



SFDPH Program on Health, Equity, and Sustainability

Urban Health and Place Team

Pedestrian Environmental Quality Index – June 2009



Pedestrian Environmental Quality Index (PEQI)

Description

The Pedestrian Environmental Quality Index (PEQI) has been developed to assess the quality of the physical pedestrian environment and inform pedestrian planning needs. The PEQI draws on published research and work from numerous cities to assess how the physical environment impacts on whether people walk in a neighborhood. The PEQI is an observational survey which quantifies street and intersection factors empirically known to affect people's travel behaviors, and is organized into five categories: traffic, street design, land use, intersections, and safety. Within these categories are 30 indicators that reflect the quality of the built environment for pedestrians and comprise the survey used for data collection. SFDPH aggregates these indicators to create a weighted summary index, which can be reported as an overall index or deconstructed by pedestrian environmental category (Table 1) or even by each indicator.

Table 1. PEQI Indicators by Pedestrian Environmental Category

<u>Intersection Safety</u>	<u>Traffic</u>	<u>Street Design</u>	<u>Perceived Safety</u>	<u>Land Use</u>
<ul style="list-style-type: none"> ▪ Crosswalks ▪ Ladder crosswalk ▪ Countdown signal ▪ Signal at intersection ▪ Crossing speed ▪ Crosswalk scramble ▪ No turn on red ▪ Traffic calming features ▪ Additional signs for pedestrians 	<ul style="list-style-type: none"> ▪ Number of vehicle lanes ▪ Two-way traffic ▪ Vehicle speed ▪ Traffic volume ▪ Traffic calming features 	<ul style="list-style-type: none"> ▪ Width of sidewalk ▪ Sidewalk impediments ▪ Large sidewalk obstructions ▪ Presence of curb ▪ Driveway cuts ▪ Trees ▪ Planters/gardens ▪ Public seating ▪ Presence of a buffer 	<ul style="list-style-type: none"> ▪ Illegal graffiti ▪ Litter ▪ Lighting ▪ Construction sites ▪ Abandoned buildings 	<ul style="list-style-type: none"> ▪ Public art/historic sites ▪ Restaurant and retail use

Background and Development

SFDPH began developing the PEQI in order to meet the need for a practical method to evaluate existing barriers to walking and prioritize future investments for increasing pedestrian activity and safety in land use and urban planning processes. The PEQI includes street and intersection physical environmental indicators for which there was previous research demonstrating their importance for pedestrian safety or in promoting pedestrian activity. SFDPH is currently finalizing a report detailing the methodology used to develop the index, as well as examples of applications as refinements to the PEQI are continually made.

Collaborations/Constituencies Involved

SFDPH consulted national experts including city planners, independent planning consultants, and pedestrian advocates to develop the indicator weights and scores for each indicator category, based on survey responses regarding their importance for pedestrian environmental quality. Applications of the PEQI include assessments of physical pedestrian environmental conditions on Treasure Island in collaboration with the San Francisco Bicycle Coalition as a part of a community-based planning effort funded by CalTrans to create a walkable, bikeable Treasure Island. SFDPH has also used the PEQI in collaboration with PODER, UC Berkeley researchers, and environmental justice students to assess pedestrian conditions in the Excelsior neighborhood of SF. SFDPH has also and is currently applying the PEQI in health impact assessment work in select areas of San Francisco's Eastern Neighborhoods and Mid Market Area. As the PEQI is further refined, SFDPH hopes to engage planners, City agencies and community organizations to use the PEQI for transportation planning and as an evaluation tool.



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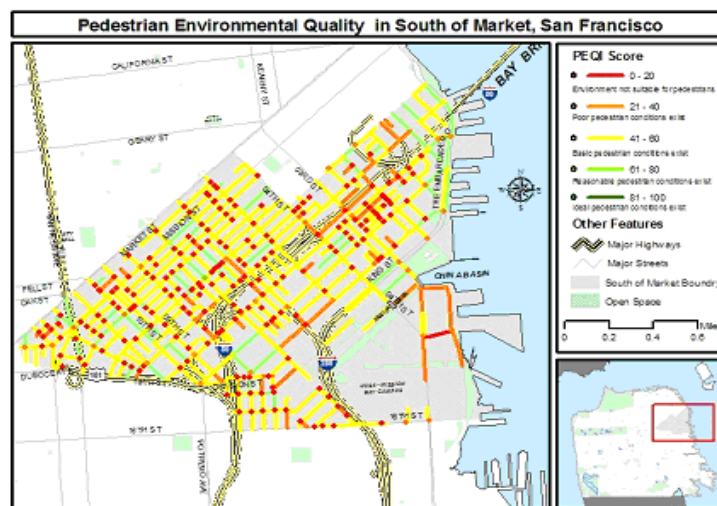
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Relevance to Health and Health Equity

Environments that support walking, both as an alternative to driving and as a leisure activity, have multiple, potential positive health impacts. Environments that encourage walking while discouraging driving reduce traffic-related noise and air pollution - associated with cardiovascular and respiratory diseases, premature death, and lung function changes especially in children and people with lung diseases such as asthma. Quality, safe pedestrian environments also support a decreased risk of motor vehicle collisions and an increase in physical activity and social cohesion with benefits including the prevention of obesity, diabetes, and heart disease as well as stress reduction and mental health improvements that promote individual and community health. Given these implications, San Francisco residents should have equal access to quality, safe pedestrian environments throughout the city.

Applications and Policy Targets

The PEQI survey is designed to be simple to use in the field, requiring a trained observer to visually assess street segment and intersection features (Table 1) and check the corresponding box on the survey form. Once collected, data is entered into a user-friendly Microsoft Access database that automatically scores the data (see attachment). A PEQI score, reflecting the quality of the physical pedestrian environment, is created for each street segment and intersection in a defined area. An example of the mapped PEQI street segment scores is included below. SFDPH is developing a field manual with instructions on how to conduct the survey, use the PEQI Microsoft Access database, and geocode and display PEQI results (see map below).



For More Information

Please visit our website at http://www.sfphe.org/HIA_Tools_PEQI.htm.

A completed a public draft of *The Pedestrian Environmental Quality Index (PEQI): An assessment of the physical condition of streets and intersections DRAFT Methods Report - Fall 2008* can be found at:

http://www.sfphe.org/HIA_Tools/PEQI_Methods_2008.pdf

A copy of the training manual, database, survey form and shapefiles can be found at:

http://www.sfphe.org/HIA_Tools_PEQI.htm#

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