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Ministry of Transport



Karlsruhe



The STEP UP project :

Understanding women's perceptions of safety while walking
through a Data-driven approach

Lily Scarponi, Fondazione Transform Transport ETS

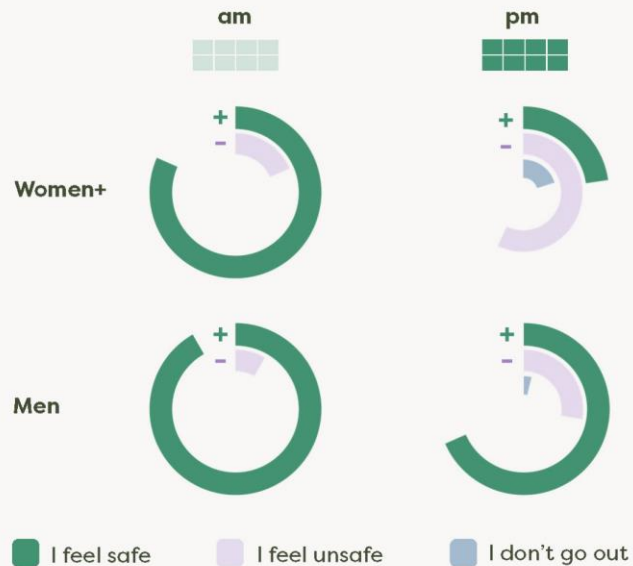
Andrea Gorrini, Fondazione Transform Transport ETS

36% of women in Italy don't go out at night because of fear.

Istat, 2018

Walking alone in Milan

Based on project survey results

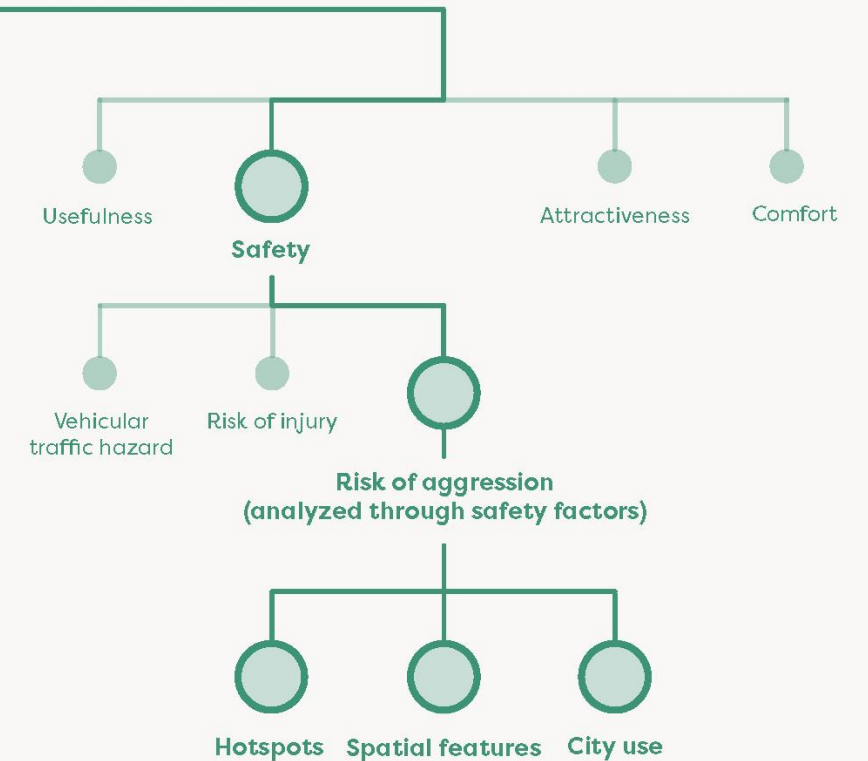


¹ Women+ is the term used to refer to individuals who identify as women, inclusive of those who are trans, gender fluid, non-binary, or prefer to self-describe.

Gender Data Gap

From walkability to safety while walking

Walkability for women+

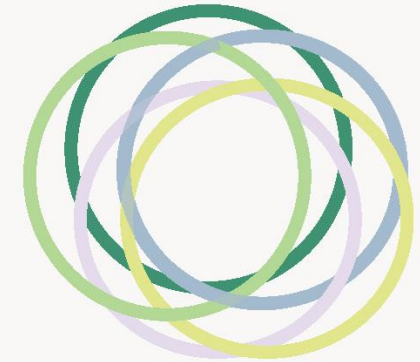


Walkability is a complex phenomenon influenced by multiple criteria. In this research, we focus particularly on the element of 'safety' in relation to the risk of aggression in public space.

An intersectional view

The intersectional approach of the project ensures that various aspects of women+'s identities are considered in the knowledge that women+'s experiences are not universal.

- Gender
- Age
- Sexuality
- Ethnicity
- Disability



How we did it

Use case definition

- Scientific literature
- Guidelines and reports
- Case studies

01

Data collection

- Location-based open data
- Wher app
- Online survey
- Focus groups

02

Data analysis

- GIS analysis and mapping
- Selection of areas for intervention

03

Policy guidelines

- Policy and design guidelines for selected areas

04

The project was carried out in **4 phases**: an initial literature review confirming the key role of perception of safety in gendered walkability; the collection of relevant data through differentiated methods and its socio-spatial analysis, to be used as a benchmark for the development of guidelines for gendered urban planning.

Use case definition

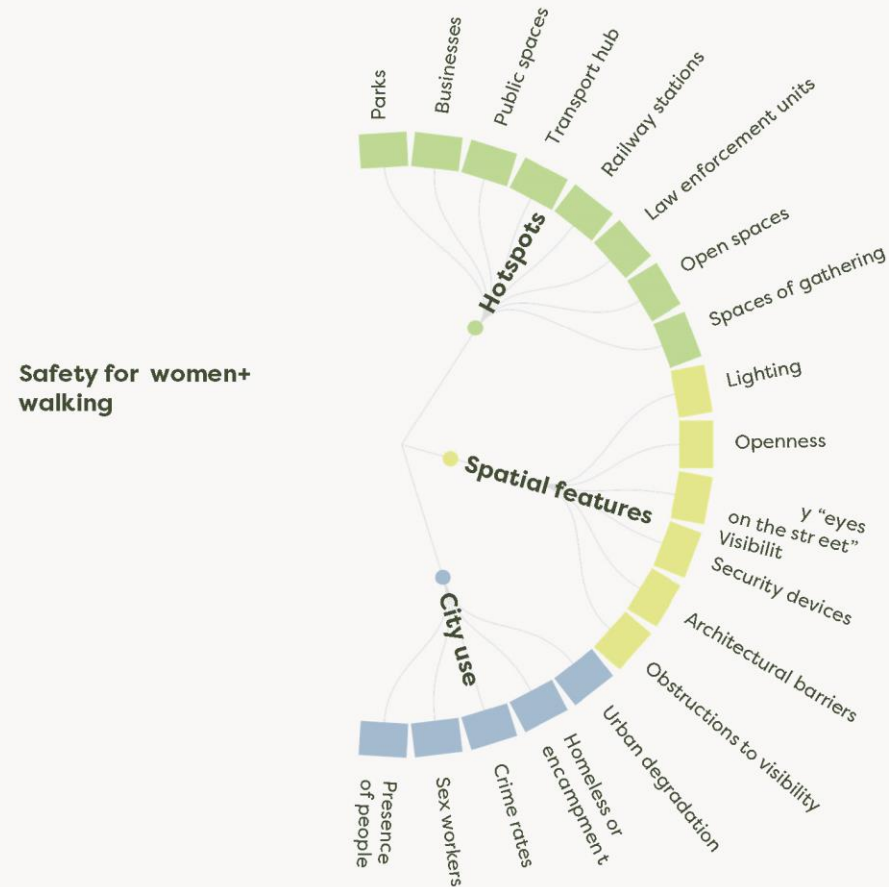
- Scientific literature
- Guidelines and reports
- Case studies

01

What we looked into

Safety factors relating to one's environment

As defined through an extensive literature review process²



² Scarponi et al. (2023). Thematic Review on Women's Perception of Safety While Walking in Public Space: The STEP UP Project. *Sustainability*, 15(21), 15636. <https://doi.org/10.3390/su152115636>

Data collection

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02

	L2 - Safety Factors	Indicators	Dataset
1	Lighting	- Density of Public Lighting	- ILP_MI_ESER_CorpoIlluminante
2	Openness	- Ability to see and move in all directions	- DBT_Sup_strade
3	Visibility “eyes on the street”	- Density of F&B - Percentage of Perpendicular Building Curtains	- CdM_Pubblici Esercizi +CdM_Esercizi_Fuori_Piano - DBT 2020 - Strato 02 - IMMOBILI ED ANTROPIZZAZIONI
4	Obstructions to visibility	- Count of dividing elements - Count of isolated trees	- DBT_Elementi divisori - CdM_Alberi
5	Architectural Barriers	- Length of tunnels - Length of bridges - Average Distance from Crossings	- DBT_Gallerie - DBT_Ponti - OSM_Autostrade
6	Security devices	- Density of Security Devices	- Length of tunnels - Length of bridges - A2A_Colonnine_SOS

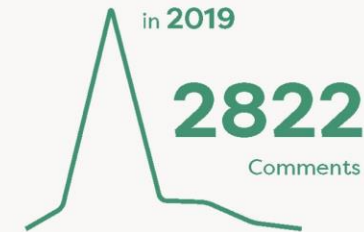
Wher we got the data

One of the fundamental sources of data guiding the spatial analysis is data gathered from Wher, a safety reporting app designed for women+ and owned by the STEP UP partner, Walk21 foundation.

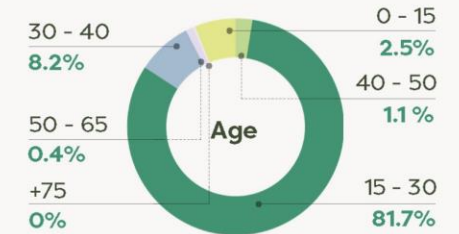
Over the course of several years, a total of nearly 70,000 ratings were posted, covering over two thirds of roads across the city of Milan. The app allows users to rate their perceptions of safety on a 3-point scale from low (Avoid) to high (Go easy). Each vote is georeferenced on the map and some are supplemented with a comment for elaboration. Despite the volume of data available, the data distribution presents some limitations, particularly in relation to user age and rating distribution over time.

Wher data

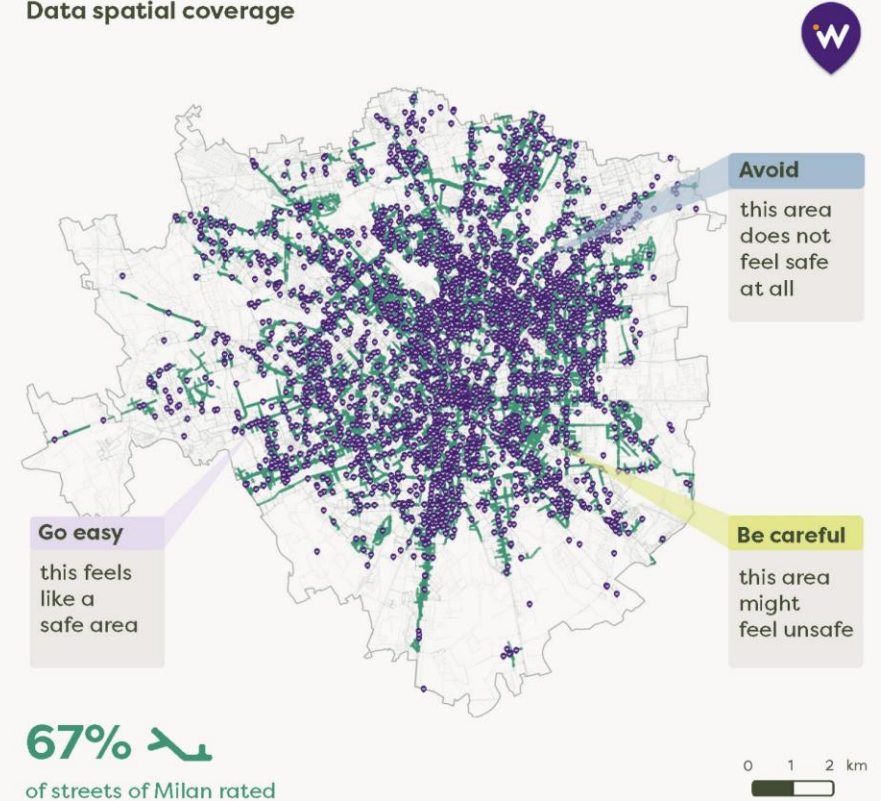
Data timeline



Demographic distribution



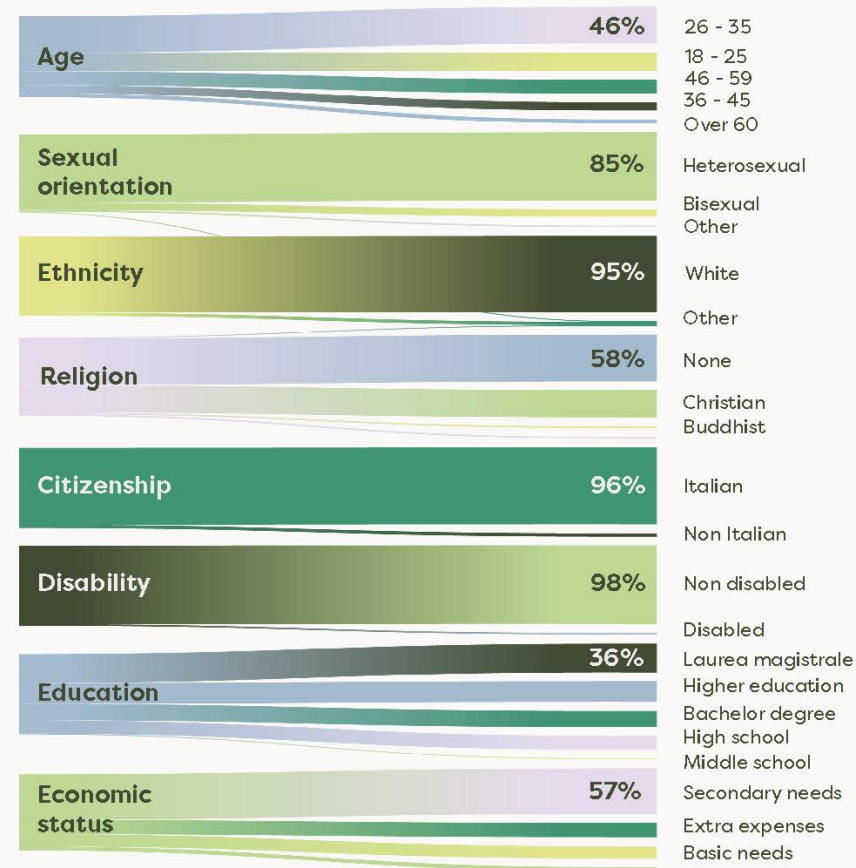
Data spatial coverage



Survey: Who was considered

Safety factors relating to one's identity

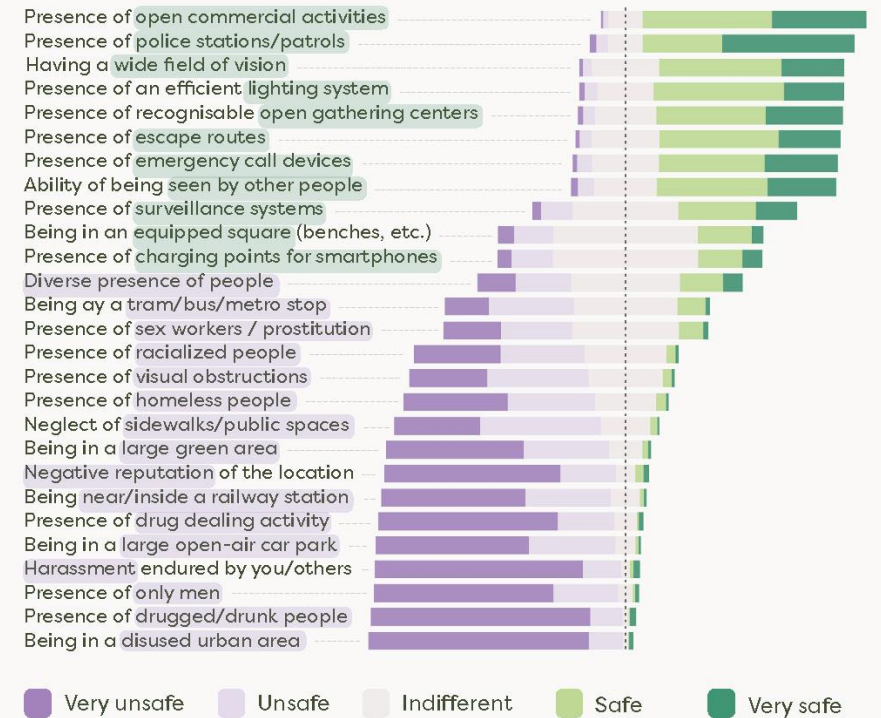
Women and gender minorities (92%)³



³ Values represent over 1800 responses from the survey, focused on collecting the socioeconomic profiles of respondents to better understand differences in perceptions of safety across demographics.

Perception counts

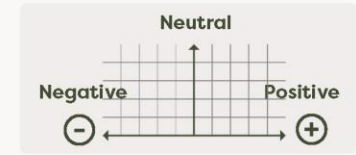
Safety perception of women+



“Crowded and busy streets” sentiment analysis (by location)



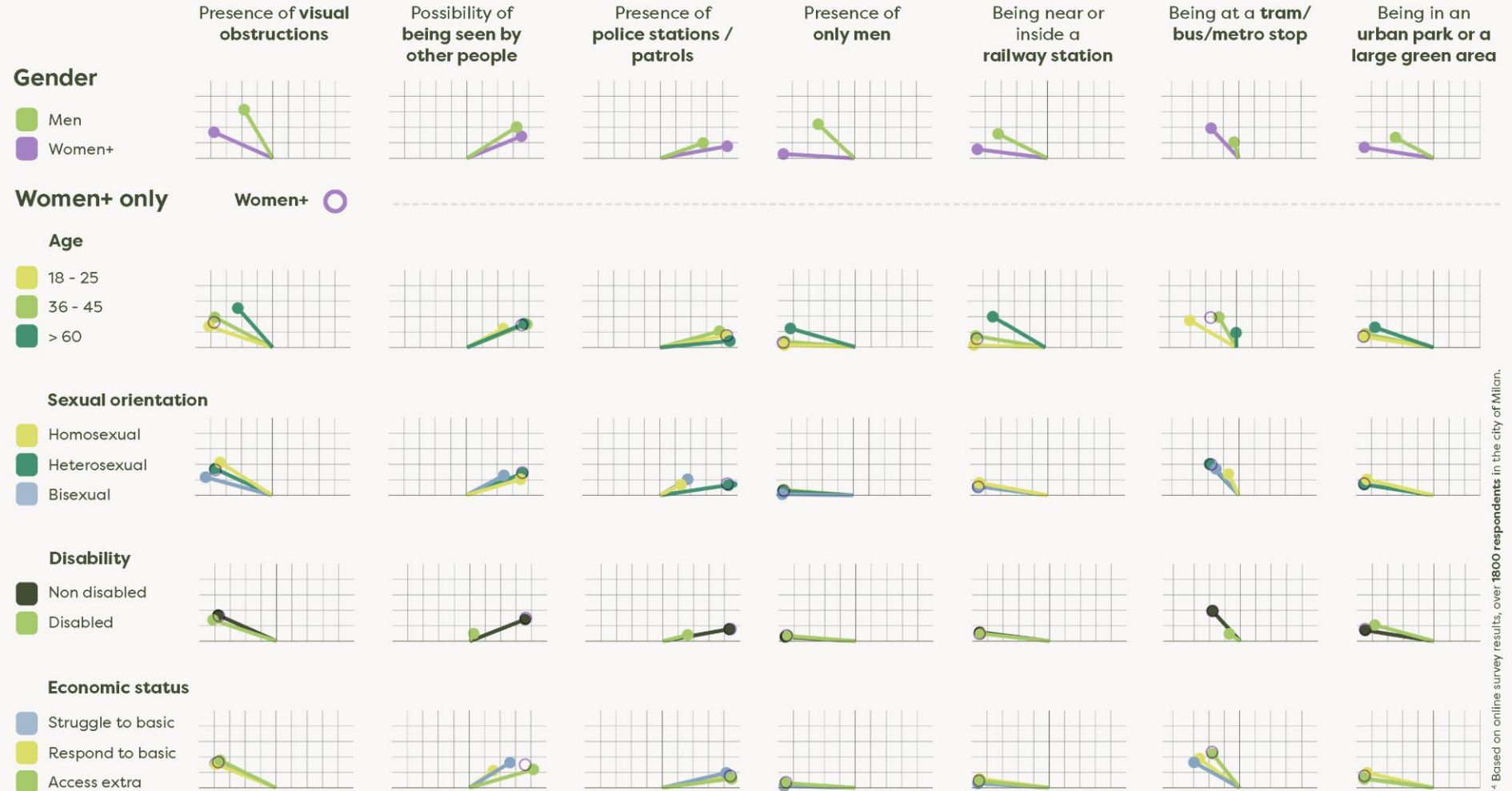
What matters to *you* while walking at night?



Data analysis

- GIS analysis and mapping
- Selection of areas for intervention

03



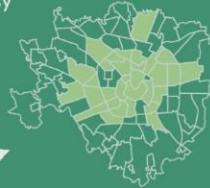
How can we make positive improvements?

Location-based open data

Indicators describing city characteristics

Wher App data

Perceived safety as observed safety



Geographic regression model

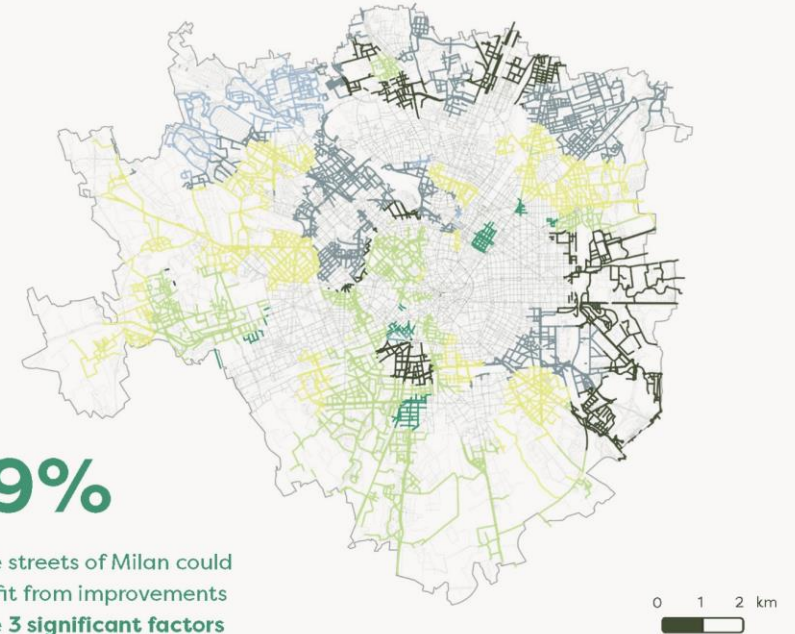
Statistical process to define significant variables

Safety index

Perceived safety as predicted values



How can we make Milan feel safer?

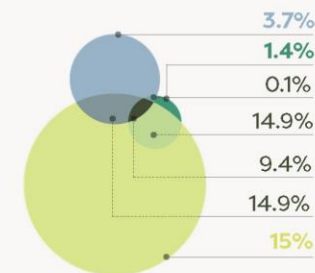


59%

of the streets of Milan could benefit from improvements of the **3 significant factors**

Food & Beverage Public Lighting Public transport

Percentages of network



Streets kilometers



From findings to action

1/ **Develop** methodologies for urban policies that carefully consider gender and intersectional differences, such as age, economic ability, and ethnic backgrounds, and respond to everyone's needs.

2/ **Include** women+'s voices in mobility data and to employ multimodal data collection methods, consistent with the specific needs of women and gender minorities and their travel behaviors.

3/ **Engage** diverse women, gender minorities, and underrepresented groups in planning and decision-making, co-developing the public realm while incorporating qualitative insights often overlooked in quantitative analyses.

4/ **Supplement** measurable outcomes with explicit targets to be routinely evaluated and monitored in the city's strategic plans and visions, considering gender equality as an issue that affects all public policies.

5/ **Appoint** targeted planning bodies for the management of nighttime economies, tasked with developing gender-sensitive strategies for nighttime urban safety and turning the night into an opportunity for everyday life.

6/ **Reframe** the issue of safety into a progressive narrative and actionable product that focuses on ways to enhance the urban landscape for higher safety perception(s) and avoids problematizing specific locations or people.

7/ **Develop** urban solutions in response to the problem of security capable of interpreting in a thorough and complex manner the aspects of the city that contribute to the perception of fear.

8/ **Implement**, through the idea of the city of proximity, policies capable of revitalizing urban space, guaranteeing constant natural surveillance through their use by people of different ages, gender, background, etc.



**Thank you for
your attention!**

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