Planning and Public Health: Research Options for an Emerging Field

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Human health and safety is an emerging topic in the planning field. Although public health professionals traditionally promote public health and safety through individual treatment or group interventions, they increasingly cite environmental factors as affecting health and safety. With respect to both chronic and infectious disease, most health experts now advocate a multilevel approach that includes examining the built, natural, and policy environments to determine how these environments contribute to, if not cause, unhealthy outcomes.

Attention to the built environment began in the mid-1990s and has accelerated in the past few years. Special conferences, sessions at public health meetings, publications on the topic, and requests for proposals from National Institutes of Health and other agencies underscore the potential importance of the built environment as a health and safety determinant. How should academic planners interested in public health and safety take advantage of the emerging research opportunities on public health–built environment connections? Which areas of research deserve attention? These questions are addressed herein. The next section discusses the design of empirical research. The following section identifies major sources of work drawing from the public health literature. The fourth section generates research topics and questions planning academics could pursue. The Association of Collegiate Schools of Planning (ACSP) tracks are used to frame the discussion. Finally, conclusions are presented.

Abstract
Planning researchers should consider public health and safety as an emerging opportunity area for interdisciplinary research. Relevant public health sources are cited. Research ideas are presented in the context of Association of Collegiate Schools of Planning tracks that pertain to functional areas of planning, planning process, and history.

Keywords: public health; planning process; built environment

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Research Design
Conceptual frameworks are presented in several sources (e.g., Northridge, Sclar, and Bissas 2003). In simplified form, the macro environment influences the built environment and related social context, which, in turn, generate stressors at the interpersonal level that have health outcomes. In this framework, planning researchers should be most interested in relationships between planning interventions, the built environment, and human behavior. Fortunately, the evidence is quite clear that many types of
chronic diseases are associated with physical activity, eating habits, and environmental exposures. Thus, planning researchers need only demonstrate how the built environment influences such behaviors in a spatial context to assert relevance to public health and safety outcomes.

It is not too difficult to design internally and externally valid empirical research to flesh out these relationships. The sampling frame would be neighborhoods, and individuals living in these neighborhoods would be surveyed. The neighborhoods would be selected to exploit the variation in built environmental conditions found in different places (e.g., inner city, older suburban, newer suburban). Features of the built environment would be the independent variables. Researchers could draw on empirical studies of urban form and transportation to identify the variables of neighborhood features (e.g., connectivity, mixed land uses, residential density, availability of sidewalks, trails and open space, transportation systems, etc.). Other relevant independent variables would measure access to and proximity of important destinations (workplaces, schools, shopping areas, entertainment, and recreation) from these neighborhoods. Policy variables would be introduced as qualitative factors measuring features of land use and transportation plans, zoning and other implementation tools, and the development review process at the jurisdictional level. Finally, numerous control variables that could confound the results would have to be added. A large sample would be needed to have sufficient degrees of freedom to introduce these variables (e.g., socioeconomic status, race/ethnicity, age of housing, region of the United States, etc.).

In this multilevel research design, the dependent variables would be behavioral factors. Behaviors about time allocation, eating habits, and social interaction would come from household surveys. Physical activity could be measured directly with pedometers or similar devices. The study should look at one age cohort of residents (e.g., fifteen- to nineteen-year-olds) who have lived in the neighborhood since childhood. This focus would avoid the selectivity bias that plagues much of the existing research.

A well-designed study would involve thousands of teenagers living in scores of neighborhoods in many different jurisdictions. A large-scale research project like this would be extremely expensive. Although the results would be very robust, no funding source has stepped forward to request a study of this magnitude on neighborhoods or on nonresidential areas (employment centers, schools or university campuses, shopping areas, etc.). Although serious attempts have been made to conduct good empirical research with available data and funding, the research findings on the planning–built environment–behavior relationships are far from definitive. Opportunities exist for making important contributions in this area.7

Research Ideas for Exploring the Relationships between Planning and Human Health and Safety

Planning researchers will draw on existing literature to frame properly their research on planning–built environment–behavioral relationships. In this section, public health books and journals that contain relevant publications are cited because they may be less familiar. The purpose here is not to review this literature but to identify important sources that individual researchers can use to identify relevant work.

The American Journal of Public Health is roughly equivalent to the Journal of the American Planning Association for public health practitioners and researchers. Two issues are especially relevant. The entire September 2003 issue (Northridge 2003) addresses the relationships between the built environment and public health and safety. The volume contains more than two hundred pages of relevant articles, reports, and editorials. The April 2004 issue (Northridge 2004) has a section titled “Reconnecting Urban Planning and Public Health” that contains several interesting articles.

Two other journals publish articles on point: the American Journal of Health Promotion and the Journal of Urban Health. Each published special issues on planning-health connections: “Health Promoting Community Design,” American Journal of Health Promotion (O’Donnell 2003), and “Built Environment and Health,” Journal of Urban Health (Fox, Jackson, and Barondess 2003). The American Journal of Preventive Medicine published a special issue (King, Bauman, and Calfas 2002) in August 2002 on physical activity that included articles and commentary on the built environment. Several recent books about the built environment and health are noteworthy: Frank, Engelke, and Schmid (2003) and Frumkin, Frank, and Jackson (2004). Publications are also available on the built environment connections to general health, mental health, safety, risk factors, and so forth.4

It is well known that the National Institutes of Health and other health-oriented research agencies provide substantial multiyear research awards. As city planning and the built environment are drawn under the health and safety umbrella, academic planners in collaboration with epidemiologists and other public health researchers can compete for this research funding. The next section identifies possible areas of research.

Research Questions

Research ideas for exploring the relationships between planning and human health and safety are discussed in the context of ten specific ACSP tracks that pertain to functional areas of planning or planning process/history.6 These ideas...
are put forth to stimulate thinking about potentially interesting topics. They are illustrative and are not intended to impose research priorities or specific topics on the reader.

Most of the existing research literature contributed by planners falls under the “transportation and infrastructure” track. This result is not surprising because physical activity is a form of mobility behavior that can be directly related to mode choice, one of the central variables in transportation modeling and planning. The influence of urban sprawl, transportation systems, and design features on physical activity has been the major focus of this work. Robert Cervero, Reid Ewing, Larry Frank, Susan Handy, Rebecca Miles, and others have explored these relationships. Research currently funded by Robert Wood Johnson’s Active Living Research Program will improve and extend current knowledge in this area.

“Land use policy and governance” refers to the planning and regulation of the built environment. Most attention in existing research has been devoted to zoning with the implicit assumption that it has the greatest impact. For example, Euclidian zoning is often described as the culprit fostering auto dependence by separating land uses. Research in this area could be extended substantially to include other land use regulations or implementation tools. The features of land use and transportation plans per se have received little attention. Furthermore, little research looks at the development review process and the role of real estate developers in generating the built environment. Clearly, conducting research on these other areas is at least as important as additional research on zoning.

“Environmental planning and resource management” is more concerned with the natural environment than with the built environment but also with the interactions between these environments. Work in this track could be related easily to public health, building on the studies of the degradation of the environment that results from urban development—the pollution of water, land, and air—as well as the extension of environmental impact analysis/assessment to health impact assessment. The Environmental Protection Agency has funded research related to smart growth under the assumption that it has the greatest impact. For example, existing research has been devoted to zoning with the implicit assumption that it has the greatest impact. For example, Euclidian zoning is often described as the culprit fostering auto dependence by separating land uses. Research in this area could be extended substantially to include other land use regulations or implementation tools. The features of land use and transportation plans per se have received little attention. Furthermore, little research looks at the development review process and the role of real estate developers in generating the built environment. Clearly, conducting research on these other areas is at least as important as additional research on zoning.

“The negative health impacts of exposures to environmental hazards, toxins, or disease vectors are based on quite solid evidence.

“Urban design” raises another set of important research questions about how to create places that promote physical activity; provide access to healthy food, open space, and recreational areas; or reduce exposure to environmental hazards including auto traffic. The huge literature in environmental psychology intersects with this area, although current concerns refer to the impacts on chronic disease more than mental health. The emphasis on small-area planning as an essential part of the land use planning makes this research very timely. Research that brought together designers who could help identify the salient three-dimensional features of the parcel, building, streetscape, block, or neighborhood with social scientists who could develop face-valid measures of these features would advance the field. Many planning faculties have both skill sets that would foster collaboration.

“Regional planning” provides the most relevant scale for research because of the coincidence between the physical city and the functional economic area. With this unit of analysis, research can analyze the demands imposed by the metropolitan economy on urban spatial structure. The regional land use pattern, transportation system, residential density, and employment centers are features worth close examination. At this scale, researchers could take on the hard questions about how to balance trade-offs between a metropolitan economy providing flexibility, choice, and mobility to households and a spatial structure that limits accessibility, degrades the environment, and threatens the health and safety of the population. Furthermore, research should expose as dumb growth the impacts of planned unit developments based on smart growth and new urbanism principles that crop up in dispersed locations and increase auto dependence, congestion, pollution, and health risks.

“Economic development” could be viewed as the track in which the positive economic and fiscal impacts of economic growth and urban development are recognized in contrast to the negative social, environmental, or health impacts considered in other tracks. This view, however, is far too narrow. Economic development research is often concerned with urban and regional competitiveness. How do public health and safety influence the relative attractiveness of different places? The answer requires, first, identifying places that compete with one another for jobs and investment and then asking which ones in each grouping offer the healthiest and safest environments. Although the measurement and modeling problems would be formidable, the research findings should be worth the effort. Flexible, knowledge-intensive industries appear to seek locations in healthy and safe communities.

“Housing and community development” is primarily concerned with the well-being of lower income urban populations. A large public health literature on health disparities documents the greater burden of poor health and insecurity borne by low-income communities. In fact, the empirical evidence about the incidence of infectious diseases related to environmental exposure (polluted air, lead paint, hazardous waste, etc.) on this population is more compelling than is the evidence relating the built environment to physical activity and chronic diseases. Two areas of research may be of interest when...
considering the health and safety of low-wealth communities. One research topic is the issue of physical safety given the incidence of criminal activity and accidents in these communities. For example, it is not surprising that children in low-wealth households spend more time after school indoors and watching television since engaging in physical activity outdoors may be dangerous. Another research area is food access. Initial studies document that calorie-dense foods are readily available in low-wealth areas, whereas fresh fruits and vegetables are not easy to access.

The topic of housing deserves special treatment because the quality, cost, and location of housing have long been recognized as affecting health and safety. For example, the infectious and chronic diseases affecting low-wealth communities are a function of the quality of housing. The vulnerability of households to crime, pollution, vermin, and so forth is related to the cost of housing. The ability of residents to have access to opportunities (jobs, good schools, convenient services) is driven by the location of housing. Planners have been trying to find ways to improve housing since the tenement house and slum clearance movements. Housing researchers should be able to relate their work to public health and safety with relative ease and gain new audiences as a result.

“Gender and diversity” provides dimensions primarily relevant to the study of public health and safety disparities that complement the research described under “housing and community development.” Clearly, health and safety issues have particular relevance to minority groups, children, elderly and disabled persons, immigrants, and so forth who bear the heaviest burden of incidence. Residential segregation and concentration of urban poverty represent spatial factors that negatively influence health and safety and increase disparities. Researchers especially interested in gender can find interesting ways to explore this dimension in many topics mentioned above. For example, research on neighborhood crime and security would benefit from attention to violence directed toward women.

The “planning theory/process” tracks afford the opportunity to examine process questions. Research about how to infuse planning with heavier health and safety content is especially important in a period when government intervention on the grounds of public welfare is increasingly challenged. Process research could focus on planning, implementation, or the development review process. Research on the latter topic may be especially useful to energize public health advocates interested in engaging in project reviews. Real estate developers are much concerned about winning project approvals and would welcome alliances with public health advocates. Furthermore, research on public participation that showed how to infuse public health and safety issues into the planning process should be pursued. In fact, embracing public health and safety as the primary goals of city and regional planning would go far to elevate the stature of the entire planning field.

Planning history research is needed for several reasons. First, historical research has documented the nineteenth-century connections between city planning and public health through the movement for municipal sanitation. However, this common fount was not sufficiently enduring to forge strong bonds between the city planning and public health professions. Second, the metropolitan form associated with decentralized, low-density, single-use suburbs should be placed in historical context. Although this urban form may increase the incidence of chronic diseases in the twenty-first century, it should be understood as the urban form that reduced the infectious diseases rampant in dense, dirty, and dangerous cities one hundred years ago. In addressing these two topics, historical research could help overcome the negative association many public health advocates have of city planners who are seen as defenders of outmoded zoning ordinances and auto-dependent forms of development. In fact, city planners have historically been part of the solutions that have led to improvements in public health.

These research ideas should help planner-researchers formulate their own research priorities and questions. Several references should be especially useful in pursuing this task. Srinivasan, Dearry, and O’Fallon (2003) discuss housing, transportation, social isolation, and sustainable communities in presenting research topics on the built environment and public health. Also useful is an article on land use planning and design that grew out of an expert panel convened in 2002 by the Centers for Disease Control and Prevention (Dannenberg et al. 2003). In addition to specific research questions, the article suggests research designs appropriate to answering these questions.

► Conclusion

Reestablishing strong ties to public health and safety holds promise for planning scholarship, education, and practice. Researchers can discover important knowledge in the areas of health, human behavior, built environment, planning process, and planning history. Planning educators can organize this knowledge to offer cutting-edge learning opportunities. Planning practitioners can reestablish public health and safety as primary planning goals and join forces with public health professionals in the quest for more secure and healthy cities.
Author’s Note: The author appreciates discussion of the article at the 2004 ACSP Conference in Portland and written comments received from Professor Rebecca Miles.

► Notes

1. The Robert Wood Johnson’s (RWJ’s) Active Living Research Program based at San Diego State University funded research projects that generated and tested measures of the built environment and physical activity in urban environments.

2. In August 2004, the National Institutes of Health Obesity Research Task Force published its strategic plan (publication no. 04-5493). The ninety-page report is a road map for future research on obesity. Very little discussion of priority research areas refers to the policy or built environments. Built environment–obesity is mentioned only briefly (p. 36). Interestingly, the thrust is to examine how “healthful community environments” influence lifestyle choices. Perhaps a more comprehensive approach was not embraced because of the significant cost of a large-scale research project that exploits natural experiments in different neighborhoods.

3. Other journals worth attention include Environmental Health Perspectives, Epidemiology, the Journal of Health and Social Behavior, the Journal of Health Politics, Policy & Law, and the Journal of Law, Medicine & Ethics. Those interested in comparative research can find similar journals published in England, Canada, Australia, and elsewhere.


5. RWJ Foundation has made a major commitment to the policy–built environment–public health connection. For several years, the foundation has funded Active Living Research, a $12.5 million program based at San Diego State University and has established a parallel program on the built environment and nutritional behavior with emphasis on obesity in children and teens. See www.activelivingresearch.org for a listing of previously funded research projects.

6. “Planning theory and the planning process,” “administration,” and “law and dispute resolution” tracks are combined for this purpose. Topics are placed in one track but with the understanding that many cross tracks.

7. Anne Vernez-Moudon was one of the first planners to receive funding from the Centers for Disease Control to work on the interface between urban design and physical activity. She helped shape the RWJ Active Living Program.

8. The planners on this expert panel were Robert Cervero, Larry Frank, Donna Higgins, and Rebecca Miles.

► References


