A PEDESTRIAN SAFETY AND WALKABILITY MISMATCH

Meeting the Needs of Those Who Walk for Transportation

Authors:
Andrea Garfinkel-Castro, PhD
Elizabeth Akinjobi, MNTP

Presenter:
Elizabeth Akinjobi, MNTP
Adesanya Salako & Associates
Nigeria

AFRO SAFE

Winneba
12-15 August 2025

TRANSPORT FUTURES ENVISIONING JUST MOBILITY
info@TransportFutures.org
+1 480.388.1915

Introduction

- **Captive pedestrians** walk out of necessity due to lack of alternatives – and are the largest group of road users worldwide.

- **Choice pedestrians** walk out of preference due to having alternatives.

- Dominant **walkability models** prioritize choice walking and overlook necessities of the transport-poo
  - This oversight creates infrastructure blind spots, especially in LMICs.

- Consequently, **safety interventions** often focus on recreational or affluent areas, neglecting the routes captive pedestrians rely on daily.
  - This safety mismatch exposes the transport-poor to higher risks of traffic violence and unsafe walking conditions.

AFRO SAFE

Theoretical Framework – **Mobility & Agency**

Traditional theory:

People walk based on utility maximization.
(Cavill, 2001; Goodman, 2001)

Emerging theory:

Behavior is shaped by both personal choice and structural limitations.
(Tiwari, 2001; Sietchiping et al., 2023)

Study Aim:

To interrogate dominant pedestrian safety and walkability literature and realign them with the infrastructure and safety needs of captive pedestrians in low-income contexts, fostering inclusive and equity-driven planning.

AFRO SAFE

Methodology

01 Conduct an **integrative literature review** to critically synthesize research on pedestrian safety and walkability models.
(Snyder, 2019)

02 Develop an emergent **typology** categorizing pedestrians as ‘captive’ or ‘choice.’
(Behr et al., 2019)

03 Explore the distinction between pedestrian typologies to **reframe** road safety literature in a way that uncovers structural gaps.
(Levin et al., 2021)

AFRO SAFE

Pedestrians Types

CAPTIVE
(Okyere et al., 2023; Olojede et al., 2024; Sietchiping et al., 2023; Tiwari, 2001; Tony et al., 2024; Wood, 2022)

- Low- and moderate income, **the largest group of road users** (when combined with transit).
- Youths, the elderly, and those with disabilities.
- Typical walking conditions: unsafe paths and incomplete infrastructure, air pollution, poor lighting, exposure to traffic at high volumes, high speeds, inclement weather (too hot/cold/wet)
- **Priorities**: direct routes, safe night access, protection from weather, lower traffic exposure

AFRO SAFE

Pedestrians Types

CHOICE
(Cavill, 2001; Garfinkel-Castro & Ewing, 2022; Gemzoe, 2001; McMillen, 2001; Sundling & Jakobsson, 2023; Spears et al., 2023)

- Higher income, mobility-abled, often have driving **privileges and access** to vehicles, able to choose when & where to walk
- Do so for leisure, exercise, or to support environmental goals (e.g., low-carbon transport)
- Typical walking conditions: mode-separated paths and sidewalks, car-free zones, access to transit, landscaping & beautification, retail space
- **Priorities**: aesthetics, comfort, entertainment

AFRO SAFE

Context-specific Safety Risks

01

Across all contexts:

- **Road safety** – the most studied aspect of walking and active transport
- **Top research gaps** – data, governance, planning, policy, policies & programmes for LMICs

(Allen & Nolmark, 2022)

02

In African countries:

- Primary: Pedestrians must **share roadways** intended for motorists
- Growing risk factor: **Two-wheel taxis**

(Sietchiping et al., 2023)

AFRO SAFE

Walkability Biases & Blindspots

Walkability (gen def):

- Characteristics of the built environment that encourage and support walking through planning and design.

  (Dovey & Pafka, 2020; **Jacobs, 1961**; Speck, 2012)

Default settings (biases & blindspots):

- Post-industrial, urban, high-income settings, pedestrians with full mobility
- Designs typically rely on expensive infrastructure change
- Focused on inducing choice pedestrians to walk more rather than serving and supporting captive pedestrians

  (**e.g.**: Ameli et al., 2015; Ewing & Handy, 2009; 2015; Mehta, 2008)

  (**critique**: Olojede et al., 2024; Sietchiping et al., 2023; Wood, 2024)

AFRO SAFE

Key Findings

01

Pedestrians = undefined, homogenous, choice in most road safety & walkability research and literature.

02

Reframing with the captive vs. choice typology reveals different safety and infrastructure needs.

03

The primary concerns of captive pedestrians in LMICs are often overlooked and underserved due to over-reliance on safety interventions and walkability models developed by and for HICs.

AFRO SAFE

Call to Action

- ✓ Start by understanding who walks—and why.
- ✓ Build typologies that reflect local realities.
- ✓ Design with inclusive and context-driven frameworks
- ✓ Collaborate with planners in LMICs for grounded solutions.
- ✓ Test and adapt models using real community feedback, check your biases & blindspots.

AFRO SAFE

Thank you!

Elizabeth Akinjobi

tolulopeakinjobi1@gmail.com

Andrea Garfinkel-Castro

info@tranportfutures.org