

# Active Neighborhood Checklist - Protocol

## Purpose

The Active Neighborhood Checklist is an observational tool designed to assess key street-level features of the neighborhood environment that are thought to be related to physical activity behavior. The data collected can be used to generate descriptive statistics about an area or route, to raise community awareness about the role of the environment in supporting or discouraging physical activity, and/or to mobilize community members to advocate for change. Its simple format, lay terminology, item specificity, and relatively short length were intended to make the tool user-friendly for multiple community stakeholders.

The Active Neighborhood Checklist is a product of the refinement of existing audit tools using a systematic process that weighted various forms of quantitative and qualitative evidence. Although the tool was tested and reviewed by a small, multidisciplinary group of community stakeholders in St. Louis, its application as an advocacy and evaluation tool have not been systematically examined. In addition, although its reliability was tested across a range of environments, its reliability in any single setting (e.g., rural, suburban, industrial) has not been assessed. Therefore, future studies are needed to provide information on its usability for different purposes and across various settings.

## Content

The Active Neighborhood Checklist assesses five general areas: land use, public transit stops, street characteristics, quality of the environment for a pedestrian, and places to walk and bicycle. An area for note-taking follows each section of the tool to allow auditors to describe features or perceptions that may not be captured in the tool. Although some items are important indicators for bicycling, the Checklist is not comprehensive in its assessment of these factors. In addition, users are referred to existing data and other audit tools or methods for more detailed data on land use, quality and maintenance of recreational facilities, street connectivity, traffic speed and volume, characteristics of intersections, architecture, and crime incidents. Moreover, qualitative feedback from neighborhood residents along with photographs would provide important complements to the quantitative results obtained from the Checklist.

## Instructions for Use

This two-page protocol gives brief instructions on ways to conduct audits of neighborhood streets, as well as operational definitions for key concepts in the Active Neighborhood Checklist. In practice, it is recommended that this protocol be supplemented with a 2-hour (approximately) training slide presentation. Training may be enhanced through practice audits followed by group discussion.

Land use item A6, which assesses specific destinations—those with the potential to generate walk trips and those associated with an automobile-oriented street—is optional because this information may be available from existing sources (e.g., Yellow Pages or parcel level land use data) and can be time-consuming to audit. Shoulder items (E11-16) are optional because these items tended to have lower reliability, and shoulders may be infrequent or a lower priority in some communities.

## Choosing an Area or Route to Audit

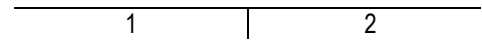
Begin by choosing what you wish to evaluate. Options may include 1) defined areas around a specific destination (e.g., school) or group of destinations (e.g., commercial center); 2) neighborhoods defined by administrative (e.g., Census tracts) or other boundaries; and 3) routes between destinations or groups of destinations (e.g., elementary school and a central location in a neighborhood).

## Choosing a Sampling Approach

The Active Neighborhood Checklist is designed to collect information for street segments – the section of the road between two consecutive intersections. Options for selecting segments to be audited include, but are not limited to, auditing 1) all segments in an area or route, 2) a random sample of segments, 3) a proportionate random sample of segments, or 4) a stratified sample of segments, based on land use typologies (e.g., residential, commercial, mixed land use).

## Identifying Street Segments

Using a street map – produced by computer software, purchased, or downloaded from the internet – assign all segments to be audited a unique identification number to facilitate organizing and analyzing data. The auditors can carry copies of these maps. The street maps may not be updated or contain all the segments, so auditors should be trained to know how to identify new segments or delete existing segments. Roads with few intersections should be divided into two or more ¼-mile segments. Short segments may be combined with adjacent segments.



A street with a T-intersection may be audited as two separate segments (e.g., 1 and 2 above). A reference point should be noted on the continuous side so that the recorded information is not duplicated for the adjacent segments.

## General Rules for Auditing

The Active Neighborhood Checklist may be completed with paper and pencil. With a little practice, the Checklist can be completed in approximately 5-10 minutes per segment. For communities that intend to use the audit data for reports, it is important to avoid double-counting some land uses (items A3-A6), particularly those located on a corner. In general, buildings should be counted on the segment with the building's address or main entrance. Parking lots can be counted based on the 1) segment which contains the building for which the parking lot is used, 2) entrance of the parking lot; 3) segment in which the parking lot occupies the most area. Land uses that occupy multiple segments (e.g., parks, walking trails, malls, factories) can be counted on multiple segments, depending on how the data will be used.

## Operational Definitions

The following selected terms are defined to promote consistency in data coding, particularly when the data will be used for reports. A training slide presentation provides visual examples for features that may be unfamiliar or challenging to code. The built environment is very complex; therefore, it is difficult to anticipate how to code every street type. Users of this tool are encouraged to develop strategies for documenting built environment characteristics that may not be defined here, particularly if the data will be used in reports.

A1. Residential land uses: Include any of the types listed in A3.

A1. Non-residential land uses: Include any land uses that are not residential (e.g., business, school, library, park).

A2. Commercial or public/government buildings: Any business or government-owned building (e.g., library, post office)

A2. Vacant lot: A lot about the size of the buildings on the segment or nearby segments with visible signs of neglect.

A2/A3. Abandoned building/home: Uninhabited building that shows visible signs of neglect. Does not include homes or commercial buildings that are "for sale" unless there are obvious signs of neglect.

A2. Undeveloped land: Large area of natural space that is not maintained by public or private entities.

A2. Designated green space: Large area of natural space that is maintained by public or private entities and open to the public.

A5. Off-road walking/biking trail: Off-road sidewalk or trail (including sidewalks around parks) that people walk or bike on primarily for exercise or leisure.

A6. Indoor fitness centers: Examples include yoga, pilates, dance, and martial arts studios, public recreation centers, and indoor tennis clubs.

A6. Big box store: Large, rectangular commercial buildings, typically with standardized facades, large parking lots, and facing major traffic arterials. Examples include Walmart, Office Depot, Best Buy, and Home Depot.

A6. Strip mall: Commercial centers with attached units arranged in a row, typically denoted by a sign. This is an indicator of an auto-oriented street so it should not be selected for all connected commercial units.

A. Land use notes: Note major natural landscape features (e.g., lakes, rivers), major barriers (e.g., railroad tracks, highway), or other distinct land use characteristics or destinations.

B. Transit stop notes: Note the condition of a transit stop.

C2. Special speed zones: Speed limit signs for special situations, such as school zones, construction zones, or sharp turns in the roadway.

C3. Total # of lanes: Number of lanes (including unmarked lanes) for traffic. Excludes the turning lane and parking lanes

C5. Median or pedestrian island: Raised island or refuge for pedestrians between traffic lanes. May take up all or part of the segment. Extremely narrow medians or medians with so much landscaping as to prevent pedestrians from using them should not be counted.

C6. Turn lane: Only count turn lanes that occupy a lane for the entire length of the roadway.

C7. Crosswalk: Denoted by painted white line(s), flashing light(s), and/or pedestrian crossing sign(s)

C9. Traffic calming device: Device intentionally designed to reduce traffic speed or volume, such as a roundabout, brick road, speed hump, flashing speed sign, or “watch for children” sign. Curb bulb-outs (technically crossing aids) are areas of the sidewalk/curb that extend into the street, mostly at intersections, to shorten pedestrian crossing distances.

C10a. Sidewalk cut-through: Sidewalk or path that connects a cul-de-sac to a nearby street or greenbelt without permitting passage of automobiles.

C. Street characteristic notes: Note street characteristics that may influence a pedestrian’s or bicyclist’s feelings of comfort and safety from traffic, such as perceived traffic volume and speed, aggressive drivers, and condition of crossing aids and medians.

D1. Commercial buildings adjacent to the sidewalk: Building that can be entered directly from the sidewalk along the street without crossing a parking lot. If no sidewalk is present, check “no.”

D2a. Bench: Includes public benches along the sidewalk, not in a park.

D2b. Drinking fountain: If the drinking fountain is not functional, then do not count it and note its condition in the notes section.

D3. Public art: Statues, sculptures, fountains, or murals. May include banners if they stand out and enhance the aesthetic quality of the street. Excludes artwork placed in the windows of commercial buildings or associated with residential buildings (e.g., yard art, private fountains).

D5. Litter or broken glass: When evaluating the amount of litter and broken glass, imagine an immaculate street and heavily littered street for relative comparisons with the street being audited.

D6. Tree shade along the walking area: Evaluate tree shade that would cover the sidewalk or other walking area at approximately noon. During months when trees are without leaves, envision what shade the trees might provide with leaves. Shade provided by buildings should not be counted here. As with litter and broken glass, consider the extremes.

D7. Steepest slope along the walking area: Compare the slope along the segment to a street with a flat slope and a steep slope. A flat/gentle slope would hardly be noticeable to most individuals. A moderate slope would not act as a barrier to most individuals but walking on it may increase

some individuals’ heart rates. A steep slope would act as a barrier to individuals who are not active or with physical limitations.

D. Pedestrian environment notes: Note distinct features that enhance or detract from a pedestrian’s walking experience.

E2. Any grassy or other buffer between curb and sidewalk along most of the segment: A buffer includes grass, trees, flowerpots, and/or textured sidewalk that provides separation between pedestrians and traffic.

E2a. Tree(s) in buffer: Trees provide a buffer from traffic for pedestrians, as well as aesthetic appeal.

E3. Sidewalks continuous within segment: There are no interruptions (other than driveways) in the sidewalk within a single segment.

E4. Sidewalks continuous between segments at both ends: The sidewalk continues in one or more directions beyond the segment audited. This must be true for both ends of the segment.

E5. Width  $\geq$  5 ft for most of the segment: Width can be determined by estimating or by measuring each auditor’s foot prior to auditing to determine how many “auditor’s feet” would equal 5 feet. In rare cases when parking lots and sidewalks are juxtaposed, do not count the parking lot when measuring the width of the sidewalk.

E6. Width  $<$  3 ft for any part of the sidewalk: By estimating or using auditor’s measured foot (see E5), determine if the walking area is less than 3 feet for any part of the sidewalk. The width may be  $<$ 3 feet due to its original design, permanent obstructions (see E9), sidewalk disrepair (e.g., large broken sections), or other reasons.

E7. Any missing curb cuts or ramps: Missing curb cuts are places where there is no curb cut or ramp leading smoothly down from a sidewalk to a street or driveway. The sidewalk ends abruptly with a 4-6 inch curb. Short curbs ( $<$  3 inches) should not be counted (i.e., they are mountable for a person on a bike, with a stroller, or in a wheelchair).

E8. Major misalignments or cracks: Only note misalignments or cracks that an older person or person with a stroller or wheelchair would find difficulty maneuvering.

E9. Permanent obstructions: Obstructions that remain on the sidewalk on a daily basis, such as signs, trees/shrub overgrowth, street furniture, telephone poles, and fire hydrants. Excludes cars, bicycles, garbage bins, leaves or branches, which may be temporarily positioned on the sidewalk.

E10. Sidewalk not present on any part of the segment: Assess alternate places to walk if a sidewalk is not present or not continuous within a segment. An “unpaved pathway” (or goat path) may be an unplanned path worn over time by pedestrians.

E. Sidewalk notes: Note the condition of curb cuts, misalignments, obstructions, or other sidewalk-related features.

E12. On-street, paved, and marked shoulder: Includes paved (not gravel) shoulders that are wide enough to walk or bike in (at least 2 feet). A marked shoulder or sections of the shoulder intended primarily for parking should not be counted.

E13. Width  $\geq$  4 ft: By estimating or using the auditor’s measured foot (if safe from traffic; see E5), determine if the width is at least 4 feet.

E14. Shoulder continuous as both ends: The shoulder continues in one or more directions beyond the segment audited. This must be true for both ends of the segment.

E15. Permanent obstructions: Includes legally parked cars and drainage grates in which the holes are aligned with the bicycle path (i.e., parallel to the street). Does not include garbage bins, vehicles illegally parked in the shoulder, or leaves and branches.

E16. Shoulder not present on any part of the segment: Assess alternate places to bike if a shoulder is not present or continuous within a segment.

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Direct all inquiries and requests for the training slide presentation and/or scoring options for the Active Neighborhood Checklist to Christy Hoehner ([hoehnerc@slu.edu](mailto:hoehnerc@slu.edu)) or Ross Brownson ([brownson@slu.edu](mailto:brownson@slu.edu)) at Saint Louis University School of Public Health. This work was funded by The Robert Wood Johnson Foundation and the Centers for Disease Control and Prevention (Prevention Research Centers Program).

# Active Neighborhood Checklist

Date: _____	Segment ID: _____
Auditor ID: _____	Neighborhood ID: _____
Street Name: _____	
Start Time: _____	

Is any building or section of the sidewalk or roadway under construction or being repaired?

- Yes, specify: \_\_\_\_\_
- No

## A. What land uses are present?

1. Are residential and non-residential land uses present?

- All residential
- Both residential and non-residential
- All non-residential

2. What is the predominant land use?

Check one or two that apply.

- Residential buildings/yards
- Commercial or public/government buildings
- School/school yards (elementary, middle, high school)
- Parking lots or garages
- Park with exercise/sport facilities or playground equipment
- Vacant lot/abandoned building
- Undeveloped land
- Designated green space
- Other non-residential, specify: \_\_\_\_\_

3. What types of residential uses are present?

Select all that apply.

- None
- Abandoned homes
- Single family homes
- Multi-unit homes (2-4 units)
- Apartments or condominiums (>4 units, 1-4 stories)
- Apartments or condominiums (>4 stories)
- Apartment over retail
- Other (retirement home, mobile home, dorms)

4. What parking facilities are present?

Select all that apply.

- None (no parking allowed on street at any time)
- On-street, including angled parking
- Small lot or garage (<30 spaces)
- Medium to large lot or garage

5. What *public* recreational facilities and equipment are present (including in the schoolyard if publicly accessible)?

Select all that apply.

- Park with exercise/sport facilities or playground equipment
- Off-road walking/biking trail
- Sports/playing field
- Basketball/tennis/volleyball court
- Playground
- Outdoor pool
- Other: \_\_\_\_\_

6. (OPTIONAL) What types of non-residential uses are present?

Select all that apply.

- None
- Abandoned building

Specific types of destinations:

- Small grocery, convenience store (including in gas station), or pharmacy
- Food establishment (restaurant, bakery, café, coffee shop, bar)
- Entertainment (e.g., movie theatre, arcade)
- Library or post office
- Bank
- Laundry/dry cleaner
- Indoor fitness facility

Educational facilities:

- School (elementary, middle, high school)
- College, technical school, or university

Large buildings housing 1+ businesses/services:

- High-rise building (>5 stories)
- Big box store (e.g., Walmart, Office Depot, Best Buy)
- Mall
- Strip mall
- Supermarket
- Large office building, warehouse, factory, or industrial building

Land use notes:

## B. Is public transportation available?

	No	Yes, one side	Yes, both sides
1. Any transit stop (bus, train, or other)?	go to C1		
1a. Bench or covered shelter at transit stop?			

Transit stop notes:

## C. What street characteristics are visible?

	No	Yes
1. Enter posted speed limit (99 if none):		
2. Enter special speed zone (99 if none):		
3. Enter total # of lanes on street:		
4. Marked lanes?		
5. Median or pedestrian island?		
6. Turn lane?		
7. Crosswalk for crossing this segment?		
8. "Walk" / "Don't Walk" signal?		
9. Traffic calming device (roundabout, curb bulb-outs, speed bump, brick road, other)?		

If yes, specify type(s): \_\_\_\_\_

10. Cul-de-sac (dead-end street)?	go to D1	
10a. Sidewalk cut-through in cul-de-sac?		

Street characteristic notes:

## D. What is the quality of the environment?

	No	Yes
1. Any commercial buildings adjacent to the sidewalk?		
2. Any amenities?		
2a. Bench (excluding at transit stop)?		
2b. Drinking fountain?		
2c. Other? Specify: _____		
3. Public art (e.g., statues, sculptures)?		
4. Graffiti or broken/boarded windows?		
5. Litter or broken glass?		None or a little Some A lot
6. Tree shade on the walking area?		None or a little Some or a lot
7. Steepest slope along walking area?		Flat/gentle Moderate Steep

Pedestrian environment notes:

## E. Do you have a place to walk or bicycle?

	No	Yes, one side	Yes, both sides
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### SIDEWALKS

1. Sidewalk present?	go to E10		
2. Any grassy or other buffer between curb and sidewalk <i>along most of the segment?</i>	go to E3		
2a. Tree(s) in buffer?			
3. Sidewalk continuous within segment?			
4. Sidewalk continuous between segments at both ends?			
5. Width $\geq 5$ ft for <i>most</i> of the sidewalk?			
6. Width $< 3$ ft for <i>any part</i> of the sidewalk?			
7. Any missing curb cuts or ramps at intersections or driveways?			
8. Any major misalignments or cracks in the sidewalk?			
9. Any permanent obstructions (trees, signs, tables) blocking the 3-ft walk area?			
10. <i>If a sidewalk is not present on any part of the segment</i> , do you have another safe place to walk, including:			
Street or shoulder (if safe)?			
Unpaved pathway?			
Other? Specify: _____			

Sidewalk notes:

### SHOULDERS (OPTIONAL)

11. Designated bike route sign or marking or "Share the Road" sign?			
12. On-street, paved, and marked shoulder?	go to E16		
13. Width of marked shoulder $\geq 4$ ft?			
14. Shoulder continuous between segments at both ends?			
15. Any permanent obstructions in the shoulder (including drainage grates, parked cars)?			
16. <i>If a paved, marked shoulder is not present on any part of the segment</i> , do you have another safe place to bicycle, including:			
Street?			
Wide outside lane (~15 ft)?			
Other? Specify: _____			

Shoulder notes:

Stop time: \_\_\_\_\_