



---

**OCCUPATIONAL & ENVIRONMENTAL HEALTH**

## **Health Impact Assessment: A New Tool to Support Healthy Cities and Neighborhoods**

### ***Why is urban environmental planning and public policy a concern of public health?***

Living in a healthy place requires having adequate housing; secure and meaningful livelihood; access to schools, parks and public spaces; safety and freedom from violence; unpolluted air, soil, and water; and a society which promotes not only opportunity and innovation but also cooperation, trust, and equity. Collectively, these conditions and resources help to prevent heart disease, hypertension, asthma, bronchitis, stroke, diabetes, obesity, osteoporosis, depression, and some cancers. According to the Institute of Medicine, improving health in the 21st century will require new approaches to environmental health, including strategies to deal with waste, unhealthy buildings, urban congestion, suburban sprawl, poor housing, poor nutrition, and environmentally-related stress. Regulation, legislation, fiscal measures, taxation and other policy strategies are necessary and complimentary approaches to health promotion, and in its 1986 Ottawa Charter for Health Promotion, the World Health Organization directed policy-makers in all sectors to “be aware of the health consequences of their decisions and to accept their responsibilities for health.”

### ***What is the purpose of Health Impact Assessment?***

The simple and common sense notion—that social decisions should account for their consequences to human health is the fundamental goal of [Health Impact Assessment](#) (HIA). HIA also has roots in the practice of environmental impact assessment (EIA) which developed following the passage by the US Congress of the National Environmental Policy Act (NEPA) of 1969.<sup>1</sup> The idea behind NEPA was that a public accounting of adverse environmental impacts an environmental impact statement (EIS) would contribute to a public policy of environmental protection. Similarly, a premise underlying HIA is that inclusive, democratic, transparent, and fully informed policy-making process is critical to healthy and prevention-oriented public policy.

### ***How is a HIA done?***

Internationally, many countries and international organizations use HIA to influence public policy in ways that prevent disease and illness, potentially reducing the significant economic costs of health care services. HIA is not one single process or tool; rather it describes diverse methods used to inform policy-makers about how policies, plans, programs, or projects can affect health, health behaviors, and social

*As the health of Americans continues to decline, and our health expenditures continue to soar, it is imperative that the Congress take action. With some exceptions, we are just starting to design communities with active living in mind. We need playgrounds so our children can be active; we need bike and walking paths that are safe and accessible. Schools and work places that are within walking distance of homes should be the norm, not the exception. We as a society are moving in that direction, and we need public policy that supports these efforts and ensures that all segments of society reap the rewards of healthy living.*

-United States Senator  
Barack Obama

---

<sup>1</sup> National Environmental Policy Act. 42 USC 4321.1970.

resources necessary for health.<sup>2</sup> Typical steps in HIA include screening, scoping, analysis, reporting, and monitoring.

- *Screening* involves determining whether or not a HIA is warranted
- *Scoping* involves determining which health impacts to evaluate and the methods for analysis
- The *Assessment* of impacts involves using existing data and qualitative and quantitative research methods to determine the magnitude and direction of potential health impacts
- *Synthesis and Communication* of the HIA can take many forms including written reports and public testimony
- *Evaluation and monitoring* describe the evaluation of how the process and findings of the HIA affects the decision and ultimate policy outcomes.

Within this general framework, approaches to HIA vary greatly with regards to the breadth of issues analyzed, the research methods employed, their relationship to regulatory impact assessment requirements, the role of policy-makers, stakeholders and the public in the analysis, and the ways the assessment is used to influence policy. The University of the Netherlands maintains a comprehensive [database](#) for HIA case studies and reports.

The [International Association of Impact Assessment](#) recently published principles and practice guidelines for HIA.

### **What are the Potential Benefits of Health Impact Assessment?**

Health Impact Assessment has a number of benefits for the policy making process and its outcomes. Some of the key potential benefits are listed below:

- Identifying and estimating positive and negative health effects of a project or policy
- Identifying long term effects and effects on socially excluded populations
- Supporting community engagement in the land use planning process
- Motivating health beneficial changes to the design of a project or policy
- Informing a discussion of the trade-offs involved with a project or policy
- Increasing transparency in the policy decision-making process
- Preventing project delays by anticipating stakeholder concerns
- Securing funding for project mitigations
- Building consensus and buy-in for policy decisions and their implementation

*Development planning without adequate consideration of human health may pass hidden "costs" on to affected communities, in the form of an increased burden of disease and reduced well-being. From an equity point of view, it is often marginalized and disadvantaged groups who experience most of these adverse health effects. From an institutional point of view, it is the health sector that must cope with development-induced health problems and to which the costs are incurred of dealing with an increased disease burden. HIA provides a systematic process through which health hazards, risks and opportunities can be identified and addressed upstream in the development planning process, to avoid the transfer of these hidden costs and to promote multi-sectoral responsibility for health and well-being.*

International Association of Impact Assessment

### **How can health impact assessment make a positive contribution to land use and transportation planning for growth and development?**

Local public health agencies are increasingly recognizing that land use and transportation planning decisions have had significant and wide-ranging impacts on the environment as well as on health. For example, zoning regulations and land use plans maintained long distances between where people live, work, shop, and play resulting air and water pollution, stressful commutes, physical inactivity, and global

---

<sup>2</sup>Quigley R. Health Impact Assessment. International Best Practice Principles. International Association of Impact Assessment 2006

warming.<sup>3</sup> Today, location efficient, transit oriented and mixed use forms of development can benefit health by increasing walking and bicycling, reducing emissions of pollutants into air and water, improving traffic safety, and building social capital. Health analysis can help account for these benefits and might promote such land use strategies.

Equally, development has the potential to cause or exacerbate avoidable health disparities. For example, many opportunity sites for urban development are near freeways and other busy roadways. Places homes in such locations without mitigations may increase people's exposures to noise and air pollution exposure or may increase pedestrian injuries. A health analysis of projects and plans can help analyze such harmful effects, leading to ventilation systems to reduce air pollution and engineering countermeasures to prevent pedestrian injuries.

### ***Is HIA supported by public health research?***

Public health research provides substantial evidence to inform public policy. For example, in the recent Ewing, Frank, and Kreutzer report entitled *Understanding the Relationship between Public Health and the Built Environment: a Report to the LEED ND Core Committee*, documents a good deal of this research. Specific community design strategies beneficial to public health include:

- Attention to safety and indoor air quality in the design and construction of buildings can both reduce environmental asthma triggers and prevent unintentional injuries.
- Neighborhood schools and child care centers reduce vehicle pollution while supporting childhood learning and parental involvement.
- Complete neighborhoods with integrated public and retail services and quality pedestrian environments increase physical activity potentially decreasing several chronic health conditions.
- Neighborhood groceries and farmer's markets support households to make nutritious food choices.
- Accessible and frequent transit services provide improved access to goods, services, and health care.
- Ethnically and economically integrated neighborhoods support equality of economic and educational opportunities, resulting in better mental health and less violence.

### ***Don't public health professionals already evaluate development plans?***

It seems common sense that major decisions regarding development and planning should be made with the public's health in mind. However, mechanisms and mandates for such consideration do not exist, and city and regional planning agencies do not have the resources or expertise to assess the health impacts of planning. Despite similar and complementary objectives, land use planning, environmental protection, and public health agencies typically have little communication on many existing and emerging public and environmental health issues. Currently, land use plans and development projects must comply with specific environmental and public safety regulations, including public safety requirements in local General Plans, the California Environmental Quality Act, Title 22 requirements for noise, local building codes, and water and air quality laws. Still, not all health and environmental issues are addressed by these regulations and residents and community organizations often request planning agencies to conduct health and social analyses of land use plans and development projects to identify additional impacts.

### ***Do legal requirements exist for Health Impact Assessment?***

No specific legal or regulatory requirements for HIA exist in California. Some environmental laws applicable to planning require analysis of some health impacts. For example, the California Environmental

---

<sup>3</sup> Ewing R, Frank L, Kreutzer R. *Understanding the Relationship Between Public Health and the Built Environment: A Report to the LEED-ND Core Committee*. 2006.

Quality Act requires that all potential environmental changes that can result in significant adverse impact on humans or public health must be addressed in an environmental impact report. (Section 15126.2 (a); Section 15065) HIA may also help fulfill the implementation of rules for social or community health impact assessment. For example, where project areas contain low- or moderate-income housing, California Redevelopment Law requires a neighborhood impact report which describes in detail the impact of the redevelopment plan "...upon the residents of the project area and the surrounding areas, in terms of relocation, traffic circulation, environmental quality, availability of community facilities and services, effect on school population and quality of education, property assessments and taxes, and other matters affecting the physical and social quality of the neighborhood."

### ***Does the United States have national or state-level guidance for HIA?***

No published official guidance for HIA currently exists in the United States. Canada, New Zealand, Germany, Australia, England, Scotland, Wales, and Sweden have published official guidance for HIA. The World Bank, and the International Association of Impact Assessment also has published guidance.

### ***Do training programs exist in the U.S. for HIA?***

Yes. Currently, a practice course on HIA is taught at the UC Berkeley School of Public Health. Nationally, NACCHO in cooperation with CDC and the American Planning Association has trained about 20 local public health agencies.

### ***Which California Organizations have conducted HIAs?***

California organizations that have conducted or are conducting HIAs include the San Francisco Department of Public Health, U.C.L.A. School of Public Health, U. C. Berkeley School of Public Health, West Oakland Environmental Indicators Project, Human Impact Partners, Riverside County Health Department, Great Communities Coalition (TALC, Reconnecting America, Center for Community Innovation, Non Profit Housing of Northern California, Greenbelt Alliance) , Greenlining Institute, Urban Habitat, Urban Ecology, The following groups are currently in the process of planning or funding HIAs: the City Project and the Strategic Alliance for Economic Justice.

### ***How is the San Francisco Department of Public Health using HIA in San Francisco?***

#### ***ENCHIA and the Healthy Development Measurement Tool***

With the increasing trend towards urbanization worldwide, cities and localities internationally are in pursuit of sustainable and equitable development practices. Governments and a wide range of stakeholders now recognize the importance of examining public policies, plans, and projects against environmental, social, economic issues simultaneously in contrast to past approaches where decisions had been evaluated on economic impacts or environmental impacts in isolation. . In 2004, the SF Department of Public Health facilitated the [Eastern Neighborhoods Community Health Impact Assessment](#) (ENCHIA), in order understand how development in several San Francisco neighborhoods help create the conditions for optimal health. Involving a Community Council of over 20 diverse organizations, ENCHIA developed a vision of a healthy San Francisco, identified community health planning objectives, gathered data on indicators of community health, and researched urban policy strategies to support health.

The experience and research of ENCHIA was then integrated into the *Healthy Development Measurement Tool*—a systematic assessment approach to consider multiple effects of development simultaneously and to identify trade-offs between competing needs and interests. (Available at: <http://www.TheHDMT.org>) The HDMT includes a set of metrics of community health for San Francisco, baseline data on these metrics and development targets to assess the

extent to which urban development projects and plans affect health. The HDMT also provides a range of policy and design strategies that can advance health interests and resources via the development process.

The Tool has undergone external technical review by local agencies and national experts and currently staff is pilot testing the tool on the Executive Park Development Project, the Mission District Area Plan, and the South of Market Area Plan in cooperation with the City Planning Department and stakeholder organizations. Following pilot testing, participants in the ENCHIA process envision that this *Tool* might ultimately be used in a comprehensive way by city agencies in comprehensive planning, in plan and project review, and in agency specific planning.

### ***Integrating Health analysis within Environmental Impact Assessment***

The California Environmental Quality Act (CEQA) mandates an environmental assessment of all public agency-approved policies, programs, plans, and projects that have the potential for adverse human impacts related to changes in the environment. In the context of environmental or natural resource planning, CEQA provides an available mechanism to conduct HIA or to ensure responsive action to findings of an HIA conducted apart from EIA. SFDPH has worked with the planning department to improve air quality and noise analysis for sensitive populations within the environmental review process and is currently developing new analytic tools for impact analysis of pedestrian collisions, residential displacement, and parks access.

### ***Developing Health Impacts Forecasting Tools***

The practice of HIA needs new research tools to forecast health impacts. SFDPH has a partnership with the UC Berkeley School of Public Health to develop quantitative tools to predict health effects of motorized vehicle travel. The work integrates innovative GIS tools, existing data sources, and empirical research linking traffic to health outcomes, including respiratory disease, pedestrian injuries, and sleep disturbance. For example, the rate of pedestrian injuries in an area is strongly related to vehicle volume on area roads. Envisioned tools will allow planners to monitor and model such health impacts due to vehicle traffic. For example, these tools will allow the City to predict air quality exposures of residents, pedestrians, and bicyclists who must use these streets on a daily basis. These models might be productively used to help planners and community groups understand potential exposures and craft solutions.

### ***Documenting community perspectives on neighborhood conditions and health***

Building an evidence base for HIA also requires us to understand the day to day experiences of people living in neighborhoods and the ways that the physical environment affects their health. SFDPH has facilitated community dialogues and focus groups on a number of land use and transportation issues in San Francisco to elicit this knowledge. One set of dialogues explored how strategies including farmers' markets, public housing subsidies, a green schoolyards program, and carpet free housing might positively and negatively affect community health. In one example, a participant described how a farmer's market might cause his family to have home cooked meals more often, while improving family cohesion, and providing greater social support. SFDPH also conducted focus groups with tenants facing eviction due to redevelopment and documented several mental health effects of potential displacement. SFDPH has conducted similar focus groups on public transit and health and working conditions and health.

### ***Developing Planning Assessment Tools for Pedestrian Environmental Quality***

SFDPH, in partnership with local walking advocates and planners, is developing a quantitative index of the quality of the pedestrian environment to serve as a tool for public health, transportation and land use planning. The index builds on the work in transportation research literature, walkability checklists, and planning tools developed in other cities. SFDPH has identified indicators that may affect pedestrian environmental quality in five domains: traffic, sidewalks, intersections, land use, and safety, and have pilot-tested measuring indicators on local streets. Next steps involve developing weights for values within each indicator based on expert and public consultation, conducting a baseline assessment in a range of diverse neighborhood

types, and determining cut points for a graded rating of pedestrian environmental quality. The Pedestrian Environmental Quality Index (PEQI) will ultimately support citywide spatial mapping of pedestrian quality and to identify priority pedestrian needs for planning.

### ***What other bay area regional efforts are using HIA?***

#### ***UC Berkeley Health Impact Group***

In spring 2006, the [UC Berkeley School of Public Health](#) began offering the country's first university course on health impact assessment. The course exposes students to the practice and potential of Health Impact Assessment (HIA) in the context of California land use and transportation policy-making. Students review selected HIA case studies and analytic methods for health effects forecasting as well as the needs and challenges for practice development. As a class project, students also critically evaluate a local, regional, or state land use or transportation project, identifying health benefits and consequences, potential approaches to quantify or qualify how the project may affect health determinants, and recommendations for alternatives or improvements. In 2006, the Oak to Ninth Avenue HIA documented an analysis of a mixed use development on the Oakland Estuary, looking at issues ranging from pedestrian safety, noise, air quality, parks, access, and housing adequacy. The analysis included recommendations to the Oakland Planning Commission and City Council for greater social integration, accessibility of open space, prevention of pedestrian injury, the mitigation of residential noise and air pollution exposures, reductions in traffic, and the provision of local educational resources. The UC Berkeley Health Impact Group has also recently published a comprehensive HIA of the Mac Arthur BART transit village.

#### ***Human Impact Partners***

In 2006, [Human Impact Partners](#) (HIP), a Bay Area non-profit organization, was formed. Human Impact Partners aims to prevent disease and reduce health inequities by empowering neighborhood residents and public officials with state-of-the-art assessment instruments for evaluating health effects of government policies and land use projects. Using a rapid HIA process, HIP recently worked with West Oakland residents and the non-profit developer East Bay Asian Local Development Corporation (EBALDC) to analyze community concerns regarding air quality, noise, safety, and retail planning on a planned retail expansion and low-income senior housing development. HIP is currently working with Urban Ecology to assess their East Bay Greenway project using HIA and is also collaborating with the West Oakland Toxic Reduction Collaborative on additional HIAs on development in West Oakland. In the future, HIP will be working with the Transportation and Land Use Coalition to develop a toolkit for health impact assessment and will work to apply this toolkit in the planning of transit-oriented development in the region.

#### ***City of Richmond General Plan Health Element***

In 2006, the City of Richmond, California decided to develop a specific General Plan element dedicated to public health as part of their General Plan update. The Health Element is being developed for the City of Richmond by MIG Communications in consultation with Contra Costa Health Services and internationally recognized experts in the field of public health. Health factors expected to be analyzed in Richmond include nutrition, bicycle and pedestrian safety, physical health and wellness, hazardous materials and contamination, air and water quality, homelessness, and crime and violence. Research will use state-of-the-art Geographical Information System (GIS) techniques to map health issues and opportunities for improvement throughout the city. The effort will borrow from and build on San Francisco's *Healthy Development Measurement Tool* (described above). Innovations in analysis, public participation and policies emerging from the development of the Health Element in Richmond will provide valuable lessons for communities across California.

## **Health Impact Assessment and Land Use Milestones for the San Francisco Department of Public Health**

- 1997—San Francisco opposes the sale and expansion of the Hunter’s Point Power Plant because of health assessments in the Bayview Hunter’s Point Neighborhood.
- 1999—SFDPH works with residents of the Bayview district to implement a public transit shuttle to supermarkets and to open a seasonal produce stand.
- 2001—SFDPH conducts community workshops on Health Impact Assessment on urban policy issues.
- 2002—SFDPH research identifies housing cost as a barrier to housing environmental quality.
- 2003—Responding to tenant testimony and SFDPH health analysis Department of City Planning requires an analysis of displacement on the Trinity Plaza redevelopment proposal.
- 2003—Community groups use a SFDPH health analysis to gain affordable housing, community facilities and displacement prevention for Rincon Hill Special Use District in the City’s South of Market Area.
- 2004—SFDPH initiates the Eastern Neighborhoods Community Impact Assessment (ENCHIA) to assess how land use development in the city could create conditions for optimum health. The experience and research of ENCHIA is integrated into the *Healthy Development Measurement Tool* to support evidence-based and health-oriented planning and policy-making.
- 2005—SFDPH works with SF Bike Coalition, Transportation for a Livable City, Walk SF and other planning advocates to replace Automobile LOS, a transportation impacts planning metric that privileges personal vehicle transport mobility and speed at the expense of transit, bicycle and pedestrian facilities.
- 2005—SFDPH conducts the city’s first ever PEOPLE COUNT as part of an effort to develop planning tools to assess environmental determinants of pedestrian activity.
- 2006—SFDPH provides evidence of the health and environmental benefits of reducing requirements for residential parking in the downtown districts.
- 2006—SFDPH staff and UC Berkeley faculty co-teach the country’s first class on HIA and Land Use planning
- 2006—The Western SOMA Task Force requests official SFDPH membership to provide technical assistance in neighborhood land use planning.
- 2006—SFDPH and the Bicycle Coalition receive a Cal Trans Planning grant for community responsive bicycle and pedestrian planning on Treasure Island
- 2006- SFDPH begins to apply the *healthy development measurement tool* to development plans and projects

### **San Francisco Department of Public Health, Program on Health, Equity and Sustainability Land Use Programs - Contact Information**

<b>Rajiv Bhatia, Director of Environmental Health</b>	<a href="mailto:rajiv.bhatia@sfdph.org">rajiv.bhatia@sfdph.org</a>
<b>Lili Farhang, Healthy Development Measurement Tool</b>	<a href="mailto:lili.farhang@sfdph.org">lili.farhang@sfdph.org</a>
<b>Tom Rivard, Noise and Air Quality Exposure Models</b>	<a href="mailto:tom.rivard@sfdph.org">tom.rivard@sfdph.org</a>
<b>Cyndy Comerford, Pedestrian Environment Assessment</b>	<a href="mailto:cyndy.comerford@sfdph.org">cyndy.comerford@sfdph.org</a>
<b>Megan Wier, Quantitative Forecasting Tools</b>	<a href="mailto:megan.wier@sfdph.org">megan.wier@sfdph.org</a>