Environmental audit measures are an established means of assessing neighborhood walkability and pedestrian safety, especially in urban settings. Existing measures vary greatly in detail, ease of use, and application for research and practice. There is also variability in the extent to which tools are age- and/or disability sensitive. The CDC-Healthy Aging Research Network (CDC-HAN) Environmental Audit Tool (HEAT) is designed to assess the pedestrian environment with particular attention to the needs of older adults and people with disabilities. The original HEAT was developed by HAN researchers working with developers of the St. Louis University (SLU) Analytic Audit Tool that examines relationships between street-scale environments and physical activity of the general population. Through a consensus feedback process, the SLU Analytic Audit Tool was revised to include factors important to older adult mobility, such as presence of benches and restrooms. The HEAT subsequently was validated and refined based on a series of older adult interviews and use of the tool in diverse communities. The current version (March 2013) includes an assessment and scoring protocol developed by an expert panel.

The HEAT includes an extensive set of environmental factors to enable a fine-grained assessment of permanent and transient environmental factors that may influence safety and mobility. Domains assessed include Land Use/Destinations, Safety and Accessibility, Comfort and Appeal, and Wayfinding. There are three components:

- **Audit Tool Locator Data Form** and **Master Segment/Intersection List**: For planning and tracking areas audited
- **Audit Segment Form**: Two versions are available to be used in auditing segments (blocks): one version includes a detailed listing of possible destinations; the second, identical except that destinations are identified by category type only; 49 items
- **Audit Intersection Form**: For assessing intersection and crossing features; 10 items

The inter-rater reliability of the current version of the CDC-HAN Audit Tool is based on joint rating of 31 segments and 27 intersections. The range of kappa statistics generally falls into the good/fair category (.4-.0.7 agreement) to very good (>= .7), with higher levels of agreement for intersection items and lowest levels for items with a behavioral component (e.g., aggressive drivers).

The audit, to be completed by trained auditors, typically takes about 20 minutes per segment/block (along with its accompanying intersection) in an urban grid-like setting. Training in use of the tool typically takes 1 to 1½ days, including practice in the community. Training materials are available. Data may be collected by paper or via a tablet with subsequent integration into an Access database for analysis. Results can be examined by domain, using identified key indicators that draw upon current evidence whenever possible. In addition, a summary score relative to the overall Level of Walkability and Safety (LWS) can be generated for a segment or intersection, reflecting the quality of the environment relative to the needs of different users. The LWS takes into account the most problematic elements of segments, or “weakest links”, as key factors in usage by different groups. Each route can then be rated according to the lowest quality segment, rather than averaging or weighting the various segments’ values. This approach recognizes the concept of person-environment fit and the reality that individuals vary greatly relative to enabling or constraining environmental factors.

The HEAT is suitable for use in both research and practice applications. It allows for highlighting key dimensions of safety and walkability, including wayfinding, and isolates areas where environmental change is most needed.

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