

Planning Information Sheet: Integrating Health into Comprehensive Planning



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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.

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Introduction

This first sheet in the series helps communities begin thinking about how to integrate health into their planning and design decisions. We showcase: background information on the relationship between health and the built environment; various approaches to integrate health into comprehensive planning; examples from the Twin Cities region and across the U.S. related to integrating health and planning; and opportunities to integrate health into a traditional comprehensive plan framework, focused on the requirements of the Twin Cities Metropolitan Council.

Key Points

- Commonly used definitions of health tend to ignore the built environment; however, there is growing interest in the link between the built environment and health. Comprehensive planning is one approach to linking the traditional notions of planning (land use, transportation, community facilities, housing, and parks and open space) with health themes (physical activity, the nature environment, public safety, healthy eating, mental health, social capital, pollutants, and epidemiological issues).
- Comprehensive plans can help facilitate decisions about health and the built environment. To do so, it is important to understand state and regional regulations that often require a consistent set of elements where health topics can be interwoven.
- There are four approaches to incorporate health into comprehensive planning: plan update, corrective / selective amendments, revised codes and ordinances, and a separate health-related plan.

Public Health Overview

There is growing interest in the link between the built environment and health. The traditional notions of planning encompass land use, transportation, community facilities, housing, and parks and open space, while public health

officials speak of health in relation to physical activity, the natural environment, public safety, healthy eating, mental health, social capital, pollutants, and epidemiological issues related to such topics as mortality, obesity, and respiratory diseases. The following common definitions of health illustrate that the connection to the built environment is often isolated or indirectly connected to the built environment (Ison 2000):

- “Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity,” as defined by the Preamble to the Constitution of the World Health Organization (WHO 1948).
- “Health is the reduction in mortality, morbidity, and disability due to detectable disease or disorder, and an increase in the perceived level of health,” as defined by the World Health Organization Regional Office for Europe in “HEALTH21: The Health for All Policy Framework for the WHO European Region” (WHO Regional 1999).
- “Health is a resource for everyday life, not the object of living. It is a positive concept emphasizing social and personal resources as well as physical capabilities,” as defined in WHO’s “Health Promotion Glossary” (Nutbeam 1998).
- “Health is the capacity of people to adapt to, respond to, or control life’s challenges and changes,” as defined in “Health Impact Assessment as a Tool for Population Health Promotion and Public Policy” (Frankish et al. 1996).



Bicycle parking garages feature green roofs in Hammarby Sjöstad, Stockholm, Sweden

Ann Forsyth

While planning and public health share similar roots in the nineteenth and early twentieth centuries, for some time they have been moving along separate paths. While planners and public health professionals have viewed their roles in the community differently, practitioners and academics are beginning to uncover the ties between the two fields as it is becoming increasingly clear that decisions about the built environment may influence certain public health concerns and vice versa. The list below provides a brief introduction to how public health concerns are linked to community planning issues. For more detail see the *Design For Health's Key Question Research Summaries*.

Water Quality: Water quality refers to both drinking water and groundwater/surface water. Diseases are quickly spread through water because of its solvent nature, which makes it easy to pass along to all living things (Frumkin, Frank, and Jackson 2004). While this is less of an issue in the United States, because of the country's advanced water treatment systems, it is still a priority for communities as they must coordinate and manage these very systems or work with other public/private groups to make sure that they are protecting surface and groundwater, and planning for public facilities to protect water quality (Berke et al. 2006; Randolph 2004).

Air Quality: Clean air is an important element in creating healthier communities. Both indoor- and outdoor-air quality are important in human health, with key pollutants including carbon monoxide, sulfur and nitrogen oxides, carbon dioxide, lead, and other air toxins and volatile organic compounds (Frumkin, Frank, and Jackson 2004, 73). From a planning perspective, automobile emissions are a key area of concern. It is estimated that in 1999, there were over 122 million people living in areas where the ozone levels greatly exceeded national air-quality standards (Randolph 2004, 44). Pollutants, such as ozone, can lead to a myriad of short- and long-term health problems, particularly related to respiratory diseases such as asthma. There has been extensive research on the connection between land-use patterns, transportation, travel behavior, and air quality. Mounting evidence suggests that sprawling land-use

patterns contribute to increased reliance on the automobile, for example, and thus increased emissions (Handy 2005), while other material suggests that the congestion of central cities or higher-density areas leads to dangerous air quality (FHWA 2006), particularly for active individuals, such as cyclists and pedestrians (EPA 2007). The topic of air quality, however, gets increasingly complicated because air is not contained by political boundaries, and this makes it difficult to coordinate a joint-planning response (Randolph 2004).



Freeways are sources of air pollution. This image is of Interstate 35, Minneapolis

Mental Health: The World Bank and the World Health Organization estimate that by the year 2020, mental-health disorders will account for 15 percent of disease, and that depression will become one of the largest health problems in the world (Maller et al. 2005, 45-6,). Vegetated environments have positive effects on physiological measures, such as heart rate, skin conductance, muscle tension, and blood pressure (Maller et al. 2005). There has been an increasing interest in how nature (defined as water, trees, bushes, grass, and other kinds of vegetation) within the built environment can influence changes in mental health. Exposure to nature may lead to decreased levels of stress, greater job satisfaction and faster recovery from fatigue (Kaplan and Kaplan 1989; Ulrich 1984; Ulrich et al. 1991; Maller et al. 2005). For planners, parks and open-space planning is an important consideration. Many comprehensive plans identify these resources, assess residents' needs

for parks and open space, and identify areas for protection as part of the land-use planning process (Kelly and Becker 2000).

Social Capital: Social capital may be characterized as one’s social network or sense of attachment to one’s community. It should be noted that the lack of social capital, like poor air quality, is not a health outcome but may be associated with or contribute to health (Carpiano 2006). Research is mixed on whether or not the built environment can influence social capital, partly because it is difficult to define and measure. Depending upon how social capital is measured, some research finds that mixed-use, walkable urban areas increase social capital (Leyden 2003; Lund 2002), while others find that less dense areas, like suburban communities, have higher levels of trust in their neighbors (Williamson 2004). Social capital is one of the least understood issues in terms of its relationship to public health, as well as to the built environment.



Public gallery spaces can be enabled through planning. This example is in New York City, NY

Food Environment: Local, state, and federal groups have referred to the rising levels of obesity as a public-health crisis, particularly because it is connected to a range of other health issues. Traditionally, planners and public-health officials have tried to decrease levels of obesity through the lens of physical activity; however, there has been a recent movement towards looking at accessibility to healthy foods. The current obesity problem is a result of energy

imbalance, that is, more energy being consumed than expended through physical activity. Thus, part of the problem of obesity is a problem of food consumption. At the same time a significant group of people do not consume adequate healthy food. Good nutrition has been promoted over time through public health programs such as the “5 A Day” campaign to promote fruit and vegetable consumption and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). However, access to nutritious food is emerging as an important planning issue involving topics from supermarket and restaurant locations to providing space for community gardens (Laraia et al. 2005; Chung and Myers 1999; Kaufman and Pothukuchi 2000; Morland, Wing, and Diez Riux 2002; Crewe, ed. 2004).

Physical Activity: The connection between urban form and physical activity has been the area where most debate has occurred in recent years. While the genetic make-up of humans determines many of the health risks that each individual faces, physical activity remains an important element in combating diseases, including obesity and heart disease (Frumkin, Frank, and Jackson 2004). Researchers are moving beyond an emphasis on either leisure physical activity (e.g., walking for exercise) or utilitarian physical activity (e.g., walking to work) to a more comprehensive view. In health terms it is particularly important to consider the intensity (moderate v. vigorous) of the activity, as well as the overall amount. Different subpopulations (age, gender, and ethnicity), however, have differing barriers towards achieving recommended exercise goals. Together, these elements create a framework for planners and designers in order to help them build environments to create opportunities for physical activity from parks and open space to sidewalks and land use, including safety considerations. Active transportation—walking and cycling—requires a different set of infrastructure than the roads and trails needed for motorized transportation (Committee on Physical Activity 2005).

Metropolitan Design Center

Environment and Housing: Environmental and housing issues include a broad range of topics such as indoor and outdoor housing quality (building materials, crowding, location of housing, and presence of toxics), contaminated and/or potentially contaminated sites – to name just a few. Beyond air and water quality, exposure to other pollutants may have negative impacts on health. Exposure to pollutants can be unpredictable, but in some cases can be affected by land-use decisions and building codes. Especially for children, for example, exposure to lead paint is a significant concern in many older urban neighborhoods (Evens and Gard 2005). Contaminated soils and exposure to hazardous waste, associated with ongoing or previous industrial activities, may also be a concern where residents are put in close contact with brownfield sites (Randolph 2004; Bullard 1990).

Accessibility: Accessibility planning focuses on the degree to which people can easily get to destinations that directly or indirectly are linked to supporting human health. Planners can help increase access by ensuring that policies and implementation strategies encourage a variety of nearby destinations for residents (e.g., employment, health care, grocery stores, etc.), and that these destinations can be reached by a variety of transportation modes (e.g. bicycling, walking, automobile, transit). Accessibility concerns focus less on automobile users and more on bicyclists, pedestrians, and transit riders since these people tend to be underserved. Universal design is an aspect of accessibility that is particularly focused on specialized populations.



Comprehensive planning can support non-motorized transportation options. This bike path is in Amsterdam, The Netherlands

Providing a variety of activities and a range of transportation options to increase choices for individual travelers is important for all residents, but particularly for those groups that are transit dependent.

The Role of Comprehensive Planning

As a policy framework, the comprehensive plan can help to facilitate decisions about health and the built environment, although it is only one strategy for improving human health. While many plans refer to the importance of public health, public safety or physical activity, these general concepts are often used to justify purposes as opposed to providing a substantive starting point for discussions about how a community should look and function.

When integrating health into comprehensive planning, there is not a single pattern that planners and designers must follow. Rather, there are different ways to incorporate these themes into existing comprehensive plans and other typical community-planning efforts. These options provide flexibility to communities, allowing them to make decisions based on community resources and public priorities.

Approaches to Integrating Health into Your Comprehensive Plan

There are four general approaches to integrating health into a community's comprehensive plan.

1. Comprehensive Plan Update

A community's comprehensive plan update process is an important opportunity to rethink the organization and focus on the plan. Through a comprehensive update, communities have the opportunity to fully integrate a concept, such as health, by applying it to each section of the comprehensive plan. Many communities conduct a visioning and/or goal-setting process as part of their plan update. This effort presents an opportunity to discuss the relationship between health and the built environment, and to organize the community around key goals and opportunities to be pursued. In addition, the content contained in each of the plan

elements can be informed by the connection between health and the built environment. Decisions that communities make about land use, transportation, environment, parks, open space, and community facilities can all have implications for health. See www.designforhealth.net for a variety of ways to incorporate health into key comprehensive plan elements and ordinances.

The City of Saint Paul, Minnesota, already lists “well-being” among its overarching planning themes. The City’s comprehensive plan states, “Well-being for Saint Paul’s citizens depends on economic growth and life-supporting jobs, as well as cultural, educational and recreational opportunities, including community services that nurture family and individual life” (City of Saint Paul 1999).

King County, Washington, has taken a proactive approach to integrating health into its comprehensive plan. By directing development and higher densities to cities and urban centers, the County is accomplishing its growth-management goals, but also concentrating new population growth in areas with a mix of land uses, existing services and facilities, and higher densities as a means of promoting health. King County also connects environmental planning to health, providing actions related to improving air quality. As a complement to its comprehensive plan, the County also completed a land-use, transportation, air quality, and health study to assess how land-use patterns affect air quality (County of King 2004).

2. Corrective/Selective Amendments

This approach is a strategic way to update or add to existing comprehensive plan content, without revising the entire document. Approaches might include adding short text amendments, such as defining health to include a broader range of issues than are addressed in the current plan. Drafting supplemental sections or full elements can be a useful way to address health in a manner that responds to local concerns. Options include providing goals and policies for non-motorized transportation, adding a section on mitigating impervious surfaces, or adding an air-quality element.

For example, in its transportation element, Eden Prairie, Minnesota, has a section on bicycle and pedestrian facilities, along with guidelines related to roadways, transit and airports. One of the implementation strategies in the plan states that, “The City will pursue the continued development of pedestrian trails and bikeways that meet the recreational needs of its citizens, and provide an alternative means of transportation.” (City of Eden Prairie 2000). Also in Minnesota, Saint Louis Park’s comprehensive plan illustrates another approach and opportunity. Section IV on public facilities has an entire chapter entitled “Public Health and Safety” (the other chapters include “Aviation Plan,” “Water Supply Plan,” “Sewer Plan and Solid Water,” and “Surface Water Resource Management”). While it tends to focus more on fire, police, medical emergency, and public works, the chapter could be expanded to address other aspects of health (City of Saint Louis Park 1998).

Many communities include elements related to public health or human services. These elements may address a range of health issues, including mental health, air quality, water quality, and safety. Palm Beach County, Florida, for example, includes safety goals related to protection from environmental hazards, emergency management and training of health workers (County of Palm Beach 2001). Spokane, Washington, added a social-health element to its comprehensive plan. As noted in the plan, “Healthy communities embrace a complex set of factors that contribute to good health: housing choices, clean natural environments, efficient public transportation, employment options, job training, quality education, cultural and recreational opportunities, room for diversity, accessible health services, and preventive services” (City of Spokane 2001). Comprehensive plan elements like these examples could certainly be added or expanded to address a broader range of health issues.

Air quality is an important health issue that can be addressed in a community’s comprehensive plan. Some cities, primarily in the western states and including Carson, California, include an element in their comprehensive plans specific to air quality. The element includes air-quality data, information on state and federal air-quality

standards and goals related to dust generation, regional air quality, community awareness and emergency response, and polluting industries (City of Carson 2004).

3. Revised Codes or Ordinances

This approach is focused more on the implementation side of comprehensive planning, such as revising a community's zoning ordinances, subdivision regulations, planned-unit development requirements, design standards, and other implementation tools. Here, tools such as pedestrian-overlay zones, non-motorized-circulation standards, and park-dedication requirements may be used to translate comprehensive plan policies into action. More details about plan implementation and examples of model ordinances are included in additional information sheets.

Protecting health is one of the key justifications used for local government land-use, environmental and other regulations. Arden Hills, Minnesota, specifically provides such a justification in the introduction to its zoning ordinance, listing the "promotion of general public health, safety, comfort and general welfare of their inhabitants" among the purposes for the ordinance (City of Arden Hills 2006). One regulation that Arden Hills provides, relative to this statement of purpose, is a requirement that a water-management plan be submitted for development of individual sites of 2.5 acres or greater in wetland and floodplain areas. Relying on a connection between walkable environments and health benefits, one technique that might be used is a pedestrian-oriented overlay zone. Greensboro, NC, has established design guidelines and an overlay zone for the East Market Street area, a major thoroughfare that runs through the entire city. The design guidelines and zoning regulations address façade design, building orientation, parking-lot landscaping/lighting, site access and safety, and bicycle and pedestrian connections with the intent of creating an environment that is more inviting for pedestrians (City of Greensboro 2002).

4. Separate Health-related Plans

Many communities create separate plans for topics that go beyond the scope of required comprehensive plan content and elements (e.g., Downtown Plan, Historic Preservation Plan, Habitat Protection Plan). These plans may be related to issues unique to the community, focus on sub-areas in the community or respond to issues of public concern. These thematic plans often influence the decisions made in the overarching comprehensive plan, and in some cases are adopted as an extension of the comprehensive plan. Key examples include downtown plans, historic preservation plans, habitat protection plans, and neighborhood plans.

In the local context, Eden Prairie, Minnesota, has adopted a local water management plan. The plan includes guidelines for development review, such as: (1) managing storm-water runoff, erosion and sedimentation; (2) holding runoff rates to predevelopment conditions; and (3) protecting wetlands to ensure surface water quality (City of Eden Prairie 2004). In addition, the "Saint Paul on the Mississippi Development Framework" is a separate document that influences planning through design strategies related to motorized- and non-motorized-transportation networks and the public realm in the city of Saint Paul, Minnesota (Saint Paul Riverfront 1997).

Many communities prepare plans specifically related to bicycle and pedestrian facilities. One example is the city of Austin, Texas. Its plan's overall goals are to: (1) institutionalize bicycle transportation in all transportation and recreation planning, design and construction activities; (2) improve bicycle safety; (3) increase the level of commuting and utilitarian bicycling; (4) fund, create and maintain a functional system of on- and off-street bicycle facilities; (5) establish and maintain safe standards and guidelines for bicycle facilities, programs and projects; and (6) integrate and coordinate multiple modes of transportation through provision of bicycle/transit interfaces (City of Austin 1996).

A community's selection of an approach will likely be informed by a number of factors including: (1) staff and financial resources available to complete the plan revisions, (2)

political and public support for integrating health into the plan and (3) the date and organization of the existing plan. Further, a community might opt to combine several of these approaches, perhaps providing minor amendments to an existing comprehensive plan and following up by drafting relevant ordinance revisions.



Nicollet Mall in Minneapolis, Minnesota is an example of an area planned for pedestrians and transit.

Conforming to State Regulations

In selecting an approach to integrating health in the comprehensive plan, communities also are influenced by existing guidelines related to comprehensive plan content. In some states, planning-enabling legislation prescribes particular elements or content that must be included in a community's plan. In other locations, planners are simply guided by traditional approaches to comprehensive planning that rely on a relatively consistent set of elements. Even where a relatively traditional comprehensive planning framework is established, there remain multiple opportunities to address a range of health issues.

One example of a traditional comprehensive planning framework is provided by Minnesota's Metropolitan Land Planning Act (Minnesota Statutes §§ 473.459-.459) and the Metropolitan Council for plans completed by communities in the Minneapolis-Saint Paul (Twin Cities) seven-county metropolitan area. Specific guidance is provided related to the timing and content of

plans. In addition to requiring sections related to background information and implementation, the Metropolitan Council requires that local comprehensive plans include four key elements:

- Land Use
- Transportation
- Parks and Open Space
- Water Resources

The Metropolitan Council cites three additional elements as optional:

- Economic Development
- Intergovernmental Coordination
- Urbanization and Redevelopment Areas

The Metropolitan Council provides general guidance related to the content of these elements in its "Local Planning Handbook" (2005). While a number of specific requirements are provided, communities have a great deal of flexibility in how they address these requirements and the extent to which they provide additional content. This flexibility presents a significant opportunity to address a range of health issues, including physical activity, water quality, air quality, food access, safety, social capital, and mental health. Further, the comprehensive planning process presents an opportunity to engage the public in these health issues. Planners can gather information about public values and priorities around the issues and help the public to make the connection between health and the built environment.



Green spaces integrated with housing can have a number of benefits including improved mental health. This example is in Woodbury, Minnesota

The Metropolitan Council's Requirements for Comprehensive Plans: A Brief List of Health Issues

By considering the Metropolitan Council's plan requirements, communities can identify numerous opportunities to integrate health into comprehensive planning. Using a matrix such as the one on the next page, one can make clear links between various aspects of health and traditional planning elements, including information required by the Metropolitan Council. Even for communities outside of the Twin Cities region, the matrix can be a useful tool to organize efforts to integrate health into a community's comprehensive plan. The matrix includes plan content specified by the Metropolitan Council and a number of relevant health issues.

The health issues included in the matrix were introduced earlier and were identified based on a review of wide-ranging literature on the relationship between health and the built environment, drawing from research in the areas of public health, environmental management, transportation planning, urban design, and healthy eating. Frumkin, Frank and Jackson (2004) use many of these same categories of health, including air quality, physical activity, traffic safety, water quality, mental health, and social capital, relating them to urban sprawl. A recent American Planning Association "Planning Advisory Service Report" on integrating planning and public health, addresses some of these same issues but also adds obesity and inactivity, crime, hazardous waste sites, and transported materials (Morris 2006). The matrix used here (see p. 9) includes the additional concerns of food access, pollutants and epidemiological issues, such as the concentration of diseases within particular populations or geographic areas.

Using the Matrix in Your Own Community

Focusing on the minimum content required by the Metropolitan Council, the matrix on the previous page provides a starting point in communities for discussing opportunities to integrate health into their comprehensive plans. Communities might also include other elements or content in this matrix to reflect local concerns or typical plan content (e.g., community facilities, environmental protection, urban design). To further tailor the matrix to the local context, additional health issues or specific health concerns related to the general categories provided above also could be included (e.g., access to supermarkets for low-income residents, high asthma rates in neighborhoods adjacent to highways). Use of this tool as part of the public participation process can be effective in increasing awareness of the relationships between health and the built environment. The public may be a significant source of information about key health issues and the feedback gathered during a participatory process may be useful in drafting goals and identifying policy options.

Sample Matrix for Examining the Links between Comprehensive Planning and Health

	Physical Activity	Social Capital	Mental Health	Air Quality	Water Quality	Food Access	Safety (crime & traffic)	Access	Env and Housing
Land-use plan									
Future land use	x	x	x	x	x	x	x	x	x
Housing plan	x	x	x	x		x	x	x	x
Resource Protection	x	x	x	x		x	x		
Transportation									
Traffic Analysis Zone (TAZ) allocation	x			x			x	x	
Highway & roads plan	x			x			x	x	
Bike & pedestrian plan	x	x	x	x		x	x	x	
Special traffic situation	x	x		x		x	x	x	
Transit plan for facilities & services	x	x		x		x	x	x	
Aviation plan			x	x			x	x	
Water Resources									
Wastewater & sewer plan					x		x		x
Surface water management plan			x		x				x
Water supply plan					x				x
Parks & Open Space									
Identity, plan, map & plan for regional parks and open space	x	x	x	x	x	x	x		
Optional Elements									
Economic development						x	x		x
Intergovernmental coordination				x	x				
Urbanization & redevelopment areas	x	x		x	x	x	x	x	x

Notes

* The key approaches identified here were informed by the American Planning Association's "Model Smart Growth Land Development Codes" (Meck et al. 2006). This document addresses ways to integrate smart-growth concepts into comprehensive plans. Using these same approaches, we have identified methods for integrating health into comprehensive plans.

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