

## Planning Information Sheet: Supporting Physical Activity Opportunities through Comprehensive Planning and Ordinances



Version 2.0.

DESIGN FOR HEALTH is a collaboration between the University of Minnesota and Blue Cross and Blue Shield of Minnesota that serves to bridge the gap between the emerging research base on community design and healthy living with the every-day realities of local government planning.

**Design for Health**  
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## Overview

Design for Health's *Planning Information Sheets* series provides planners with useful information about opportunities to address important health issues through the comprehensive planning process and plan implementation. The series addresses a range of health issues that are relevant to many communities and can be efficiently and effectively integrated into local plans and policies. This information sheet provides insights for planners in understanding how physical activity, namely walking and cycling, relates to the built environment and strategic ways to inject "walking- and cycling-friendly" environments into the comprehensive planning and policy process.

### Key Points

- People are physically active in different ways. Planning must concern itself with walking and cycling for both transportation and recreational purposes.
- Physical activity is pursued in four purpose-related activity categories: work-related, household-related, recreational or leisure-time, and transportation-related. Most research does not look at the overall physical activity, but rather only one of these elements. This makes it difficult to fully understand how the built environment can be designed to encourage an increase in *overall* physical activity. Heightened total amounts of walking or cycling, for example—possibly aided by the built environment—do not necessarily lead to more total physical activity. This information sheet, in general, focuses on providing a variety of options for physical activity so that people have choices.
- Key planning issues include initiatives that make walking and cycling possible (are destinations close enough) and more attractive (are there facilities, etc.).
- Practical methods to ensure pedestrian- and cycling-friendly environments include mode specific plans, incorporating bicycle and pedestrian planning and design approaches into comprehensive plans (or transportation

elements of comprehensive plans), ordinances, and other ad-hoc measures, such as traffic calming.

- Physical Activity is not an isolated issue; rather, it is tied to many other health topics covered in the DFH materials. For more information, see the table on the next page.

## Understanding the Relationship between Physical Activity and Planning

There is considerable enthusiasm among individuals in advocacy, practice and policy circles for the idea that "good" urban design will positively contribute to levels of overall physical activity. The enthusiasm demonstrated by such perspectives is refreshing; most agree it is critically important to support planning efforts that make physical activity and "active travel" easy, available to diverse populations and more attractive.

As described in the key questions sheet, however, there are outstanding questions about the merits of such aims. While specific features of the built environment (e.g., bicycle trails) correlate well with dimensions of physical activity (e.g., recreational cycling), it is difficult to conclude, on average, that certain environments lead to higher levels of total physical activity. Some people are physically active in their health club, others in work environments. The DFH project is primarily concerned with walking and/or cycling pursued outdoors for recreation or travel. But even narrowing our focus down to cycling and walking, the best we can say at this point in our understanding is that different people have different preferences for types, distances, modes, and their environments. Thus, it is best to suggest that a variety of different types of facilities and environments be made available to help spur physical activity.

**Design for Health Planning Information Sheets addressing Physical Activity**

<b>DFH Planning Information Sheet:</b>	<b>Topics covered related to accessibility:</b>	<b>Link:</b>
Supporting <b>Physical Activity</b> through Comprehensive Planning and Ordinances	<ul style="list-style-type: none"> <li>▪ Pedestrian and bicycle plans</li> <li>▪ Community design</li> </ul>	<a href="http://www.designforhealth.net/techassistance/physicalactivityissue.html">http://www.designforhealth.net/techassistance/physicalactivityissue.html</a>
Promoting <b>Accessibility</b> with Comprehensive Planning and Ordinances	<ul style="list-style-type: none"> <li>▪ Multimodal transportation systems</li> <li>▪ Transit planning</li> <li>▪ Specialized populations</li> </ul>	<a href="http://www.designforhealth.net/techassistance/Accessibility.htm">http://www.designforhealth.net/techassistance/Accessibility.htm</a>
Considering <b>Safety</b> through Comprehensive Planning and Ordinances	<ul style="list-style-type: none"> <li>▪ Traffic calming</li> <li>▪ Shared streets</li> <li>▪ Streetscape-design guidelines</li> <li>▪ Pedestrian plans</li> <li>▪ CPTED</li> </ul>	<a href="http://www.designforhealth.net/techassistance/safetyissue.html">http://www.designforhealth.net/techassistance/safetyissue.html</a>
Building <b>Social Capital</b> with Comprehensive Planning and Plan Implementation	<ul style="list-style-type: none"> <li>▪ Mixed-use development</li> <li>▪ Density</li> <li>▪ Transit-oriented environments</li> <li>▪ Pedestrian-oriented environments</li> </ul>	<a href="http://www.designforhealth.net/techassistance/socialcapitalissue.html">http://www.designforhealth.net/techassistance/socialcapitalissue.html</a>

Generally speaking, research organizes three built-environment variables to promote walking and biking (Lee and Moudon 2004):

- the origin and destination of the walking or cycling trip,
- the characteristics of the route taken for these trips , and
- the characteristics of the areas around origin and destination places.

This information sheet focuses on strategies to bring aspects of supportive non-motorized land use and transportation environments to fruition via planning and policy efforts, including: (1) preparing specialized pedestrian and bicycle plans; (2) improving overall community design, e.g., making parks accessible by foot; and (3) planning for special environments, such as trails. Many of the suggestions that follow are also referenced in other DFH information sheets, such as the importance of mixed uses.

**Bicycle and Pedestrian Plans**

Aspects of non-motorized or active travel—the most common form of physical activity under the purview of urban planning policy (Librett 2003)—are most directly folded into the planning and policy context through specialized and focused plans at the neighborhood, municipal, regional, or even state level to address walking and/or cycling. In many cases, such aims will overlap with efforts of departments of recreation or parks who may oversee trails and greenways; these facilities comprise critical venues for physical activity. In these cases it is important that such aims and facilities are folded into the comprehensive planning process. In addition, many municipalities and states across the U.S. have prepared plans that address both walking and cycling—on city streets or on separate facilities. For a variety of reasons, mostly due to the different infrastructure requirements for walking versus cycling, it is best to create “mode

specific” plans that address the different demands for each mode. Below, we first discuss cycling plans and then pedestrian plans.

Bicycle plans exist at the state, city or even neighborhood level and often have two central general purposes, in addition to inventorying existing conditions. First, they help prioritize which routes or locations may receive an upgrade in facilities; second, they better align improvements that may be needed for cycling with other planning documents. In the best case, a bicycle plan will guide decisions in the planning and construction of new roads and the rehabilitation of existing roads with regard to bicycle facilities. It would draw attention to other needs that may exist, including parking for bicycles, connections to transit, educational programs (e.g., share the road) or may even denote commuting centers (e.g., places with bicycle parking accompanied with showers). It may also guide the allocation of resources. If all bridges, for example, are required to provide space for cyclists, then the state may consider alternative budgets that may call for fewer bridges in a given year or an increased transportation budget.

With respect to the second aim, a bicycle plan ensures that planning for bicycling comports with other dimensions of the planning process. For example, the Minnesota Bicycle Modal Plan has several components; three of them include making sure that the plan closely aligns with the Mn/DOT Policy and Action Plan, the Minnesota Scenic Bikeway System proposal, and it also outlines supplemental design guidance and recommendations. In North Carolina there exists an annual grant program that helps fund individual municipalities to develop specialty plans that may address cycling. Other notable examples of existing bicycle plans include Wisconsin and Massachusetts at the state level and Pittsburgh, Pennsylvania (City of Pittsburgh no date); Toronto, Ontario (City of Toronto 2001); and Austin, Texas (City of Austin 2000) at the city level. Often times, the content of parks or greenway plans resemble what was discussed above and also need to be considered.

In contrast to bicycle plans, pedestrian plans typically have a bit more variety in their content and presentation. We showcase four of them below. In 1998, Portland, Oregon, (1998) prepared a pedestrian plan to provide a nuts-and-bolts document to guide future walking infrastructure. The plan offers guidelines for designing the pedestrian realm. The document is notable for three inter-related elements: (1) establishing a set of priorities at the city scale, (2) engaging the public and (3) linking to the City’s capital improvement budget. It is also significant for recognizing that successful pedestrian environments depend on a variety of factors that may also include destinations, attention to crossings, relationship with storefronts, and not simply putting in sidewalks where none exist.



Supportive infrastructure is needed to encourage biking by children-Tsukuba, Japan

Portland planners invented two tools to help them identify priorities for improvements—a potential index and deficiency index—that they used to evaluate the nearly 32,000 street segments in the city. The potential index measures the presence of factors that support walking for transportation (land-use mix, connectivity in the street network and presence of local destinations), proximity factors (access to schools, parks, transit, and neighborhood shopping) and policy factors (how streets are designated in various other plans). The deficiency index measures the importance of improving a particular street segment, considering sidewalk continuity, street connectivity and the ease of crossing streets (manifested by auto-pedestrian accidents, traffic speed and volume and roadway

width). Streets with high potential and high deficiency are ranked as high priority. This analytical exercise was supported by a planning process that engaged the community in further helping to identify and select needed projects. In workshops, citizens were asked to “pin the tail on the problem” by mapping pedestrian problem areas in their neighborhood. Community leaders and a Pedestrian Advisory Committee helped the project team glean a better understanding of pedestrian needs throughout the city.

A second example comes from the Salt Lake City Bicycle and Pedestrian Master Plan (City of Salt Lake City 2004) and showcases a strong planning tool that facilitates the continued and orderly development of bicycle and pedestrian facilities and implementation strategies that encourage their use. The tool includes a facility classification system that addresses the needs of all ability, age and skill levels, goals and objectives, an implementation plan, and suggested approaches to bicycling and pedestrian safety education. The implementation plan, complete with a strategy for prioritizing different investments, describes examples of pilot projects. The plan is also sensitive to the regulatory environment, including improvements to the zoning code to consider such as: (1) having codes for all street patterns that consider the needs pedestrians and cyclists (e.g., standards for lane widths), (2) addressing the negative impacts of minimum parking requirements on the pedestrian environment, and (4) providing for infrastructure improvements (e.g., bulb-outs, street crossings) that address various safety considerations.



Seniors appreciate infrastructure such as sidewalks. Suburb in Japan

The third example is the Kansas City [Missouri] Walkability Plan (City of Kansas City 2003), a comprehensive and innovative effort to determine pedestrian needs and demand, evaluate the pedestrian network and create new approaches to implement pedestrian-related facilities. Based on the concept of Pedestrian Level of Service Analysis, it presents a method that neighborhoods can use to conduct an evaluation of their pedestrian systems. Particularly notable is that the audit can be used by neighborhoods to communicate needs to city planning offices.

The plan then recommends standards for different area types within the city and provides suggestions for prioritizing the areas with higher levels of pedestrian demand. A final section of the plan recommends changes to how public improvements and private developments should be planned in the future, including a ten-point implementation strategy. Language in this strategy includes statements such as, “Require applicants for certain types of development approvals to conduct a pedestrian traffic impact analysis that addresses directness, continuity, street crossings, visual interest and amenities, and security for pedestrians; update the City’s Subdivision Code and Site Design Standards to improve pedestrian connectivity for new developments; and develop an organizational focus to coordinate pedestrian planning activities within the city” (City of Kansas City 2003, 144).

Building on the important needs assessment element introduced by Portland and Kansas City, the Kamloops [British Columbia] Pedestrian Master Plan provides a formalized approach to identify and prioritize problem areas to be addressed in the plan. The plan includes a four-part rating system, particularly focusing on pedestrian safety. For a summarized view of the plan, see the Planning Information Sheet on Safety at [http://www.designforhealth.net/pdfs/Information\\_Sheet/BCBS\\_ISSafety\\_052207.pdf](http://www.designforhealth.net/pdfs/Information_Sheet/BCBS_ISSafety_052207.pdf)

The information gathered from the needs assessment was mapped and put into a spreadsheet where basic information about each roadway segment was provided, costs for improvements were included, and short-

medium- and long-term priorities were identified (City of Kamloops 2002). Two other useful sites on planning for pedestrians and bicyclists include <http://www.bicyclinginfo.org/> and [www.walkinginfo.org](http://www.walkinginfo.org). Each has links to sample pedestrian and bicycle plans as well as a variety of other sources.



Metropolitan Design Center

Sidewalks can support pedestrians. The level of physical activity may be quite low as people are merely strolling but there may be other benefits such as social interaction.

## Overall Community Design for Pedestrian and Bicycling Comfort, Safety and Options

Different types of physical activity—notably walking and cycling for both recreation and transportation purposes—demand different types of environments for the respective activities. A key characteristic of an environment that promotes transportation walking (as described above), for example, is mixed-use planning. One approach to integrating mixed use into a comprehensive plan is to use an element focused on promoting mixed use, often along with other goals, such as pedestrian connectivity, historic preservation and urban design. Examples of planning for mixed use are included in the DFH information sheet on social capital.

Another approach to integrating pedestrian concerns into a comprehensive plan was used in Oakland, California. The City adopted a pedestrian-oriented plan as a component of the comprehensive plan. The City’s Pedestrian Master Plan is part of the Land Use and Transportation Element of the Oakland General

Plan. The pedestrian plan includes five overarching goals, which focus on pedestrian safety, pedestrian access, streetscaping and land use, education, and implementation. For example, it calls for “creating a street environment that strives to ensure pedestrian safety” (City of Oakland 2002, 8).

The analysis of existing conditions in the plan includes identifying existing street conditions including: opportunities such as mixed-use development, short blocks, transit access, pedestrian destinations, and trails. Walking rates, pedestrian-accident data, school safety, connections to transit, education, enforcement, and community outreach also were addressed (City of Oakland 2002). Another key part of the plan is design guidelines for pedestrian facilities and environments. The guidelines relate to sidewalk width and materials, lighting, signage, landscaping, wayfinding, crosswalks, curb ramp, refuge islands, corner radii, signals, and a wide range of traffic-calming options. Again, these are to increase pedestrian comfort, safety and options so people walk, but their links to increasing *overall* physical activity is not clear. Below is one example of details from several of the design guidelines:

**Street Furniture:** Street furniture includes benches, mailboxes, trash and recycling receptacles, bike racks, newspaper boxes, drinking fountains, information boards, kiosks, parking meters, artwork, public phones, signs, bus shelters, and other items used by pedestrians. These features humanize the scale of a street and encourage pedestrian activity. Street furniture should be placed in the utility zone to maintain through passage zones for pedestrians and to provide a buffer between the sidewalk and the street. For bus shelters on crowded sidewalks, bus bulb-outs are recommended for providing additional space. Bus shelters should also have clearly displayed bus schedules and city maps for wayfinding

Alternatively, ordinances can prescribe built-form requirements to make places more friendly for walking and/or cycling. University of Wisconsin

Extension has provided a model Traditional Neighborhood Development (TND) ordinance. The ordinance calls for a mix of residential, commercial, civic, and open-space areas, allowing residents to live within one-quarter mile or a five-minute walk from these uses (Ohm et al. 2001). This allows short trips, often not at a very vigorous level but integrating activity into daily life.

For more information about integrating goals, policies, and/or objectives related to mixed use, please see the DFH social capital and safety information sheets. In terms of plan implementation, there are a number of approaches that communities might take to create pedestrian-oriented environments. One commonly used approach is a *pedestrian overlay zone*. The City of Charlotte, North Carolina, has established a pedestrian overlay district as part of its zoning code. The purpose of the district is “to reestablish an urban fabric by promoting a mixture of uses in a pedestrian-oriented setting of moderate density. The district encourages the reuse of existing buildings that contribute to the unique character or history of the area. The standards also encourage high- quality design, mixed-use development, the use of public transit, and development, which complements adjacent neighborhoods” (City of Charlotte 2006). In the overlay district, uses permitted by the underlying zoning are allowed, with the exceptions of outdoor storage, outdoor advertising signs and drive-through windows for restaurants and retail. Other provisions include, but are not limited to:

- no side- or rear-yard requirements (except when adjacent to residential),
- reduced parking options,
- requirements for percentage of transparent features in street wall for retail and office,
- design requirements for parking structures, and
- pole signs are prohibited (City of Charlotte 2006).

Design guidelines might also be used to implement community-level, pedestrian-oriented planning, again, oriented toward comfort and safety. As part of its Downtown Austin Design Guidelines (City of Austin 2000), the

City of Austin, Texas, has identified a number of guidelines that are intended to promote a pedestrian-friendly environment. For each design guideline, the document identifies the key issues to be addressed, values supported, examples, and recommendations. Two sample design guidelines related to streetscape design are provided below:

#### Streetscape 6: Enhance the Streetscape

Issue: Walks from one part of downtown to another without relief can be daunting to some pedestrians. Streetscape amenities, such as benches, trash receptacles, planters, pole lights, kiosks, telephones, newsstands, drinking fountains and bike racks enliven and support the public domain. Café tables in the right-of-way can bring activity to the street. They can provide a wonderful means of people watching for diners and pedestrians. Consideration should be given to unification of these elements within a block and from street to street.

Examples: Wide sidewalks, benches and café tables make walking downtown a more pleasant and lively experience.

#### Recommendations:

1. Development in the core is encouraged to provide street furniture in the public right-of-way for pedestrian use. High priority should be given to streets identified in the Great Streets Program.
2. Street furniture may include benches, trash receptacles, telephones, water fountains, and clocks where appropriate. Street furniture may be fixed to the sidewalk, if adequate clear passage for pedestrians and emergency access is provided.
3. Café tables and kiosks may occupy a portion of the public right-of-way if adequate clear passage for pedestrians and emergency access is provided.
4. The design of street furnishings should unify areas with distinct character. Participation from private-property owners is encouraged.
5. Appropriate plantings may be provided, as well.
6. The use of Austin artisans and artists in the creation of street furniture is encouraged (City of Austin 2000).

### Streetscape 10: Provide Protection from Cars / Promote Curbside Parking

Issue: The physical nature of the streetscape should make people walking there as safe as possible, and should make them feel a sense of safety, as well. It may be impractical to assume that effective barriers could be provided along

the curbs of every street downtown, protecting pedestrians from the possibility of being struck by a car, but a degree of protection can be created in fairly easy and inexpensive ways. Perhaps the best protection for the sidewalk would be cars parked along the curb. Parking meters would provide some protection too. Where there is no parallel parking at the curb, small bollards, heavy planters or other similar devices may provide some protection. Parking along the street edge can provide a buffer between busy automobile traffic and pedestrian movement. It also acts as a traffic-calming feature, slowing drivers in the curbside lane.

Examples: Through the combination of parallel parking, bollards and street trees, this sidewalk in Denver, Colorado, provides the pedestrian comfort, as well as safety. However, if parallel parking occurs along the curb, this would be too much of an obstruction.

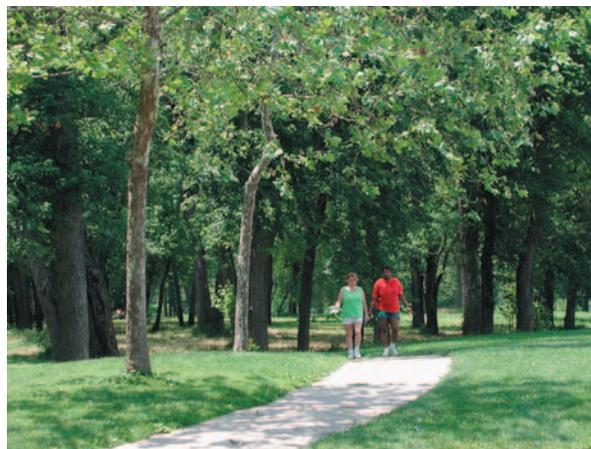
#### Recommendations:

1. Barriers from cars should be provided along the sidewalk edge.
2. This protection may take the form of cars parked in legitimate parking spaces, trees or bollards.
3. Curbside parking is encouraged along all busy downtown streets.
4. When right-of-way is 80 ft. of less, parallel parking is encouraged (City of Austin 2000).

Another typical approach is the use of an overlay zone. The Massachusetts Smart Growth Toolkit includes a model TOD overlay ordinance that provides a strong emphasis on creating walkable environments. The stated purposes of the overlay district, to be placed in a community's zoning ordinance, are to:

1. encourage a mix of moderate- and high-density development within walking distance of transit stations to increase transit ridership;
2. create a pedestrian-friendly environment to encourage walking, bicycling and transit use;
3. provide an alternative to traditional development by emphasizing mixed use, pedestrian-oriented development;
4. create a neighborhood identity that promotes pedestrian activity, human interactions, safety and livability;
5. encourage building reuse and infill to create higher densities;
6. reduce auto dependency and roadway congestion by locating multiple destinations and trip purposes within walking distance of one another; and
7. provide a range of housing options for people of different income levels and at different stages of life (State of Massachusetts 2006).

The district lists allowed, prohibited and conditional uses. To create a more transit-friendly environment, the district prohibits a number of uses, including auto-oriented uses (e.g., car washes, auto sales, gasoline sales), strip-commercial development, self-storage facilities, low-density development (under seven units per acre), retail uses (except grocery stores) over 10,000 sq. ft. unless part of a mixed-use development, and commercial-parking facilities (State of Massachusetts 2006).



Walking Trail

Metropolitan Design Center

## Final Thoughts

The examples provided above are helpful as communities begin to think about how plans and policies can be used to create and enhance environments that are supportive of different forms of physical activity, a key aspect of health. These examples are just a sample of available approaches; there are dozens of other communities that address walking and cycling. The examples illustrate language that can be integrated into comprehensive plans and also policies that can be used in zoning regulations and other municipal plans and ordinances. The sample plan and policy language focuses on creating an environment that facilitates the provision of attractive places for physical activity in accessible locations and for a variety of purposes. Incorporating any of these ideas into a local plan or code requires knowledge of the local context. Each of the examples provided here can be effectively tailored to meet local conditions, issues and concerns.



Minneapolis Bike Path

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