

Measuring Urban Design Qualities Related to Walkability

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A growing body of research provides evidence of a link between the built environment and active living. However, to date, the measures used to characterize the built environment have been mostly gross qualities such as neighborhood density and street connectivity. Urban designers point to subtler qualities that may influence choices about active travel and active leisure time. These are sometimes referred to as perceptual qualities of the urban environment or, alternately, just urban design qualities. Urban designers presume that these qualities are important for active street life, but have little empirical evidence to back the claim. Until urban design qualities can be measured, and the propensity to walk can be related empirically to these measures, this presumption remains untested.

The overall goal of this project was to develop operational definitions and measurement protocols for nine urban design qualities of streetscapes. Our method included: 1) recruitment of a panel of urban design and planning experts; 2) creation of a library of video clips of streetscapes; 3) rating of urban design qualities of streetscapes by the expert panel; 4) measurement of physical features of streetscapes through a content analysis of video clips; 5) inter-rater reliability testing of physical measurements and urban design quality ratings; and 6) statistical analysis of relationships between physical features and urban design quality ratings.

Operational definitions and measurement protocols were developed for six of nine urban design qualities, specifically: imageability, visual enclosure, human scale, transparency, complexity, and tidiness. The operational definitions take the form of statistically-derived equations that link objectively measured physical features of the environment to ratings of urban design qualities. To aid in the dissemination of the measures, we have developed a field survey instrument and training manual for use by researchers in their

efforts to study relationships between the built environment and walking behavior. Further testing and refinement of this instrument is needed.