CDC-Healthy Aging Research Network Environmental Audit Tool - Segment

1. Segment ID:

LAND USE/DESTINATIONS

2. Area type: Check one.
   - (2a) Town/city center/business district
   - (2b) Thoroughfare/street development
   - (2c) Neighborhood/subdivision/urban residential
   - (2d) Isolated rural

3. What is the predominant land use? Check one.
   - (3a) Residential buildings/yards
   - (3b) Commercial/office buildings
   - (3c) Industrial buildings
   - (3d) School/school yards/campus
   - (3e) Parking lots or garages
   - (3f) Undeveloped land/vacant lot
   - (3g) Designated green space/park
   - (3h) Agricultural or pasture
   - (3i) Body of water, e.g., lake, river

4. What other land uses? Check all that apply.
   - (4a) Residential buildings/yards
   - (4b) Commercial/office buildings
   - (4c) Industrial buildings
   - (4d) School/school yards/campus
   - (4e) Parking lots or garages
   - (4f) Undeveloped land/vacant lot
   - (4g) Designated green space/park
   - (4h) Agricultural or pasture
   - (4i) Body of water, e.g., lake, river

5. What types of residential uses? Check all that apply.
   - (5a) Single family houses
   - (5b) Multi-unit homes (duplex, 4-plex)
   - (5c) Apartments/condos, 5 or more units
   - (5d) Apartments above street retail
   - (5e) Senior housing (retirement/assisted living, nursing home)
   - (5f) Other (mobile home, dormitory)

6. Destinations facing segment. Yes No
   - a. Food-related destinations
   - b. Retail and service-related
   - c. Public, community destinations
   - d. Other non-residential – office buildings/warehouse
   - e. Recreational facilities/areas
   - f. Other, specify:

7. What dedicated walkway is present, if any? Check all that apply.
   - Sidewalk (a) None N/E S/W
   - Trail (b) None N/E S/W

8. If there is no dedicated walkway, where else might one walk? Check all that apply.
   - a) Goat (desire) path None N/E S/W
   - b) Bike lane None N/E S/W
   - c) Parking lane None N/E S/W
   - d) Shoulder
     - if shoulder present...
     - di) --- is it paved? No N/E S/W
     - dii) --- is it marked, e.g., (stripe, color)? No N/E S/W
   - e) In street/roadway NE S/W

9. What is the width of the walkway? Measure (do not guess) at most narrow part of pedestrian zone (not buffer or building frontage zone)
   - North/East
     - (9a) < 5 feet
     - (9b) 5-6 feet
     - (9c) > 6 feet
   - South/West
     - (9d) < 5 feet
     - (9e) 5-6 feet
     - (9f) > 6 feet

10. What is the walking surface? Check one surface; check if there is a reduced vibration zone.*
   - North/East
     - (10a) Dirt/grass
     - (10b) Gravel
     - (10c) Asphalt or concrete
     - (10d) Stone/brick
     - (10e) *Reduced vibration zone?
   - South/West
     - (10f) Dirt/grass
     - (10g) Gravel
     - (10h) Asphalt or concrete
     - (10i) Stone/brick
     - (10j) *Reduced vibration zone?

*Smooth center section of pathway without grates or large joints or other elements that would increase vibration for wheelchair user.

If walking in roadway is the only option...

8ei. Would you need to step off if vehicles were approaching in both directions?
   - N/E Yes No
   - S/W Yes No

8eii. Is there consistently room to step off the road without stepping into a ditch or other hazard?
   - N/E Yes No
   - S/W Yes No

Questions 9 - 26 relate to features of the walkway where people are most likely to walk.

v. 3-2013 Tool intended for use by trained auditors. For training and technical assistance, contact Rebecca Hunter, Rebecca_Hunter@unc.edu Page 1 of 4
### CDC-Healthy Aging Research Network Environmental Audit Tool - Segment

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Is there a buffer present? (strip between the walkway &amp; road; doesn’t apply to roadway walking)</td>
<td>N/E (11a)</td>
</tr>
<tr>
<td></td>
<td>S/W (11b)</td>
</tr>
<tr>
<td>12. Is walkway continuous within segment? (continues without interruption from start to end)</td>
<td>N/E (12a)</td>
</tr>
<tr>
<td></td>
<td>S/W (12b)</td>
</tr>
<tr>
<td>13. Is walkway continuous between the segments at one or both ends?</td>
<td>N/E (13a)</td>
</tr>
<tr>
<td></td>
<td>S/W (13b)</td>
</tr>
<tr>
<td>14. Do curb ramps, curb cuts, or mountable curbs connect at both ends of segment?</td>
<td>N/E (14a)</td>
</tr>
<tr>
<td></td>
<td>S/W (14b)</td>
</tr>
<tr>
<td>15. Are poorly maintained walkway sections trip hazards or barriers? (e.g., heaves, cracks, misalignment, weeds) If none, skip to Q17.</td>
<td>N/E (15a)</td>
</tr>
<tr>
<td></td>
<td>S/W (15b)</td>
</tr>
<tr>
<td>16. Rate the extent of poor maintenance of the worst section of the walkway. See definitions next column.</td>
<td>N/E (16a)</td>
</tr>
<tr>
<td></td>
<td>S/W (16b)</td>
</tr>
</tbody>
</table>

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### Minor – Highly visible problems in an area where they can be easily avoided

### Moderate – Problems that cannot be easily seen or avoided without diligence

### Major - Severe problem(s) that make segment inaccessible or extremely dangerous

17. How steep is the walkway at the steepest point in the segment? Rate the slope of the steepest part of the sidewalk in the segment by considering its impact on walking.

<table>
<thead>
<tr>
<th>N/E (17a)</th>
<th>Level</th>
<th>Moderate</th>
<th>Steep</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/W (17b)</td>
<td>Level</td>
<td>Moderate</td>
<td>Steep</td>
</tr>
</tbody>
</table>

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18. Is the walkway level or does it have a cross-slope that affects walkers? A cross-slope is a sideways slope, like a driveway that slopes through the walkway. Only evaluate cross-slope that is in path of walkway. ADA = 2% maximum.

<table>
<thead>
<tr>
<th>N/E (18a)</th>
<th>Level</th>
<th>Sloped</th>
<th>Steep</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/W (18b)</td>
<td>Level</td>
<td>Sloped</td>
<td>Steep</td>
</tr>
</tbody>
</table>

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19. Permanent obstructions in walkway? (e.g., telephone poles, trees) Only include obstructions if they narrow the walkway to less than four feet. Do not count items in the buffer zone between sidewalk and curb.

<table>
<thead>
<tr>
<th>N/E (19a)</th>
<th>None</th>
<th>One or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/W (19b)</td>
<td>None</td>
<td>One or more</td>
</tr>
</tbody>
</table>

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20. Temporary obstructions in walkway? (e.g., sandwich board signs, private property overgrowth, parked cars, clippings, dumpsters)

<table>
<thead>
<tr>
<th>N/E (20a)</th>
<th>None</th>
<th>Some (1-3)</th>
<th>Many (4 or more)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/W (20b)</td>
<td>None</td>
<td>Some (1-3)</td>
<td>Many (4 or more)</td>
</tr>
</tbody>
</table>

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21. Are there any walkway slipping hazards? (e.g., slick surface, loose gravel, wet leaves, etc.)

<table>
<thead>
<tr>
<th>N/E (21a)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/W (21b)</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

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22. Are pedestrians likely to be visible to motorists? (telephone poles, trees, blind curves)

<table>
<thead>
<tr>
<th>N/E (22a)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/W (22b)</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

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Remaining questions require you to combine observations for both sides of the street into a single evaluation.

23. Are there areas where a railing/barrier is needed for safety, but is missing?

   - Missing
   - Not needed or already present

24. How many driveways or alleys are there on both sides of the block? Check one.

   - (1) None; skip to Q 27.
   - (2) 1 - 2
   - (3) 3-5
   - (4) 6 or more

25. Estimate the traffic volume entering or leaving driveways or alleys on this block? Check one.

   - (1) Light to moderate (e.g., single-family home, doctor’s office)
   - (2) Heavy (e.g., supermarket)
   - (3) Periodic (e.g., school, church)
26. Pavement features at drive/alleyways
Check all that apply.
- (26a) Walkway remains level across driveway/ alley
- (26b) Pavement color or other treatment to denote driveway

27. What type of road/street is present?
- (a) Divided highway > 4 lanes
- (b) Undivided > 4 lanes
- (c) 3 lanes (or two plus center turn lane)
- (d) 2 marked lanes
- (e) No marked lanes (but paved)
- (f) Unpaved roadway

Included here for reference only; data from your city/town recorded on locator form.

28 a. How is the road classified?
- (1) Major arterial
- (2) Minor arterial
- (3) Collector
- (4) Local street

28 b. What is the traffic volume?
- (1) < 2500
- (2) 2500 to 4,999
- (3) 5,000-19,999
- (4) ≥ 20,000

29. What is the speed limit? [ ]

30. What parking spaces or facilities are present? Check all that apply.
- (30a) None
- (30b) On-street, parallel or angled parking
- (30c) Small lot or garage (<30 spaces)
- (30d) Medium to large lot or garage

31. What other features are present? Check all that apply
- (31a) Cul-de-sac or dead end
- (31b) Traffic calming devices, speed bumps, chicanes, serpentine design
- (31c) Roll-over/ mountable curbs
- (31d) Crosswalk, Yield to Pedestrian, or “Share-the-Road” type signage
- (31e) Pedestrian bridges
- (31f) Midblock crossing (MBC)
  - (31g) If multilane MBC, check if there is a 30’ advance stop line.

32. Are there features to support orientation?
- (mountain peaks, lake, steeples, tall structures)
  - (i) Yes
  - (ii) No

33. What aids are present to support wayfinding?
Check all that apply
- Directional sign or marker (not street signs)
- Neighborhood flag or marker
- Landmark (statue, fountain)
- Numbers on buildings/houses
- Information kiosk or board with map
- Kiosk or board with “you are here” cue
- Advance street name sign
- Text & icons paired on signs/pavement
- Aids for low vision or hearing e.g., (audible or Braille directions)

34. Problems with wayfinding/ aids?
Check all that apply.
- Poor or inconsistent location
- Text too small for easy reading
- Dirty, faded or obstructed
- Poorly lighted
- English language only in bilingual area
- Limited or no boundary definition
- Limited sight distances (can’t see next corner or beyond immediate buildings)

35. Are street lights installed? Check one
- (a) None
- (b) Some (overhead lights on utility poles)
- (c) Ample (regularly spaced pedestrian lampposts)

36. Is there other ambient lighting?
- (a) Yes
- (b) No

COMFORT/DISORDER

37. a. Is there a transit stop on segment?
Check all that apply
- None
- Bus stop
- Light Rail/ Other Transit
- Senior transit/ paratransit

b. Is the transit stop clearly marked and accessible?
- (1) Yes
- (2) No

c. Is route information available at the transit stop?
- (1) Yes
- (2) No

38. Are there places to rest?
Check all that apply.
- (38a) None
- (38b) Bench/ street furniture
- (38c) Covered shelter
- (38d) Other, e.g. low wall

39. Other Amenities
Check all that apply.
- (39a) Trees that offer shade
- (39b) Bicycle racks
- (39c) Working drinking fountains
- (39d) Call boxes
- (39e) Restrooms open to public and accessible, public restrooms, fast food restaurants, etc.
- (39f) Handrails on stairs and ramps
40. What opportunities exist for people to be seen when walking if they are in need?  
Check all that apply
- (40a) None
- (40b) Windows facing street or places for sitting in front of homes or businesses

41. Do you observe aesthetically pleasant features? (e.g., fountains, vegetation, gardens)  
- (a) Yes  
- (b) No

42. Are the streetscape and/or buildings distinctive or monotonous?  
- (1) Distinctive  
- (2) Monotonous

43. Are at least 75% of the buildings well maintained?  
- (a) Yes  
- (b) No  
- (c) NA

44. Which of the following items are present?  
Check all that apply
- (44a) Graffiti or tagging (not murals)  
- (44b) Abandoned cars  
- (44c) Broken/boarded windows  
- (44d) Drug paraphernalia  
- (44e) Broken glass; liquor bottles/cans  
- (44f) Litter in yards, street or sidewalk

45. Rate the extent of physical disorder  
Check one.  
- (a) None  
- (b) Some (1-3 areas)  
- (c) A lot (4 or more areas)

46. Rate the extent of social disorder  
Check one.  
(e.g., stray dogs, gangs, prostitution, hostile behaviors, drug dealing, panhandlers)  
- (a) None  
- (b) Some (1-3 areas)  
- (c) A lot (4 or more areas)

For fuller depiction of crime or disorder, obtain crime information for audit area from city.

47. What people are visible in the segment?  
Check all that apply
- People Present
  - None
  - Children
  - Teens
  - Adults
  - Older Adults

48. What else did you observe?  
Check all that apply
- (48a) Air pollutants (e.g., diesel fumes, factory emissions, hog lagoons)  
- (48b) Heavy vehicles (e.g., large trucks)  
- (48c) High speed or speeding traffic (too fast for specific area)  
- (48d) Loud ambient sounds (e.g., trains, construction, factories, aircraft)  
- (48e) Railroad tracks  
- (48f) Aggressive drivers

49. LEVEL OF WALKABILITY - WEAKEST LINK  
Not auditor rating; generated from key indicators or if mobile app, by individual preferences.

- (48g) Extremely crowded or chaotic walkways  
- (48h) Competing use of walkways, e.g., (Skateboarding, bicycling, etc.)

- 1 – Pristine walking environment; safe & accessible for all ages & abilities
- 2 - Lacking some amenities; a few visible but avoidable problems but still accessible, walkable, navigable. Some challenges to people with severe visual impairments.
- 3 - More demanding with problems/barriers that are difficult to avoid; requires attention/judgment; may not be suitable for people with severe functional challenges
- 4 - Most demanding environment – unavoidable accessibility barriers, safety hazards or navigational challenges. Not suitable for people with functional challenges & requires vigilance of all others