
Creating Walkable Neighborhood Business Districts:

*An exploration of the demographic and physical characteristics
needed to support local retail services*

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Introduction

Creating walkable, transit-friendly communities is a necessary component in the larger effort to reduce our environmental impacts and carbon footprint, improve human health, and increase social resilience. And, creating successful neighborhood commercial districts that provide day-to-day needs is an essential element in fostering healthy neighborhoods. Those engaged in community development are often confronted with questions related to the amount and configuration of residential development necessary to support a cluster of neighborhood-serving businesses. This question arises in planning contexts ranging from established urban neighborhoods to arterial corridors and emerging suburban centers of widely varying sizes and character.

This paper is aimed at the question: “What does it take to support a neighborhood business district around which to focus a walkable, cohesive community?” The first section examines what is meant by a neighborhood district and its role within the hierarchy of retail centers. Then follows an analysis of the development patterns necessary to support a business district which will, in turn, encourage pedestrian activity, social interaction, and transit ridership. Finally, there is a discussion of the implications of this analysis to a variety of settings, from older urban neighborhoods to metropolitan cores, linear transportation corridors, and suburban centers.

Description of Neighborhood Business Districts

Business districts can vary in size and tenant mix, but generally fall within a retail hierarchy used by the shopping center industry. The table below summarizes the characteristics of the traditional types of shopping centers or retail concentrations from the development-oriented perspective of the Urban Land Institute (ULI).

Table 1. Urban Land Institute's Comparison of Retail Center Types

Convenience Shopping Center	
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
Market Area Radius	under 2 miles
Neighborhood Shopping Center	
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
Community Shopping Center	
Anchors	Junior department or discount
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
Regional Shopping Center	
Anchors	1 or 2 full-line 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
Super-Regional Shopping Center	
Anchors	3 or more full-line 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

Source: Urban Land Institute, *Dollars and Cents of Shopping Centers Property Counselors*

Note that the terms “neighborhood center” and “neighborhood business district” as used here vary from the ULI’s classification. Where the ULI’s terminology is used, it is preceded by “ULI.” The smallest center in the ULI classification is a “convenience shopping center,” usually anchored by a convenience grocery store, drugstore, or restaurant. Other common tenants include hair salons, medical/dental offices, phone sales, drycleaner, video rental, and insurance/real estate offices. The average ULI convenience shopping center is 20,000 square feet in size, with 10 tenants serving primarily day-to-day needs.

The ULI “neighborhood shopping center” is the traditional local service-providing center anchored by a supermarket. Such ULI neighborhood shopping centers are larger than convenience shopping centers in terms of number and size of stores and serve a larger radius as well. Other typical tenants, in addition to those found in a convenience shopping center, include other food retailers (bakery, produce stand), a branch bank, multiple restaurants and bars, mailing/packaging store, liquor store, and novelty store. ULI neighborhood shopping centers generally provide the range of goods and services that a household requires on a semi-frequent basis. Trips to this type of center might involve weekly or bi-weekly grocery shopping or meeting up with friends for a bite to eat on Friday night.

The three higher level shopping center types are larger, with more stores and larger anchor stores. The centers provide the goods and services that are purchased less frequently but are subject to more comparison shopping, such as clothes shopping in the mall or car shopping along auto row.

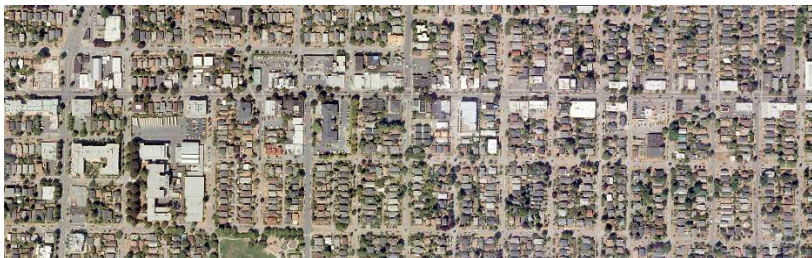


Figure 3. A community shopping center.



Figure 1. An example of a ULI “convenience shopping center” in an urban neighborhood; a 7-11 store with adjacent small businesses. This example is on an arterial with several new multifamily complexes nearby.



Figure 2. The Manette neighborhood business center in Bremerton: an example of a ULI “neighborhood shopping center.” Manette includes a small grocery, some convenience services, professional offices and three popular restaurants.

Many centers change size and character over time. Generally, as population densities increase, the ULI neighborhood shopping center can grow to a ULI community shopping center if land is available. ULI community shopping centers, such as Capitol Hill's Broadway, include a number of entertainment and specialty businesses, drawing visitors from larger areas. The hierarchy shown in Table 1 represents common retail formats, but there are other formats as well. Two such formats are stand-alone retail buildings and specialty centers that offer a concentration of related businesses, such as Stone Way in Wallingford, Seattle; which features a number of builder and home improvement stores. These formats can provide both an identity and a draw for business districts.

So, the concept of a neighborhood business district or ULI neighborhood shopping center is slippery, but, for this paper, we consider "neighborhood business districts" or "neighborhood centers" as comprising ULI "convenience shopping centers" and ULI "neighborhood shopping centers." As discussed here, a "neighborhood business district" or "neighborhood center" ranges generally from 15,000 to 100,000 square feet, providing, at a minimum, food and day-to-day service needs. More specifically, the calculations in subsequent sections assume that the goal is at least 30,000 square feet of commercial space with a grocery store.

Population Necessary to Support a Neighborhood Business District

Table 1 identified the market area population for a convenience store as under 20,000 people, while the market area population for a neighborhood shopping center is 10,000 to 30,000. These numbers suggest the relative scale of centers, but are not absolute threshold requirements. Centers may have overlapping market areas, and any particular market area may support more than one center.

An alternative approach to identifying the population necessary to support a neighborhood business district is to consider average spending patterns and the sales potential of different store types to identify how much retail space an average household might support. Table 2 provides an estimate of how much retail a household can support.

Table 2. Supportable Square Feet of Retail per Household

Store Type	Supportable Sq. Ft. Per Household	% Nbd.	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
Total	71.8		15.1

Source: Center for Economic Development, University of Wisconsin Extension and Property Counselors

As shown in Table 2, the average household can support 72 square feet of retail development. The largest categories are department, eating/drinking, grocery, gas station, apparel, and drug. While the grocers, drug stores, cleaners, florists, video/entertainment, and eating/drinking establishments are common tenants in neighborhood business districts, the others are usually found in higher level retail centers. Of the 72 square feet per household, forty square feet are in retail categories that are found in neighborhood centers. However, 15 square feet per household represents a more realistic level of sales that a neighborhood center can capture due to much of the retail market demand would be picked up in larger retail centers.

Using a factor of 15 square feet of neighborhood business space per household, the necessary number of households to support a neighborhood business district would be:

	Retail Square Feet	Required Households
Corner grocery scale	15,000	1,000
Small neighborhood business district	30,000	2,000
Large neighborhood business district	50,000	3,300

These household figures reflect resident spending only. To the extent that there are significant purchases by employees of local businesses or visitors, the required number of households would be less. Service businesses and other office tenants often occupy additional space in any center type as well as provide more people to purchase goods before/after work and during lunch. While the numbers above represent a minimum amount to support a nucleus of services, they are not large enough to provide the variety needed to create a community business district that also serves as a destination. In her research at the University of Washington, Anne Vernez Moudon has found that such community centers usually contain at least 100,000 square feet of retail space and occupy over 10 acres of land.



Figure 4. Snoqualmie Ridge

Until recently, retail development trends featured larger format grocery stores. Larger stores result in larger trade areas, greater distance between stores, and fewer stores overall. With increased density in urban settings, the size trends are reversing in many areas. Major retailers like Safeway and even Wal-Mart, as well as independent grocers, are opening smaller prototype stores in response to new market opportunities. According to King County assessor's land use data, there are approximately 2,000 dwelling units per grocery store on a county-wide average (Vernez Moudon and Sohn 2005).

Because of its relative isolation from other markets and recent development history, Snoqualmie Ridge provides an instructive test of the above analysis. The original development of approximately 1,500 residences included two 11,000-square-foot commercial buildings with a variety of services and boutiques and a 21,000-square-foot grocery store with pharmacy. As the residential population grew, additional businesses were added, but the grocery struggled and finally closed. As the population base grew to a size that could support the grocery space, currently 2,700 households, the store has been reopened, and the grocery space is being expanded. This history suggests that the store's viability depended upon a population base closer to 3,000 households and will continue to improve as the community expands to a projected 4,000 homes.

In their study of neighborhood land use characteristics, Anne Vernez Moudon and D. W. Sohn calculated that the following numbers of residential dwelling units lie within one square mile around each of the following business districts: Queen Anne, Seattle – 3997 dwelling units; Wallingford - 4,122 dwelling

units; Downtown Bellevue - 2,467 dwelling units; Downtown Kirkland – 2,290 dwelling units; and Crossroads, Bellevue – 2,561 dwelling units. (Vernez Moudon and Sohn 2005.) Although these business districts and their surrounding neighborhoods vary widely in development form and history, it seems that the number of dwelling units discussed here is well within the range of local examples.

Planning Implications for Different Development Settings

What, then, is the kind of development pattern necessary to provide the 2,000 to 3,300 residences needed to support a neighborhood business node with a sizable portion of the population within walking distance? The answer varies somewhat, depending on the local context. This section identifies development configurations that would likely support a neighborhood business district and encourage non-automobile transportation and transit ridership for a pre-World War II gridiron neighborhood, a metropolitan downtown, a highway/arterial corridor, and an emerging urban or town center in an otherwise suburban or exurban setting.

Pre-World War II Grid Neighborhood

The first neighborhood context to consider is the historic grid pattern, such as exhibited by Ballard or Beacon Hill in Seattle, the Rucker/Grand Avenue neighborhood in Everett, or the Manette neighborhood in Bremerton. For these already relatively compact communities, it is assumed that the goal is for approximately one-half of the total support population to be within a quarter-mile radius, a walking distance of about 5 to 10 minutes. That is, the goal is to provide for at least 1,500 households within a half-mile-diameter circle and another 1,500 within an easy drive. This goal is a starting point that can be modified in practice to fit local conditions. Additionally, if 30 percent or more of the patrons arrive by foot, bicycle, or transit (assuming not all will walk a quarter mile), parking requirements may be substantially reduced, producing a more efficient, pedestrian-friendly, and flexible commercial node.

With blocks of about 200 to 225 feet by 400 to 600 feet and lots about 30 to 60 feet wide by 100 feet deep, the layout of pre WW II neighborhoods provides a *gross* density of about 5 to 10 dwelling units per acre (du/ac). (Gross density equals the number of dwelling units divided by the total land area,



8 du/acre



6 du/acre



6 du/acre



4 du/acre



4 du/acre

including roads.) For example, a 200-foot by 400-foot block would accommodate sixteen 100-foot by 50-foot lots within 2.75 acres, yielding 5.8 du/ac. In actual fact, the block pattern and densities within a neighborhood can vary substantially, and there are often multifamily buildings scattered in older neighborhoods. This discussion will assume a gross density averaging 7 du/ac.



Figure 5. Typical walking distances to a shopping district are in the range of a quarter mile. As illustrated above, this area extends about three to four blocks from the district itself. The example is the 15th Avenue East district in Seattle.

A quarter-mile radius circle of land has an area of approximately 125 acres and can, therefore, support 875 households. Assuming that 10 percent of the houses include an accessory dwelling unit or that, as is typical, there is a smattering of multifamily buildings, the number of households becomes about 1,000. Reaching the target of 1,500 households will require another 500 residences. This number can be provided by ten to twelve 6-story mixed-use buildings (five residential floors over one commercial level), assuming that each building is about 100 feet long and provides about 40 to 50 units.

Figure 6. Aerial photos of typical single-family neighborhoods with a four-acre grid superimposed. The top three are in Seattle and developed in the early to mid 20th century. The bottom two are in Lynnwood and of typical post WWII construction.

Similarly, eight or nine 4-story mixed-use or multifamily buildings 200 feet long would provide sufficient population at what many would consider a more neighborhood-oriented scale. Or, a smaller amount of mid-rise multifamily development, coupled with infill townhouses and additional accessory dwelling units, would also provide the needed capacity.

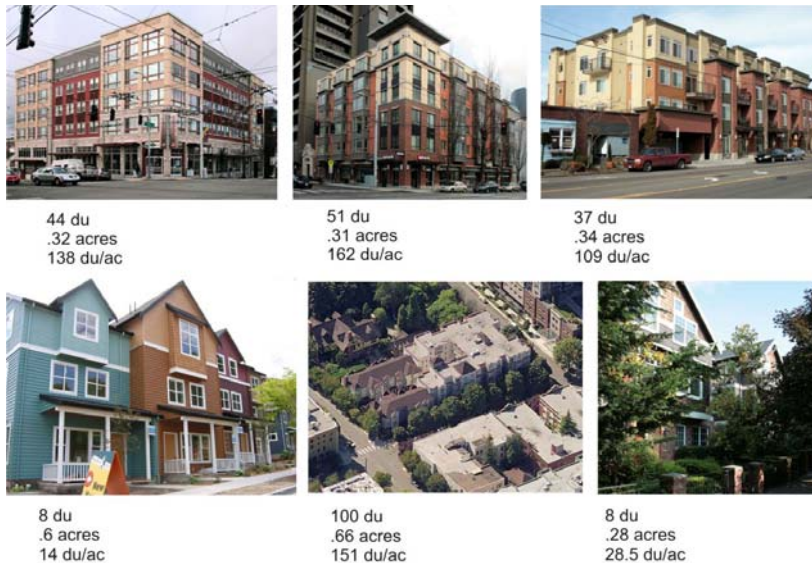


Figure 7. Example residential and mixed-use building types to illustrate generally the number of units provided by typical development configurations.

Take, for example, the Phinney neighborhood business district—with a grocery, bakery, and hardware store—on Greenwood Avenue N at N 74th Street. These stores have survived for decades, primarily on patronage from the single-family and low-rise multifamily residences in the surrounding neighborhood. However, with the recent construction of several four-story mixed-use buildings, the grocery store is expanding and the district has acquired up-scale restaurants.

Turning to the remaining population, outside the quarter-mile-radius center, it is conservative to assume that the residential areas are 5 dwelling units per gross acre, accounting for parks, schools, and other non-residential land. In Seattle, neighborhood business districts are commonly about one mile apart. This is roughly the distance separating business centers in Wallingford, Fremont, Ballard, Green Lake, and the University District. There are approximately 377 acres with an estimated 1900 homes within this second half-mile-radius ring, thus reaching a total number of households of 3,400, enough to—theoretically—support a neighborhood business district



Figure 8. The Phinney neighborhood business district, anchored by an approximately 6,000-square-foot grocery and a 5,000-square-foot hardware store.

with 50,000 square feet of retail. And, this 50,000 square feet does not account for other businesses, such as daycare centers, dance/martial arts studios, and professional offices. It appears that, if there is sufficient and varied space, these types of businesses will willingly locate in neighborhood centers. Add a church or two and an institutional building, and the result is a business district with about 100,000 square feet of non-residential activities extending both sides of the street along three or four 400-foot-long by 100-foot blocks (assuming a .3 to .4 floor area ratio (FAR) for the non-residential uses). This size of the center might look like the Phinney business district centered on N 74th Street and Greenwood Avenue N.

Parking

Parking is nearly always a critical consideration in nurturing a neighborhood business district. Provide too little and access for potential customers outside the walking distance suffers. On the other hand, large parking lots diminish pedestrian access and detract from near-by residences – the very characteristics that it are needed for a walkable business district to thrive. Parking requirements for retail businesses should be set as low as possible by counting (and properly managing) on-street and joint use parking as part of the total stalls available and also accounting for walk-in customers. At the same time, design requirements, and perhaps structured parking requirements, should be established to reduce parking lots impact on pedestrian and neighborhood qualities.

Business districts as varied as central Wallingford, downtown Snohomish, and Port Townsend's Uptown feature roughly four parking spaces per 1,000 square feet of retail space, the standard often applied to stand-alone shopping centers. Often, in older neighborhood business districts, parking is generally on-street or in small, scattered lots so its visual impact is lowered. As population densities increase over time and a significant patronage from pedestrians can be anticipated, parking requirements may be lowered and even maximum parking limits imposed, if accompanied by a spectrum of actions to increase parking efficiency, such as on-street parking optimization, shared parking, and directional signage. Parking lots may then be converted to more retail and residential spaces.

Looking at transit, the additional 500 dwelling units in mixed-use buildings within the quarter-mile-radius area increases the average gross density to approximately 12 du/ac; enough to

support high-frequency bus service and, according to *A Guide to Land Use and Public Transportation (Snohomish County Transit Authority, 1993)*, almost enough to support high-capacity transit.

Most of the examples above were taken from Seattle, but they apply equally to older neighborhoods in cities such as Tacoma, Everett, and Bremerton and even smaller downtowns such as Edmonds, Kirkland, and Kent that have a substantial residential population. Of course, when incorporating the model outlined above, it is important to adjust for the densities, development opportunities, and trade area characteristics of the subject neighborhood. Neighborhood centers come in many different configurations and often have unique features. And, there is no bright line distinction between a neighborhood business district, such as the Phinney example, and a larger, more diverse community business district that attract visitors from a much wider area, such as N. 45th Street in Wallingford or Capitol Hill's Broadway district.

Required Land Area

A key to the health and potential growth of a neighborhood business district is sufficient and varied ground floor commercial space. Many cities wisely require that ground floor space in business districts be reserved for commercial uses and are often confronted with the question of how much space (or how many blocks in a business zone) to reserve. Zoning too large an area requiring ground floor commercial uses can discourage the residential redevelopment that would support existing retail. On the other hand, allowing too little space can restrict a fledgling neighborhood business district from achieving a critical mass of local services. The latter appears, generally, to be the greater danger because neighborhood business districts have been invaluable in fostering small businesses, studios, clubs, and artist activities. Indeed, these small commercial nodes are an important component in the region's economy. Given this observation, it might be prudent in the above example to set zoning requirements that will preserve at least 50,000 to 100,000 square feet of ground floor commercial or institutional space, depending on the size of the population. Another approach would be to allocate enough land to accommodate 15 to 30 square feet per household of target residential population to account for the non-retail commercial and institutional uses. Populations both inside and outside the quarter-mile radius should be considered in this calculation.

Land area designated and zoned for commercial and institutional uses (hopefully, with residential units above the ground floor) should also account for land needed for parking, plazas, site circulation, and landscaping. Without structured parking or on-street parking, surface lots, loading areas and landscaping can occupy 2/3 of a site's area or more. Of course, parking reductions can reduce land devoted to parking, but it still seems that it will take about 3.5 acres (50,000 SF x 3 [total land area required÷building footprint area] = 150,000 SF, or 3.5 acres) at the bare minimum to accommodate a small business district. Based on this theoretical calculation, six to eight acres will allow for a more robust neighborhood center, and as discussed earlier, and 10 acres are required for a district that begins to be a destination for customers seeking more than immediate day-to-day needs.

Two acres of land roughly translates into one 400-foot block front along both sides of the street, assuming the lot depth is 100 feet. Under these assumptions, about 6 acres of land will then create a business district about 1,300 feet (or a quarter mile) long. If one considers a more robust district with a few larger buildings that take up a full 200-foot block width and some non-retail uses, then a quarter mile long shopping district occupies approximately 12 acres. As an example, the 15th Avenue E neighborhood district on Seattle's Capitol Hill (see Figure 5), an especially compact district with two viable groceries, drug store, two laundries, a used book store, and a variety of restaurants, occupies approximately 11 acres and extends approximately 1,500 feet from end to end.

Of course, many "main street" type business districts are much longer and others are configured around a cross roads with shops extending in four directions. Anne Vernez Moudon's research leads her to recommend planning for neighborhood business districts of about 20 acres and up to about 50 acres for larger community business districts. While district street configurations and lot sizes may vary, it seems that the above discussion provides some useful guidance in considering the land requirements of commercial and institutional uses in smaller business districts.

The Role of Urban Design

Before turning to other development contexts, it is important to note the ways urban design measures can facilitate the strengthening of a small business district and its surrounding neighborhood. Design guidelines are necessary to increase

compatibility between multifamily, single-family, and commercial development and to ensure an inviting pedestrian destination. Neighborhood opposition to change is one of the biggest hurdles to increased densities in neighborhood centers. Illustrating the potential benefits of positive, well-designed development and how new growth can be shaped through design guidelines often helps overcome opposition.

Key Development Standards and Guidelines for Port Townsend's Uptown (C-III) District

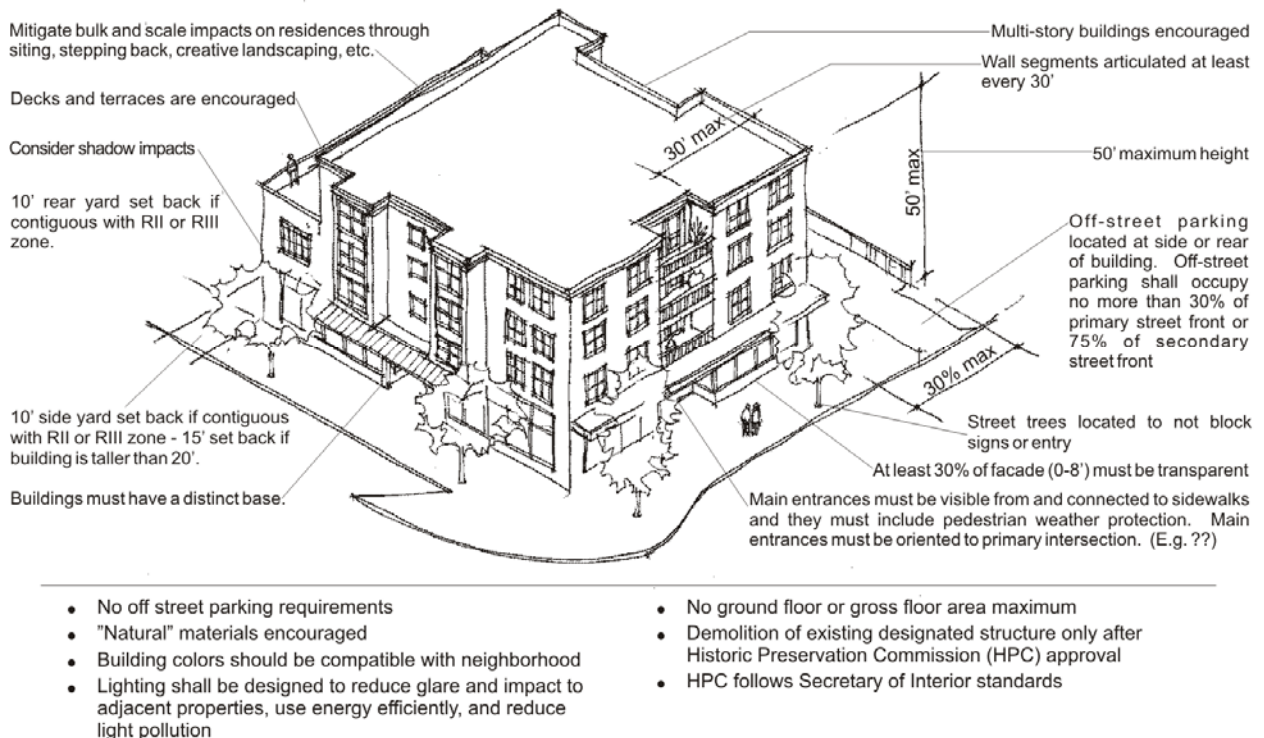


Figure 9. Design guidelines and standards can help achieve objectives such as protection of privacy, pedestrian orientation, impact reduction, building and landscaping quality, and architectural compatibility.

Most older neighborhoods have sidewalks, but if there is not a continuous sidewalk network or substantial traffic-calming measures so that pedestrians and vehicles can comfortably share the road, then such a pedestrian system should be built. Large parts of Seattle's Crown Hill, Greenwood, and Columbia City neighborhoods, for example, lack sidewalks to provide safe passage to schools and parks as well as neighborhood businesses. Pedestrian-friendly storefronts and a special district character or identity cannot be over-emphasized. Generally, this is most effectively accomplished by building on existing assets, such as local history, natural features, a special landmark, or neighborhood culture.



Figure 10. Safe, universally accessible sidewalks are essential.



Finally, affordable housing objectives should be addressed. With the current trend of home buyers toward walkable neighborhoods, housing near viable neighborhood centers will be at a premium. At the same time, accessibility to services and transit greatly reduces not only automobile dependency, but also individual transportation costs. Therefore, such areas are ideal for low- and fixed-income residents and an excellent place for subsidized and inclusionary development. A mixed-use project, bringing with it increased services and amenities as well as new residents, may also mitigate the concerns of those fearing change in their neighborhood.

Metropolitan Downtowns

Several cities in Washington, such as Tacoma, Everett, Bellingham, and Olympia, are striving to achieve residential neighborhoods in or near their downtowns, and critical to that effort is encouraging the local retail services to support residents, generate 18-hour-per-day foot traffic, and create a neighborhood feel. The roughly 2,000-household threshold to support a grocery store noted above provides a useful target for an embryonic downtown residential population. Office workers will add to the market for many such services but can only contribute to a 10-hour-per-day foot traffic.



Figure 12. Two building types that may be appropriate in metropolitan downtowns.

Given that a half-block, 100-foot by 400-foot “5 over 1” 5-story building can supply 120 to 160 dwelling units, it seems that between 12 and 16 projects would supply the necessary population to support active retail. In some instances, larger 12-story towers can provide close to double that number of units on the same size site. While 2,000 dwelling units may be a sound long-term goal, such new development may take years, or even decades, to materialize. For this reason it may also be advisable to appeal to residents living near the downtown as part of the service area. Providing safe, attractive access between the downtown core and its surrounding edges may prove an effective strategy to add market support for downtown retail services. Such downtown fringe areas as the residential neighborhoods north and south of Downtown Tacoma often provide excellent smaller scale residential development opportunities, as well. Everett’s downtown plan emphasizes both pedestrian connections and multifamily residential development in the downtown’s perimeter as a way of fostering a core area residential neighborhood. Cities can also help to spur downtown residential development with zoning incentives, and providing amenities. Street trees, are an especially cost-effective way to provide a more residential setting.

Highway/Arterial Corridor

If one looks at a regional land use map of Puget Sound, it becomes apparent that the predominant non-residential land use patterns are linear, generally following transportation corridors in ribbons of strip development. As communities urbanize, these corridors, such as Highway 99, Rainier Avenue, and Kirkland’s NE 85th Street, will be increasingly called on to serve as neighborhood centers as well as transportation conduits, because in many instances there are no other real opportunities to develop cohesive focal points for neighborhood services and amenities. These corridors do have the advantage of providing a substantial retail trade base from the heavy traffic volumes. The retail development challenge is not the need to support businesses through local residential base alone but rather to achieve a sufficient local population so that grocery stores, drug stores and local services can compete with, or at least find a niche along with, heavier commercial businesses. To accomplish this, local services must be grouped into clusters or nodes of neighborhood supporting retail businesses. Beyard and Pawlukiewicz (2001).



Figure 13. Arterial corridors are difficult settings in which to foster business centers for a local population, but, in many cases, they are the only option.

The City of Lynnwood is encouraging the development of such nodes along Highway 99, which is currently dominated by automobile dealerships and small businesses scattered seemingly randomly along the strip. Preliminary analysis of existing land use patterns, availability of developable land, and proposed transportation improvements suggests that there are opportunities for the development of several pedestrian-oriented nodes.

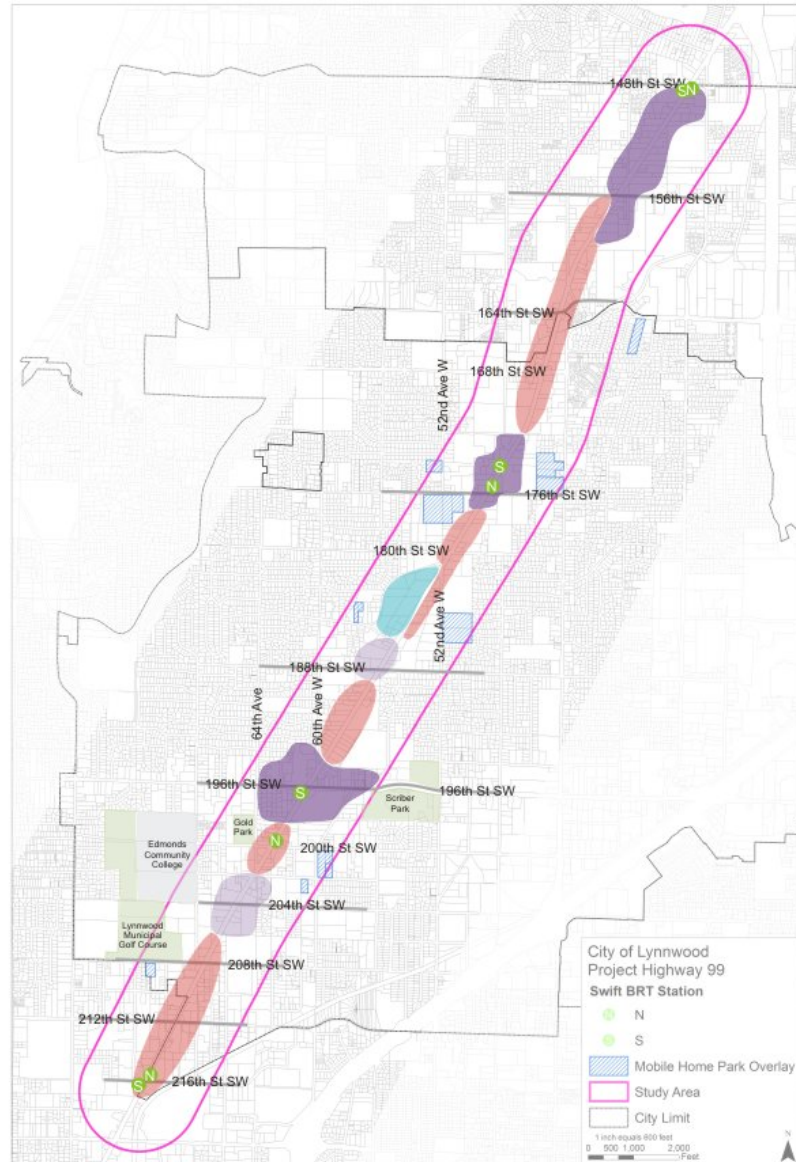


Figure 14. Proposed nodes along Lynnwood's stretch of U.S. 99.

Since many of the post World War II strip commercial corridors are in suburban areas, a typical density might be close to 3 dwelling units per gross acre, but the distance between corridors will likely be greater than the distance between commercial districts in older neighborhoods. Two miles between corridors appears to be a reasonable average for hypothetical analysis. The two-mile diameter at 3 du/ac would produce about 3,900 households; enough to support a cluster of neighborhood-oriented services. However, if the goal is to produce pedestrian-friendly neighborhood service districts, then a sufficient population must be within walking distance. As a preliminary goal, 1,000 households, or half of the 2,000 households needed to support a grocery-store-based neighborhood business district, might be a reasonable starting point.

Of course, a real pay-off of such a higher density service node on a transportation corridor is in transit ridership. With 1,000 new multifamily dwelling units within a quarter-mile corridor section, the average gross density of the area within walking distance rises from less than 3 du/ac (a conservative estimate) to about 9 du/ac (or about 13 du/net acre), enough to potentially triple ridership and certainly enough to justify a bus rapid transit (BRT) stop. And if other actions are taken to increase density, such as some townhouse development or accessory dwelling units, or if the single-family densities are higher than the quarter-acre lots assumed here, then the ridership projections can be quite a bit higher.

Creating an Attractive Corridor Setting

The key is to provide enough amenity and access that the center will be attractive and convenient. Five or six 600-foot blocks of standard 6-story mixed-use buildings can provide about 1,000 dwelling units within a quarter mile (counting both sides of the street), but unless the corridor is a moderately attractive setting and shopping in the businesses enjoyable, development will be slow, residents dissatisfied, and the district will not be a source of neighborhood cohesion or identity.

Producing pedestrian-friendly, attractive development on highways and heavy arterials is an especially daunting challenge because there is often only a thin strip of developable land, sometimes 100 feet wide or less, on each side of the right-of-way, and progressive street widening has narrowed sidewalks. Thus, achieving any cohesive node is

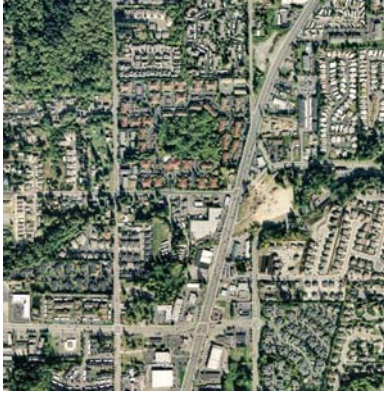


Figure 15. Aerial view of the SR 96 corridor in Lynnwood showing multifamily and single family residential development near a potential neighborhood-oriented commercial node.

especially difficult, and the long, linear string of shops along wide streets with narrow sidewalks is not conducive to walking. The publication, *Ten Principles for Reinventing America's Suburban Strips* by Michael D. Beyard and Michael Pawlukiewicz and produced by the Urban Land Institute, provides helpful tips for transforming commercial strips into more functional and livable corridors. And, SNO-TRAN's document, *A Guide to Land Use and Public Transportation Volume II*, outlines a strategy for creating higher intensity nodes on heavy arterials and identifies many of the key actions and design criteria necessary for successful development. A few include:

- Locate the node at a signalized intersection where there are some larger parcels that allow more site planning options and residential sites not directly facing the corridor.
- Improve the corridor streetscape with wider sidewalks and street trees.
- Provide safe, attractive sidewalks on all surrounding neighborhood streets and, where possible, construct pathways and shortcuts from residences to businesses and transit stops.
- Provide excellent pedestrian circulation and some small open space amenities within new development. (An effective guideline is to require that building fronts facing a parking lot must feature a sidewalk at least 12 feet wide with street trees and amenities, just as if the storefront faced a pedestrian-oriented street.)

In fact, many sections along transportation corridors already feature substantial amounts of moderate density multifamily development, usually tucked between the commercial strip and single-family neighborhoods. Too often, however, there are no convenient pedestrian connections between the residences and the businesses. Providing walks between businesses and residences is a most critical consideration that should be achieved by design guidelines for new development and high-priority public sidewalk construction.

The emerging center on Seattle's Lake City Way at NE 125th Street offers an example of a successful corridor redevelopment. Beginning in the late 1970's the City undertook a series of public actions, including rezoning, a new plaza, and ambitious streetscape improvements. During the next 10 years, businesses picked up and a larger new Fred

Meyer opened. After 1995, however, large residential projects changed the character of the strip, and the sense of a true community center developed. It should be noted, however, that Lake City Way, though designated a state route, carries an average weekday traffic count of about 36,500 vehicles, much less than some suburban arterials.



Figure 16. Lake City Way in 1980 and 2004 showing street improvements and new mixed use development.

Locating residential units directly on heavy arterials with their noise, lower air quality, and visual irritants hardly seems a successful strategy. Setting the residences back, away from the impacts and locating commercial spaces directly on the street appears to be a better scheme. Situating residential units to face perpendicular to the street rather than directly on it is another option that has been used on N 85th St. in Seattle's Greenwood neighborhood. The point is that planners should ensure that development standards do not force architects to front their residential buildings directly along heavy arterials. In their desire to spatially define the street and enhance pedestrian conditions, many cities have adopted code provisions that require buildings be aligned along the front property line as in an old "main street". In some cases, such provisions may be contrary to creating more livable residential conditions. In fact other cities have determined that it is more important to provide a good walking environment within a mixed-use node rather than along the arterial. For example, in its heavily automobile-oriented Totem Lake area, the City established standards that allow parking along the arterial street if a pedestrian network is established and the streetscapes are improved. That is not to say that, as a starting point, both streetscape and internal circulation objectives should not be considered.



Conceptual Guidelines for Large Site Redevelopment in Totem Lake

Figure 17. Graphic from Kirkland's totem Lake Design Standards that illustrates the requirement for circulation within a mixed use node.

Even with the 1,000 new units, at least three-quarters of the business node's patrons will live outside of the quarter-mile walking distance and, even then, many of the shops' customers will come from those driving along the corridor to a remote destination. Therefore, there may not be a significant reduction in parking demand (though this can change over time, as more residents are attracted to live in the surrounding environs). Providing both sufficient parking and a pleasant shopping and living environment will be a significant challenge. The Oak Tree Center on Aurora (SR 99) still provides one of the better, though imperfect, examples of how this balance can be achieved on a transportation corridor.

Figure 18. Three approaches to adding amenities and livability to the corridor. The Oak Tree shopping center (top) illustrates an all private approach. Although built in 1986 along the old auto-oriented center model with parking in the center, the complex does mix entertainment with shopping, employs quality architecture, and includes some pedestrian-oriented space and amenities. Note the foot bridge over the highway. The center illustration shows a proposal for connecting new and existing development with better pedestrian circulation, streetscape improvements, and infill residential development. The City of Shoreline has undertaken an ambitious campaign to revitalize its section of U.S. 99 with extensive highway improvements (constructed by WSDOT), a greensward open space, new City Hall, and other facilities.



Emerging Urban or Town Center

Many of the region's suburban cities are taking action to develop urban centers or town centers in locations such as Redmond's Overlake, Issaquah's North Downtown, SeaTac's SE 154th Street/SR 99 transit station area, Kirkland's Totem Lake, and Sammamish's proposed Town Center. Many of these centers already include a ULI regional shopping center as described in Table 1, so the problem is not the need for demographic support. Rather, the objective is to transform these retail and employment centers into walkable mixed-use centers that better utilize urban land, support transit, and provide a greater variety of living opportunities closer to work. And, part of this challenge is providing retail services catering to a local population and a retail/service environment that will attract local residents and, hopefully, serve to foster residential development.

The question "What is the critical mass of residences needed to support locally oriented businesses?" is somewhat complicated by the fact that many of the needed services can be provided by large-format stores such as large-scale supermarkets and home centers oriented to a regional market. The answer is not easily derived from the type of analysis described above, but a look at examples in the region provides some clues. For one thing, the fact that about 1,500 residences were able to support about 20,000 square feet of local services at Snoqualmie Ridge suggests that a population in this range begins to achieve a critical mass for supporting a variety of small retail services.



Figure 19. Juanita Village

The recent development of Juanita Village is also instructive, as the complex features 53,000 square feet of retail space and 580 dwelling units with several clusters of multifamily buildings in the vicinity. The larger Juanita neighborhood includes a total of 3,428 residences—very consistent with the population needed to support a neighborhood center in the hypothetical model above—although without a grocery, the spectrum of businesses in the core resembles a ULI convenience shopping center more than a true neighborhood business center as described above. The telling point of the Juanita example, however, is that it suggests that somewhere between 500 and 1,000 households is sufficient create a lively pedestrian atmosphere with a neighborhood feel, although excellent design and proximity to parks add much to Juanita's vibrancy. Interestingly, the project's developer has commented that the



Figure 20. Mill Creek Town Center

addition of more office uses would provide greater activity and a stronger retail market during work days.

With over 300,000 square feet of retail and 72,000 square feet of office space, Mill Creek's Town Center is a much larger complex with a regional draw. However, Bill Trimm, Mill Creek's Planning Director, has noted repeatedly that it was the 1,150 residences built nearby that spurred the town center's development and still provide much of the retail market base. While not within the town center core itself, the residences are connected by attractive sidewalks and walking paths within a natural area.

Based on this anecdotal evidence, it appears that 500 to 1,000 dwelling units within the core of a suburban center, along with good pedestrian access to surrounding residential areas is sufficient to provide locally generated activity and a sense that the center is more than a series of shops. However, the accuracy and application of these preliminary numbers should be much more rigorously examined. The notion of what constitutes a "friendly neighborhood feel" that adds to quality of life requires further study, or at least a synthesis of current research, if we are to understand how to achieve those objectives. Additionally, the examples in this region also indicate that design quality and amenities, such as plazas, gardens, and artwork, not to mention activities such as local performances and Saturday markets, are critical to a local center's success. So, ultimately, there is much more to creating a successful center than achieving demographic targets.

The Snoqualmie, Juanita, and Mill Creek examples, as well as the household/retail square foot ratios, may prove useful to smaller and more remote communities, such as Duvall, Sumner, Belfair, and Monroe that are either building new centers or infilling older town centers. In such cases, the challenge appears to be threefold: to house a threshold neighborhood population within or near the center, to provide excellent local pedestrian access while accommodating automobile circulation, and to create a design quality attractive to both local residents and visitors from surrounding areas. Understanding the populations necessary to support smaller centers may also help communities decide whether or not to allow another retail development that would compete for a limited market with a fledgling pedestrian-oriented center.

Minimum Density Requirements

To better utilize developable land and achieve the populations necessary to achieve business number, walkability, and transit ridership goals, municipalities often institute minimum density requirements. For example, in some areas, Portland, Oregon sets a minimum density of 35 du/ac for buildings up to 45 feet in height and a minimum of 44 du/ac for buildings up to 75 feet in height. Since 6-story buildings commonly achieve 100-to-150 du/ac, a 75- to 100 du/ac *minimum* density requirement in selected areas allowing a 75-foot height might be appropriate. At the lower end of the spectrum, Spokane, Washington sets a minimum density of 15 du/ac for some multifamily residential zones with a 35-foot height limit. Both Seattle and Tacoma are exploring minimum densities and have helpful studies on this topic. See, also, Vernez Moudon 2003 Section A-II for a more detailed discussion of minimum density regulatory tools.

Because the feasibility and desirability of different building types can depend so much on local physical and market conditions, the above numbers should not be used as rules of thumb to set minimum density requirements. Detailed local analysis is necessary to ensure that the requirements do not, for example, force developers to construct underground parking if the market rents do not support that expense. Most of the higher density developments require structured parking or effective parking reduction strategies; highlighting the interconnectedness between the various objectives. In order to reduce parking requirements to make higher density housing feasible (and more affordable), there must be local services and transit that reduce automobile dependence. Conversely, there must be sufficient density to support the local services and transit. Such “chicken and egg” dilemmas are usually resolved by incrementally working at both ends of the problem; suggesting that a variety of modest but coordinated regulatory changes, transit improvements, and development incentives that ratchet up over time might be an effective strategy.

Conclusions

As a starting point, when developing or strengthening a neighborhood business district providing day-to-day needs, a supporting residential population of 3,000 to 4,000 households is a useful preliminary target. Within that neighborhood market area, working toward a long-term goal of 1,000 to 2,000 households within a quarter-mile radius will substantially increase walkability and support high-frequency transit. In many settings, however, this goal may not be achievable in the short term, and less aggressive density and walkability objectives will still provide substantial benefits. A study by G.S. Rutherford, J.M. Ishimaru, and E.D. McCormack (Rutherford, 1995) found that the number of pedestrian trips in areas with medium density mixed-use development and small blocks was ten times that of King County as a whole. In *Growing Cooler: The Evidence on Urban Development and Climate Change*, authors, Ewing, Bartholomew, Winkelman, Walters and Chen stress the importance of “D” factors—density, diversity, design and destination accessibility. They note that a doubling of all four D’s would be expected to reduce vehicle miles travelled by one third. While the parameters discussed above are not methodologically congruent with those discussed by Ewing, et. al., they are certainly consistent in their overall direction.

Neighborhood business districts, like the neighborhoods they serve, are highly diverse. Even though this paper examined a few hypothetical models, application of the ideas presented here must be adapted to fit a wide variety of contexts. A virtue of the type of analysis employed in this paper is that it is easily customized to fit specific conditions. Households within a given catchment area can be easily determined, the square feet of retail shopping area per household can be adjusted, and the amount of suitable redevelopment ascertained. In some cases, especially in traditional neighborhoods with a strong demand for multifamily housing, requiring that new development accommodate nonresidential uses on the ground floor will be necessary to ensure sufficient space for commercial activities. The population-to-retail-space ratios outlined above provide some general guidance on this issue, and they can be modified to fit local conditions.

The emphasis in this paper has been on providing the retail necessary to support walkable, transit-friendly neighborhoods. Little has been said of other essential neighborhood



Figure 21. Transport for the 21st century.

resources, such as parks, schools, churches, and clubs, nor of the benefits of providing workplaces within small commercial centers. Mentioned only in passing was the need for the neighborhood centers to be attractive and accessible. For a more extensive discussion of these considerations, see *Strategies and Tools to Implement Transportation Efficient Development: A Reference Manual* by Anne Vernez Moudon, et al. (2003).

On the basis of the analysis and emerging examples, it does appear possible, practical, and desirable to develop neighborhood-serving business districts in a variety of settings. As noted above, such districts or centers can reduce automobile dependency and increase land use and infrastructure efficiency, transit ridership, and physical aesthetics. Neighborhood centers also provide opportunities for both affordable housing and transportation options. However, the fundamental goal of enhancing the districts should be to produce more livable, attractive, inclusive, and socially connected neighborhoods. Neighborhood planners are well aware that these are the values that will be most important to local residents. Local business districts are critical to a neighborhood's social cohesion and general resilience. In the end, if we can produce successful and complete neighborhoods, other planning goals will be achieved at the local level or, at least, easier to successfully address.



Figure 22. Local retail centers provide for the social interactions that are necessary to create a sense of community.

Some Tentative Rules of Thumb for Fostering Neighborhood Business Districts *(subject to further research and only as adapted to local conditions)*

- A commercial node of 30,000 to 50,000 square feet of retail space is a useful target because such a district can often support a grocery store, serve day-to-day needs, and—under the right conditions—foster walkability and social interaction.
- As a rough starting point, it is useful to assume that a household can, on average, support about 15 square feet of retail space. This means that 2,000 households will support a business district with approximately 30,000 square feet of retail space.
- Establishing goals that provide a large percentage of the required households within a quarter-mile radius (30-75%) will support frequent transit service, reduce the need for parking, and lower vehicle trip miles.
- If local governments wish to foster walkable local business districts, they should ensure that there is sufficient land to accommodate at least 50,000 to 100,000 square feet of ground floor space for retail businesses and associated services. Calculations for commercial land area should include a multiplier to account for the fact that the buildings will not occupy the full site). Additional space for institutional and office uses should be provided. As a general starting point, 12 acres should be provided for a full-size neighborhood center with 20 to 50 acres for a community business district that provides enough variety and attractions to be a destination.
- Consider minimum density requirements, but make sure that the regulations are not so aggressive that they discourage development. A mix of small lot single family residences and townhouses along with higher density multi-family development is often desirable.
- Safe and convenient sidewalks are critical to the success of walkable neighborhood businesses. A grid street network with blocks no more than 500 feet long is also recommended
- Residential and mixed-use development along transportation corridors will require a higher level of amenities and accessibility than is currently typical. Businesses serving local needs should be clustered around nodes with good pedestrian access and transit service.
- Five hundred to one thousand residences within a quarter-mile walking distance to new mixed-use suburban centers appears to be a useful goal that will produce pedestrian activity and the types of businesses not wholly dependent on a sub-regional customer base.

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