (2011). Pedestrian Malls. In David Goldfield (Ed.), *Encyclopedia of American Urban History (Vol 2)*. Thousand Oaks: SAGE Publications. Available at: [http://www.cluegroup.com/Downloads/Pedestrian%20Malls%20\(Kennedy%20Smith\).pdf](http://www.cluegroup.com/Downloads/Pedestrian%20Malls%20(Kennedy%20Smith).pdf)
- <sup>34</sup> Gibbs Planning Group, Inc. (2011). *Fresno, California Fulton Mall Alternative Plans: Economic Impact Analysis*. Available at: [http://fresnodowntownplans.com/media/files/Fulton\\_Mall\\_Economic\\_Impact\\_Analysis.pdf](http://fresnodowntownplans.com/media/files/Fulton_Mall_Economic_Impact_Analysis.pdf)
- <sup>35</sup> Leinberger, CB. (2009a). *The Structural Shift in Building Metropolitan Atlanta*. Washington, D.C.: Brookings Institute, Metropolitan Policy Program.
- <sup>36</sup> Lynn, D. (2011). Renewed Urbanization Drives Change in Retailing Strategies. *REDNews*, National Real Estate Investor, April 6, 2011.
- <sup>37</sup> Pierce, N. (2010). Supermarkets as Neighborhood Centers: Vision for a More Walkable America. *Washington Post*, April 18, 2010. Available at: <http://citewire.net/columns/supermarkets-as-neighborhood-centers-vision-for-a-more-walkable-america/>
- <sup>38</sup> Steuteville, R. (2009). Urban Grocers Proliferate. *New Urban Network*. Available at: <http://newurbannetwork.com/article/urban-grocers-proliferate>
- <sup>39</sup> Rangwala, K. (2011). Post-Great Recession Retail Trends. *Practicing Planner*, Washington, D.C.: American Planning Association, Special Feature – Summer 2011. Available at: <http://www.rangwalaassoc.com/Firm/articles/articlespdfs/Post-Great%20Recession%20Retail%20Trends.pdf>
- <sup>40</sup> Waters, W. (2007). *All about Cities: Urban Retail Trends*. Available at: <http://allaboutcities.ca/category/urban-retail-trends>
- <sup>41</sup> Policy Link. (2007). *Grocery Store Attraction Strategies: A Resource Guide for Community Activists and Local Governments*. San Francisco, CA: LISC Bay Area. Available at: [http://www.policylink.org/atf/ct/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/groceryattraction\\_final.pdf](http://www.policylink.org/atf/ct/%7B97C6D565-BB43-406D-A6D5-ECA3BBF35AF0%7D/groceryattraction_final.pdf)
- <sup>42</sup> Ortiz, L. (2011). And the Winners of the Best Chain on Main Are... *The Commercial District Advisor*, January 12, 2011. Available at: <http://commercialdistrictadvisor.blogspot.com/2011/01/commercial-district-advisor-cda-in.html>
- <sup>43</sup> Easton, G. & Owen, J. (2009). *Creating Walkable Neighborhood Business Districts: An Exploration of the Demographic and Physical Characteristics Needed to Support Local Retail Services*. Seattle, WA: MAKERS Architecture and Urban Design. Available at: <http://www.mrsc.org/artdocmisc/m58walkable.pdf>

- 
- <sup>44</sup> Leinberger, CB. (2007). Financing Walkable Urbane Projects. *Urban Land*, January 2007. Available at: [http://www.chrisleinberger.com/docs/By\\_CL/Financing\\_Walkability\\_0107.pdf](http://www.chrisleinberger.com/docs/By_CL/Financing_Walkability_0107.pdf)
- <sup>45</sup> Gyourko, J. & Rybczynski, W. (2000). *Financing New Urbanism*. Zell/Lurie Center Working Papers 330, Wharton School Samuel Zell and Robert Lurie Real Estate Center, University of Pennsylvania.
- <sup>46</sup> Marston, SA. & Modarres, A. (2002). Flexible Retailing: Gap Inc. and the Multiple Spaces of Shopping in the United States. *Tijdschrift voor Economische en Sociale Geografie*, 93(1), 83 -99.
- <sup>47</sup> Center for Economic Development, University of Wisconsin Extension and Property Counselors.
- <sup>48</sup> Behlman, E. (2011). E-Commerce Sales a Growing Chunk of the Retail Pie. *Wichita Business Journal*, August 16, 2011. Available at: <http://www.bizjournals.com/wichita/blog/2011/08/e-commerce-sales-a-growing-chunk-of.html>
- <sup>49</sup> Paruchuri, S. (2009). The Wal-Mart Effect: Wave of Destruction or Creative Destruction?" *Economic Geography*, 85(2), 209-236.
- <sup>50</sup> Loukaitou-Sideris, A. (2002). Regeneration of Urban Commercial Strips: Ethnicity and Space in Three Los Angeles Neighborhoods. *Journal of Architectural and Planning Research*, 19(4), 334-350.
- <sup>51</sup> Podobnik, B. (2002). *The Social and Environmental Achievements of New Urbanism: Evidence from Orenco Station*. Portland, OR: Lewis and Clark College. Available at: <http://reconnectingamerica.org/assets/Uploads/bestpractice164.pdf>
- <sup>52</sup> Tu, CC & Eppli, ME. (1999). Valuing New Urbanism: The Case of Kentlands. *Real Estate Economics*, 27(3), 425-451.
- <sup>53</sup> Arkin, RL. (n.d.). *The Emergence of Modern Kentlands*. <http://www.kentlandsusa.com>