

Street Design Environmental Audit Training

Created by,
Transtria LLC

The logo graphic for Transtria features a stylized, abstract shape composed of several overlapping green and yellow geometric forms, resembling a cluster of leaves or a modern architectural element. The word "transtria" is written in a purple, lowercase, cursive font across the middle of this graphic.

transtria

translate evidence
transfer skills
transform health

Agenda

Activity	Time
Introductions	5 minutes
Training purpose and desired outcomes	10 minutes
Environmental audits <ul style="list-style-type: none">• Overview• Review tools	1 hour
Practical Experience	1 hour
Discussion and feedback on tools, protocols, and training	30 minutes
Create the evaluation plan	15 minutes

Introductions

- ◀ Evaluation Officer
- ◀ Evaluation Coordinator for local data collection
- ◀ Data collectors and experience with data collection

Training Purpose and Desired Outcome

Environmental Audit

- ▶ Observe the condition of the environment before and after the implementation of a physical change in the environment (e.g., addition of sidewalks to school, more public transportation stops).
- ▶ Objective measures of the environment (e.g., presence or absence of sidewalks, bike lanes, public transportation stops).

Environmental Audit

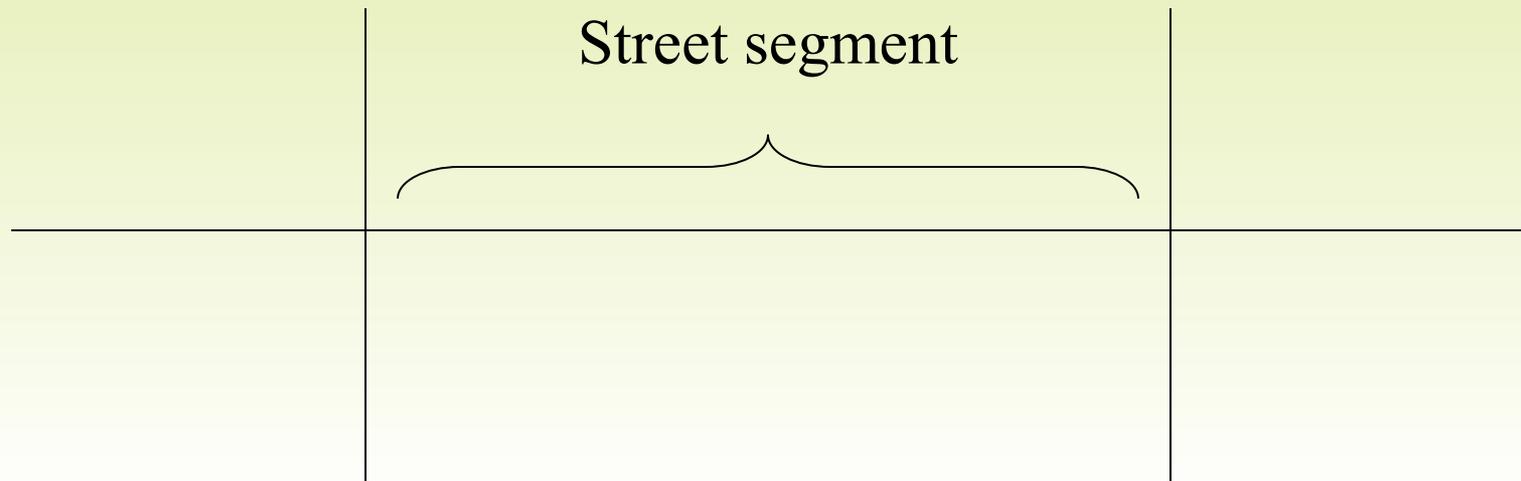
- ▶ Timing of the audits before/ after project completion (consider the following):
 - ✓ Time of day – perceptions of the environment (e.g., lighting at night)
 - ✓ Seasonality – extreme heat/ cold, other unfavorable conditions (e.g., rain, ice)
 - ✓ Special events – holidays (e.g., Halloween), concerts, parades

- ▶ Resources needed to conduct the audits (consider the following):
 - ✓ Observers and training – number of people available to conduct audits (e.g., staff, students, volunteers), space and equipment to provide training
 - ✓ Security – monitoring auditors safety when necessary (particularly at night)
 - ✓ Data collection –pencil, paper, and clip board (GPS devices)

- ▶ Be prepared to respond to local residents or businesses – why you are there and who you represent.

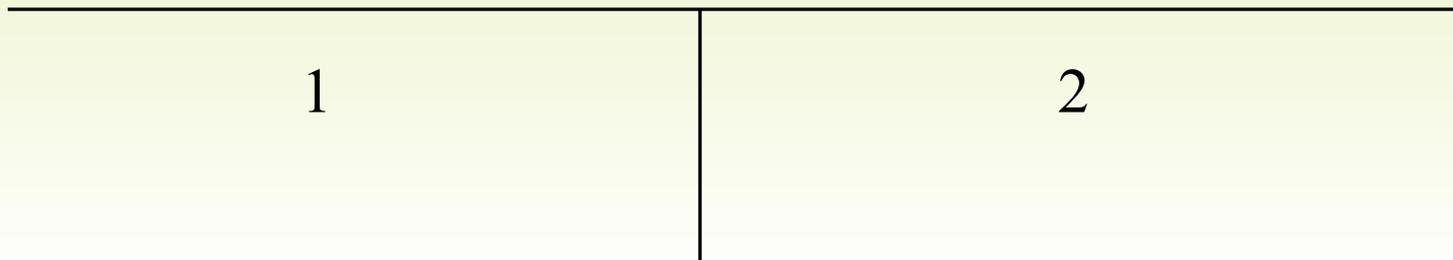
Street Segment Definition

- ▶ A section of street or road (1/4 mile or less) between two adjacent intersections or between an intersection and cul-de-sac (dead end).



Street Segment Definition

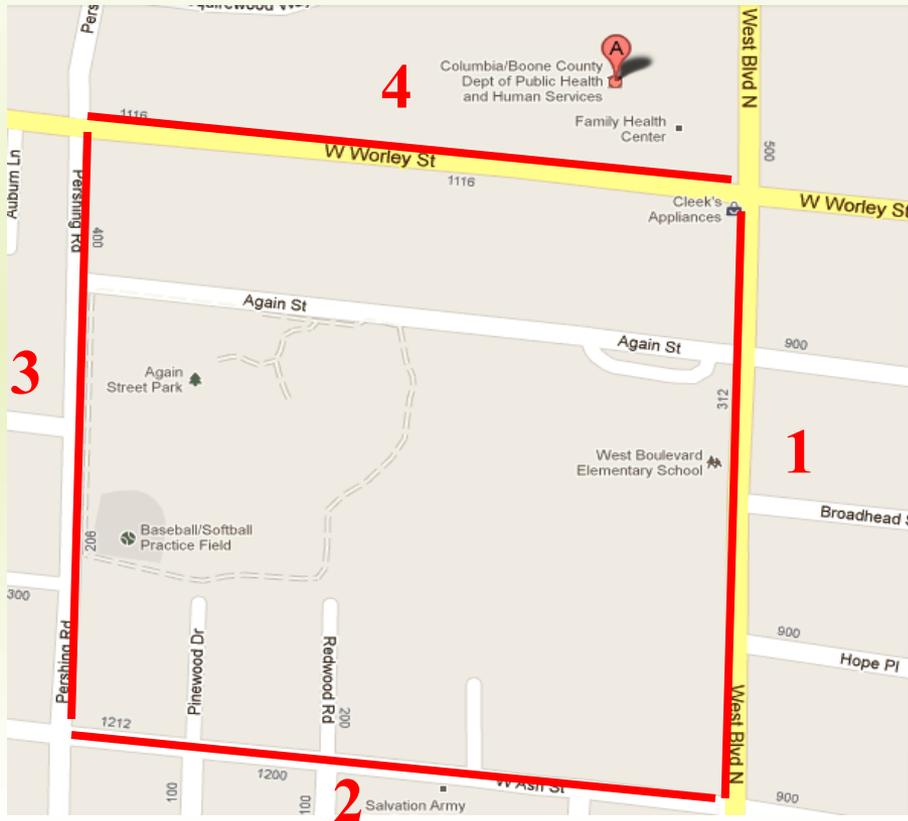
- ▶ Roads with few intersections should be divided into two or more $\frac{1}{4}$ -mile segments. Short segments may be combined with adjacent segments.
- ▶ A street with a T-intersection may be audited as two separate segments (e.g., 1 and 2 below).



- Assign all segments to be audited a unique ID number.
- Distribute copies of these maps to the auditors.



Map Project Area



— Street segments

Assign all segments to be audited a unique ID number.

Distribute copies of these maps to the auditors.

Map Project Area

Segment Number	Street Name	Starting Location (Cross Street)	Ending Location (Cross Street)
1	West Blvd.	W. Worley Street	W. Ash St.
2	W. Ash St.	West Blvd.	Pershing Rd.
3	Pershing Rd.	W. Ash St.	W. Worley Street
4	W. Worley Street	Pershing Rd.	West Blvd.

- ▶ Segment ID: Enter identification number assigned to the street segment
- ▶ Street name: Print the name of the street
- ▶ Segment between ___ and ___: Print the names of the intersecting streets that are used as segment boundaries
- ▶ Auditor 1: Print the name of auditor #1
- ▶ Auditor 2: Print the name of auditor #2
- ▶ Community Partnership: Name of your community partnership for *Healthy Kids, Healthy Communities*
- ▶ Date: Enter today's date
- ▶ Weather conditions: Print the temperature and climate the day of data collection (e.g., rainy, sunny, cloudy, windy).
- ▶ Start time: Enter beginning time
- ▶ Stop time: Enter ending time



Labeling Example

Street Design Environmental Audit Tool

Street name: _____

Segment between _____
and _____

Auditor 1: _____

Auditor 2: _____

Street ID (*Transtria use only*): _____

Community partnership: _____

Date: _____

Weather conditions: _____

Start Time: __:__:__ AM PM

End Time: __:__:__ AM PM

- ▲ Segment ID: A2 (2nd segment audited by team A)
- ▲ Street name: Elm between 1st and 2nd Street
- ▲ Auditor 1: Christy
- ▲ Auditor 2: Allison
- ▲ Community Partnership: Healthy RC Kids
- ▲ Date: 7/8/2005
- ▲ Weather conditions: Hot and sunny
- ▲ Start time: 10:45 am
- ▲ End time: 10:55 am

Section 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

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

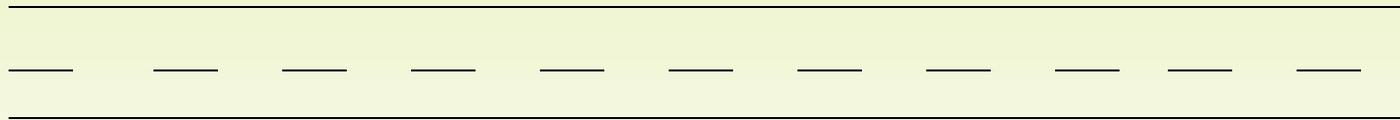
Example 1:

(red = non-residential, white=residential):

Single
family

Multi-
family

Condo



Apartment complex

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

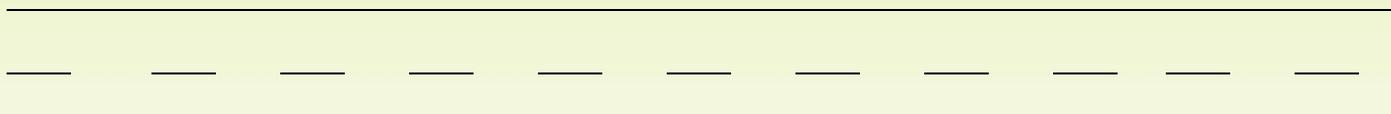
Example 2:

(red = non-residential, white=residential):

Single
family

Single
family

Single
family



Strip mall with 4 stores

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

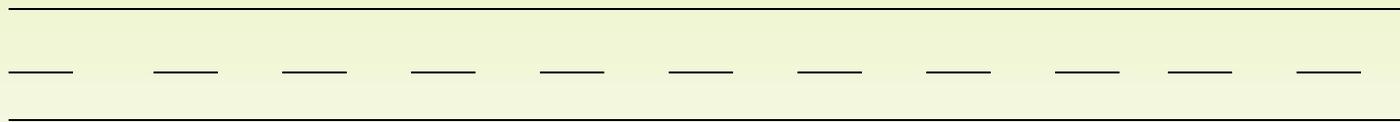
Example 3:

(red = non-residential, white=residential):

Park

Library

Bank



Strip mall with 4 stores

2. What is the predominant land use?

- Residential buildings/yards
- Commercial or public/government building(s)
- School/school yards (elementary, middle, high school)
- Parking lots or garages
- Park with exercise/sport facilities or playground equipment
- Abandoned building/vacant lot (uninhabited and unmaintained)
- Undeveloped land (maintained)
- Designated green space (includes park with no exercise/play facilities)
- Other non-residential, specify: _____

2.a. Residential buildings/yards



Any area that a person resides including single family homes, multi-unit homes, apartments, condos, mixed-use or other (retirement or mobile home).

2.b. Commercial or public/government building(s)



Any business (e.g., office space, restaurant) or government-owned building (e.g., library, post office).

2.c. Schools/school yards



School building or schoolyard
(e.g., elementary, middle, high school)

2.d. Parking lots or garages



Any collection of parking spaces off of the street.



2.e. Park with facilities



Area of natural space that is open to the public, and includes an area designed for activity (e.g., baseball field, soccer field, basketball court, tennis court, swing set, slides, pull-up bars, monkey bars).

2.f. Abandoned building/home/vacant lot



Abandoned building (left): Uninhabited and unmaintained building characterized by boarded up or broken windows/doors.

Vacant lot (right): An empty area about the size of the buildings on the segment or nearby segments with visible signs of no maintenance (e.g., debris or plant overgrowth).

2.g. Undeveloped land



Large area of natural space that is maintained by public or private entities

2.h. Designated green space



Large area of natural space that is maintained by public or private entities and open to the public but lacks designated places to play or exercise (e.g., trail, playground).



Where to “count” specific types of land uses for items

- ◀ When users prefer not to double-count destinations, they should count destinations based on:
 - Address
 - Front of building

Only count this school
on the Elm segment

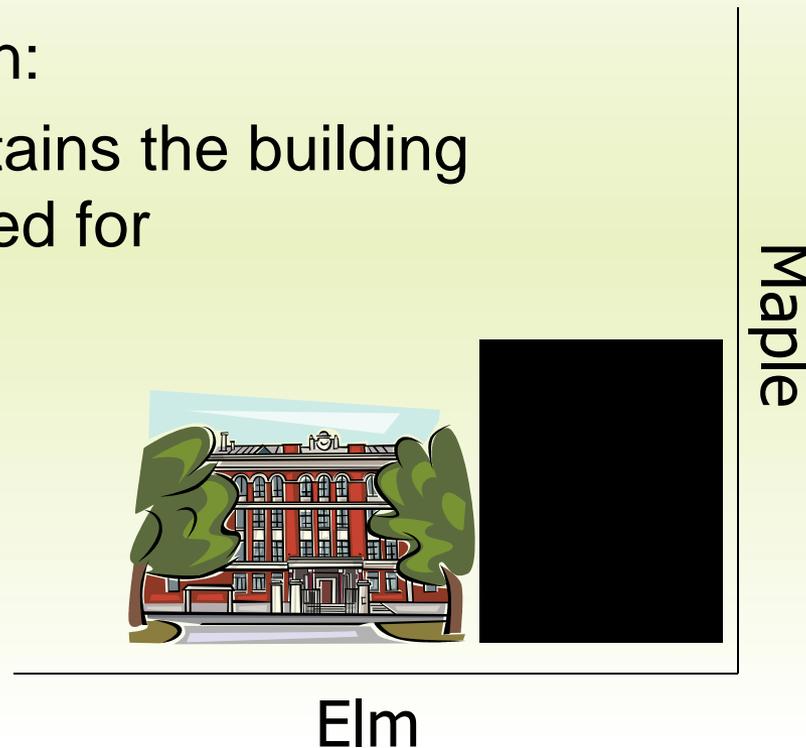


Elm

Maple

Where to “count” specific types of land uses for items in section A3-A6

- Count parking lots based on:
 - The segment which contains the building that the parking lot is used for
 - Entrance
 - Size



3. Are residential uses present?

- Single family homes
- Multi-unit homes (2-4 units)
- Apartments or condominiums (>4 units, 1-4 stories)
- Mixed-use (residential over commercial) (e.g., apartment over retail)
- Other (retirement home, mobile home, dorms)

Note: to distinguish between single and multi-unit homes, look for multiple mailboxes or doorbells.

3.a. Single family homes



3.b. Multi-unit homes (2-4 units)



3.c. Apartments or condominiums (>4 units, 1-4 stories)



3.d. Mixed-use (residential over commercial)

3.e. Other (e.g., retirement home, college dorm, mobile home)



Mobile home



College dorm

4. Are parking facilities present?

- On-street, including angled parking
- Small lot or garage (≤ 30 spaces)
- Medium to large lot or garage

Note: If pavement is unmarked, code as On-street (angled or parallel) parking only if there are cars parked within the segment or if parking signs are present. For streets that permit on-street parking on weekends or evenings *only*, mark as None and document varying parking rules in notes.

4.a. On-street



4.c. Medium to large lot or Garage (>30 spaces)



4.b. Small lot ≤ 30 spaces

5. Are public recreational facilities/equipment present?

- Park with exercise/sport facilities or playground facilities
- Indoor fitness facility (e.g., YMCA, Bally's, community center)
- Golf course
- Off-road walking/biking trail
- Sports/playing field
- Sports/playing court
- Playground
- Pool facility
- Other facilities (e.g., bowling, skate park):_____



**5.a. Park with
exercise facilities**

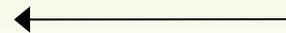


**5.b. Indoor fitness
facility**



**5.c. Golf
course**

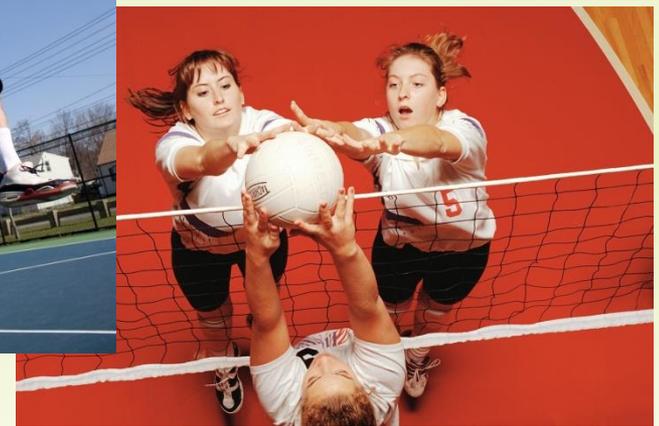
5.d. Off-road walking/biking trail



Counts as a
sidewalk AND
an off-road
walking trail



5.e. Sports/playing field



5.f. Sports/playing court

5.g. Playgrounds

- ▶ **Do not include:**
 - Church playgrounds
 - Daycare playgrounds
 - Apartment playgrounds
 - Gated and locked schoolyards



Public playground

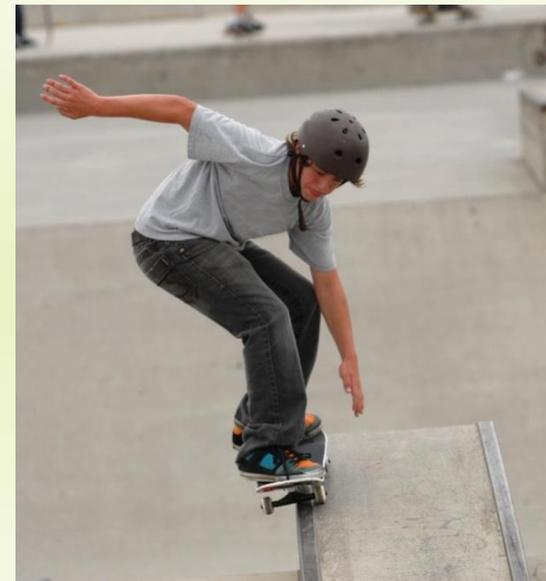
5.h. Pool facility



5.i. Other facility



Bowling alley



Skate park

6. Are any features visible in this segment?

- Community gardens or greenhouses
- School gardens or greenhouses
- Residential gardens or greenhouses
- Small body of water (e.g., pond, stream)
- Open green space (e.g., wooded area, swamp, meadow)



6.a.
Community
gardens or
greenhouses
(public)



6.b. School gardens
or greenhouses
(associated with a
school)



6.c.
Residential
gardens or
greenhouses
(private)



6.d. Small body of water (e.g., pond, stream)



6.e. Open green space (e.g., wooded area, swamp, meadow)

7. Is any building or section of the sidewalk/roadway under construction or being replaced?

- ▶ For buildings → only note major renovation or construction (i.e., not repair of a roof on a single home)



8. Are non-residential uses present?

- None
- Faith-based organization
- Farmer's Market
- Small grocery, convenience store (including in a gas station) or pharmacy
- Supermarket
- Food establishment (restaurant, bakery, café, coffee shop, bar)
- Entertainment (e.g., movie theater, arcade)
- Library
- Post office
- Bank
- Social Services
- Police or fire station
- Laundry/dry cleaner
- Hair or nail shop
- Medical facility
- Vacant/for rent retail space
- Other retail (e.g., street vendor)

Educational facilities

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

Large buildings with 1+ businesses

- Big box store (e.g., Walmart, Office Depot, Best Buy)
- Mall
- Strip mall
- High-rise building (>5 stories)
- Low-rise office building



8.a. Faith-based organization



8.b. Farmer's Market



8.c. Small grocery/ convenience store



**8.d. Supermarket
(store with
groceries)**



**8.e. Food
establishment
(restaurant,
bakery, etc.)**



**8.f. Entertainment
(e.g., movie theater)**



ruxtria

translate evidence
transfer skills
transform health



8.g. Library



8.i. Bank

8.h. Post Office



8.j. Social services



8.k. Police station



8.m. Hair/nail shop



8.l. Laundry facility

8.n. Medical facility



8.o. Vacant / for rent retail space



8.p. Other retail

Retail that doesn't fit in any other category (e.g., street vendor, food truck)



8.q. School



Elementary school



8.r. Childcare center



8.s. University

8.t. Big box store

- ▶ Examples include:
 - Walmart
 - Borders
 - Home Depot
- ▶ Does not include destinations counted elsewhere:
 - Supermarkets
 - Stores with groceries
 - Office building



8.u. Mall



A connected combination of many commercial centers that is larger than a strip mall.

8.v. Strip Mall

- ▶ A strip mall typically has a name (e.g., Clock Tower Center)
- ▶ Commercial centers with attached units arranged in a row or horseshoe shape, typically denoted by a sign
- ▶ Generally used to depict auto-oriented design



8.w. High rise office building (5+ stories)



8.x. Low-rise office building (<5 stories)



Section B:

Is Public Transportation Available?

9. Transit Stop (Bus, Train, or Other)



10. Are amenities present at any transit stop?



10.a. Bench



10.b. Covered Shelter

Section C:

What Street Characteristics are Visible?

11. Posted Speed Limit or 12. Special Speed Zone?



Posted speed limit



Special speed zone

13. Total number of lanes on street

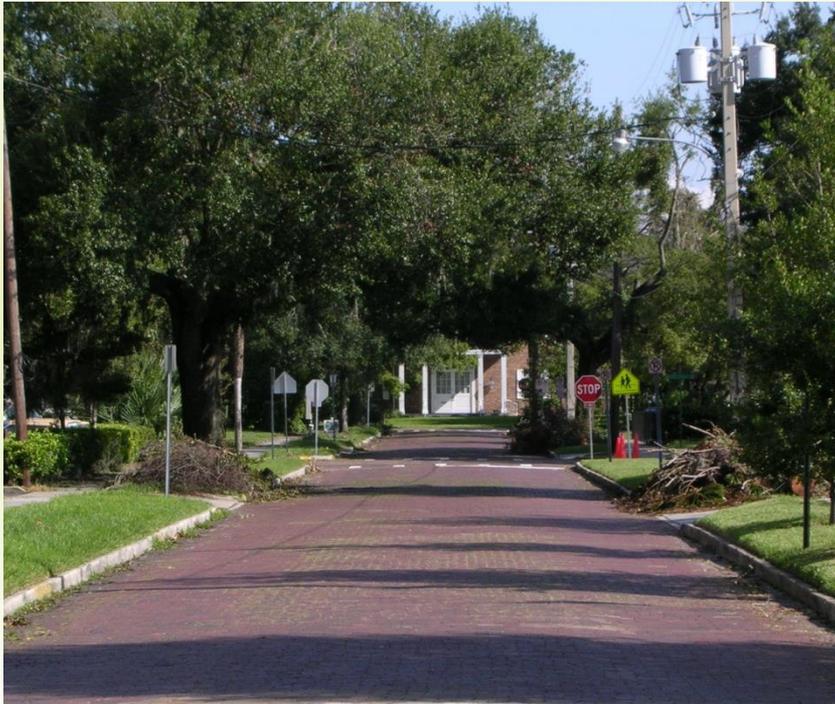


Exclude the turning lane and parking lanes

One-Lane Street



Two-Lane Street



Four-Lane Street



14. Marked Lanes?



Marked



Unmarked

15. Median or Pedestrian Island?



Exclude medians with landscaping that prevents pedestrians from using them

16. Turn Lane?



A turn lane should be a special lane designated for turning and occupy the entire length of the segment

17. Stop sign or traffic light for crossing this segment?



17.a. Any stop lights without a walk signal?



A stoplight without a button to activate a walk signal or a walk signal with symbols that cue pedestrians to stop or walk

18. Crosswalk for crossing this segment?



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

19. Traffic calming device?



Roundabout



Curb bulb-out



Brick section in road



Speed sign

20. Cul-de-sac Present? (dead end street) 20 a. Sidewalk Cut-Through in Cul-de-Sac?



Yes, Cul-de-sac

Yes, sidewalk cut-through



Yes, Cul-de-sac

No, sidewalk cut-through

Section D:

Do you have a place to walk?

Response choices

- ◀ No
- ◀ Yes, one side
- ◀ Yes, both sides

21. Is there a sidewalk present?



No



Yes, one side



Yes, both sides

22. Any commercial building(s) adjacent to sidewalk?



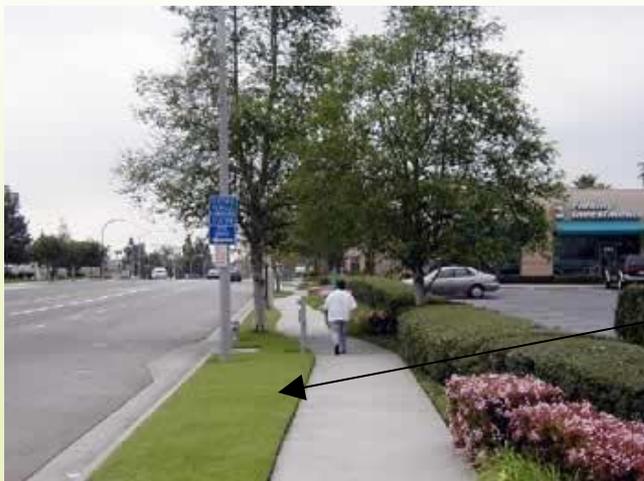
No

Ability to enter building directly from the sidewalk along the street without crossing a parking lot



Yes

23. Any grassy or other buffer between curb and sidewalk *along most of the segment?*



Buffer



No Buffer

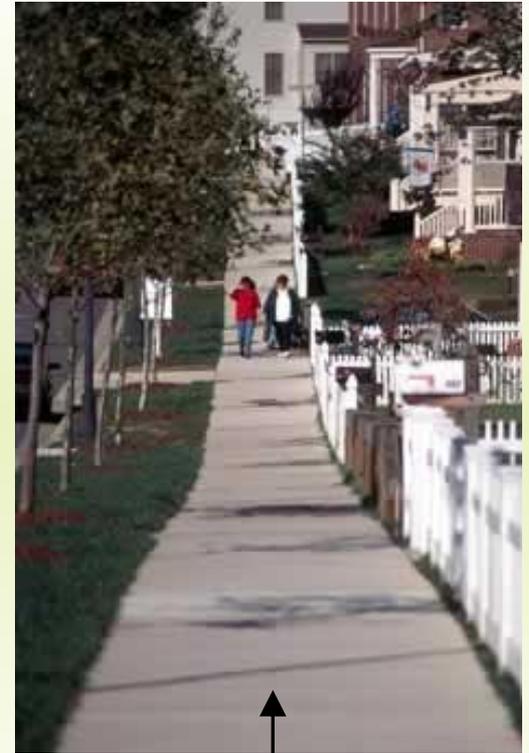
23.a. Tree(s) in Buffer?



24. Sidewalk continuous *within* segment?



↑
Not continuous

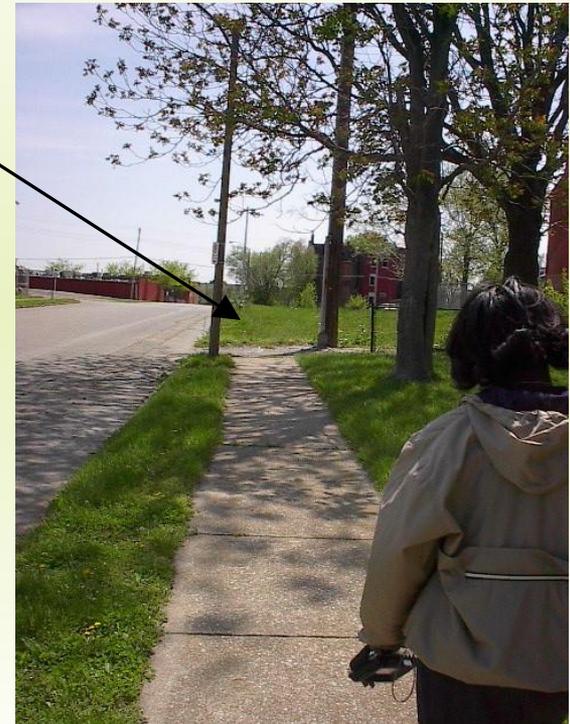


↑
Continuous

25. Sidewalks continuous *between* segments at both ends?



NOT continuous



Continuous

26. Width \geq 3 ft for *most* of the sidewalk?



← Yes, but make note of sidewalk merging with parking lot

27. Width <3 ft for *any* part of the sidewalk?



No



Yes



28. Missing curb cuts or ramps at intersection or driveways?



Yes



No

29. Major bumps, cracks, holes, weeds in sidewalks?

Yes



29. Major bumps, cracks, holes, weeds in sidewalks?



No



30. Any permanent obstructions (e.g., trees, signs, tables) blocking the 3-ft walk area?



Obstructions that remain on the sidewalk on a daily basis



Only an obstruction if it blocks the 3-foot walking area

31. Is there a safe place to walk?



31.a. Street/shoulder



31.b. Unpaved pathway

32. Any pedestrian amenities?

32a. Bench?



Excluding benches at bus stop and benches in parks

32b. Drinking Fountain?



32c. Pedestrian-scale lighting?



Yes



No

33. Tree Shade on the Walking Area?



No/little shade



Some



A lot

34. Steepest Slope Along the Walking Area?

- ▶ This item is somewhat subjective.
- ▶ Compare your street to a flat street and a street with a steep slope.



A flat or gentle slope
not noticeable to most
individuals



Walking on a
moderate slope may
increase someone's
heart rate, but would
not act as a barrier
for most individuals



A steep slope
would act as a
barrier to
someone who is
not active or who
has physical
limitations

Section E.

Do you have a place to bicycle?



35. “Share the Road” or “Designated bike route” sign?



36. Sharrow?



Sharrow

37. Bike lane present?



Marked bike lane

38. On-street, paved, and marked shoulder?



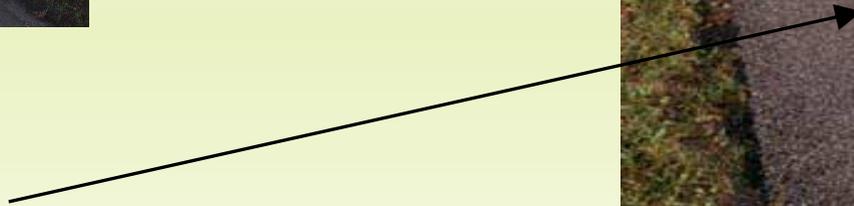
Marked shoulder

Not a shoulder

38.a. Shoulder \geq 4 ft?



Shoulder



(Use measured foot
or tape measure for
width if safe)

38.b. Shoulder continuous between segments at both ends?



38.c. Any permanent obstructions (e.g., drainage grates, parked cars)?



Leaves or branches should not be considered a *permanent* obstruction



This is *not* an obstruction

39. Is it safe to ride on the street?



Yes. Little traffic

40. Is there a wide outside lane?



Yes. Wide outside lane (≥ 15 ft)

41. Is there another safe place to bicycle on the street?



No. Heavy traffic



No. Narrow lanes

42.a. Street lighting?



None/a little



Some



A lot

42.b. Bike Parking?



Racks



Lockers

Section F.

**What is the quality of
the environment?**



43. Buildings with Broken/Boarded Windows?



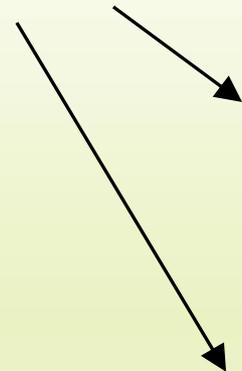
Try to limit boarded windows to those that reflect physical disorder

44. Litter or Broken Glass?



↑
None or a little

A lot



45. Public Art?



Practical Experience

Sample Street 1



navstria

translate evidence
transfer skills
transform health

Sample Street 2



Uniting people, places and policies to revolutionize public health

Practical Experience Discussion

- ▶ Review and discuss each item on the tool
- ▶ What was easy to code? Difficult to code?
- ▶ Were there items missing from the tool or protocol?
- ▶ What else was challenging about applying this tool or protocol?
- ▶ Did you need additional instructions during the training?
- ▶ What are strengths that you see from this method?
- ▶ Do you have any other feedback or reflections on the training?
- ▶ Do you have any other suggestions to improve the tool, protocol, or training?

Data Collection

Timeframe

- ◀ Date(s) of data collection?
- ◀ Date(s) of environmental change (if applicable)?
- ◀ Date that Evaluation Officer will receive the data?

Process for receiving the data

- ◀ Send data to Evaluation Officer by scanning and emailing
- ◀ Send data to Evaluation Officer by making copies and sending through mail

Data Analysis

Receiving the data

- ▶ Evaluation Officer will send an email stating they have received the data
- ▶ Evaluation Officer will contact the Evaluation Coordinator if there are questions about the data

Data entry and cleaning

- ▶ Evaluation Officer will work with Transtria staff to entry and check the data in spreadsheet

Data analysis and summary

- ▶ Evaluation Officer will analyze the data and prepare a summary
- ▶ CPs will receive raw data and a summary

Evaluation Plan

- ▶ How many street segments will you be collecting data for?
- ▶ What design are you using?
 - Before/after
 - Comparison
 - Cross-sectional (pre or post only)
- ▶ If comparison design, how do you plan to select your comparison street segments?
- ▶ How do you plan to use this data?
- ▶ What audience to you intend to share this data with?

Questions?

Portions of this presentation were adapted from the Active Neighborhood Checklist training

The logo for Transtria features a stylized green arrow pointing right, composed of several overlapping geometric shapes. The word "transtria" is written in a purple, lowercase, cursive font, positioned to the right of the arrow.

transtria

translate evidence
transfer skills
transform health

6514 Lansdowne Avenue
St. Louis, Missouri 63109

phone (314) 352-8800
fax (314) 352-8909
www.transtria.com