



The MoDoS project

-

A Framework to assess Soft Mobility of the Elders

Hes·SO

Haute Ecole Spécialisée
de Suisse occidentale

Fachhochschule Westschweiz

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Also with the invaluable participation of local public actors (governmental and associative) active in the field of mobility, urban planning, and care for the elders.

The Challenge of Ageing and Mobility

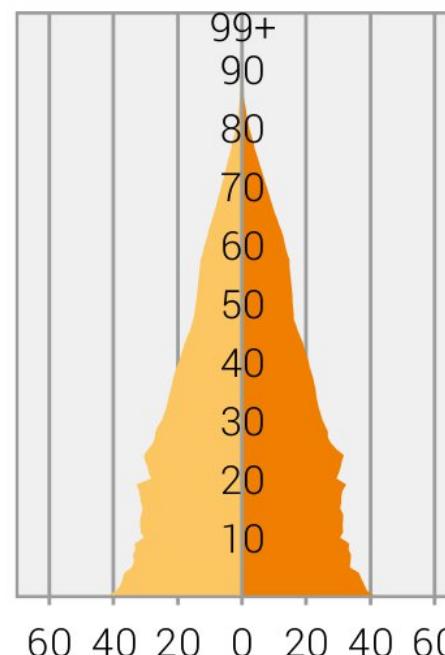
Age structure of the population

Number of people in 1,000

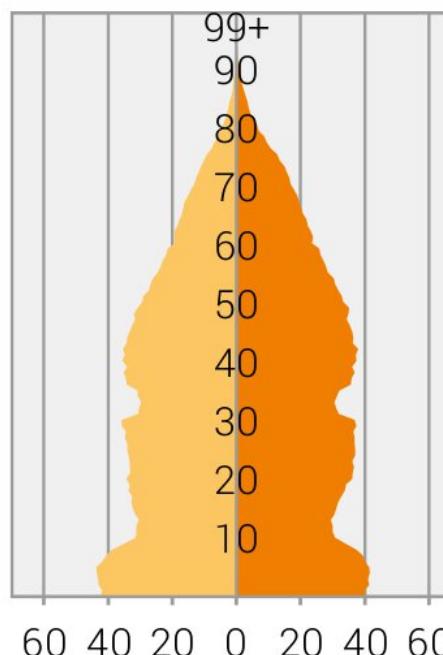
G 17



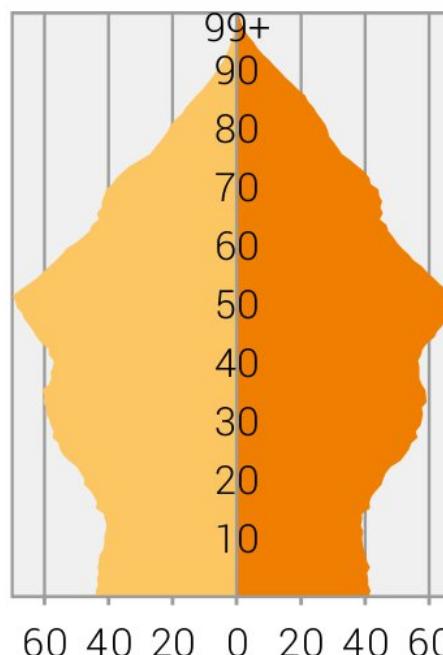
31st of December 1900



31st of December 1950



31st of December 2015



Men

Women

The Challenge of Ageing and Mobility

In 2015 in Switzerland,
+80% (2.7 millions people) **65+ y.o. (elders)** by 2045,
~69 y.o.: average age of people beginning to encounter mobility issues
79-80 y.o.: increasing discomfort when moving around,
~20% : people with any kind of disabilities (1.7 million people)



Sloping or slanting areas, holes, obstacles, ...: most important barriers to **walking**
Outdoor activities: **well beeing, health, social inclusion**
From the age of 70, walking is predominant

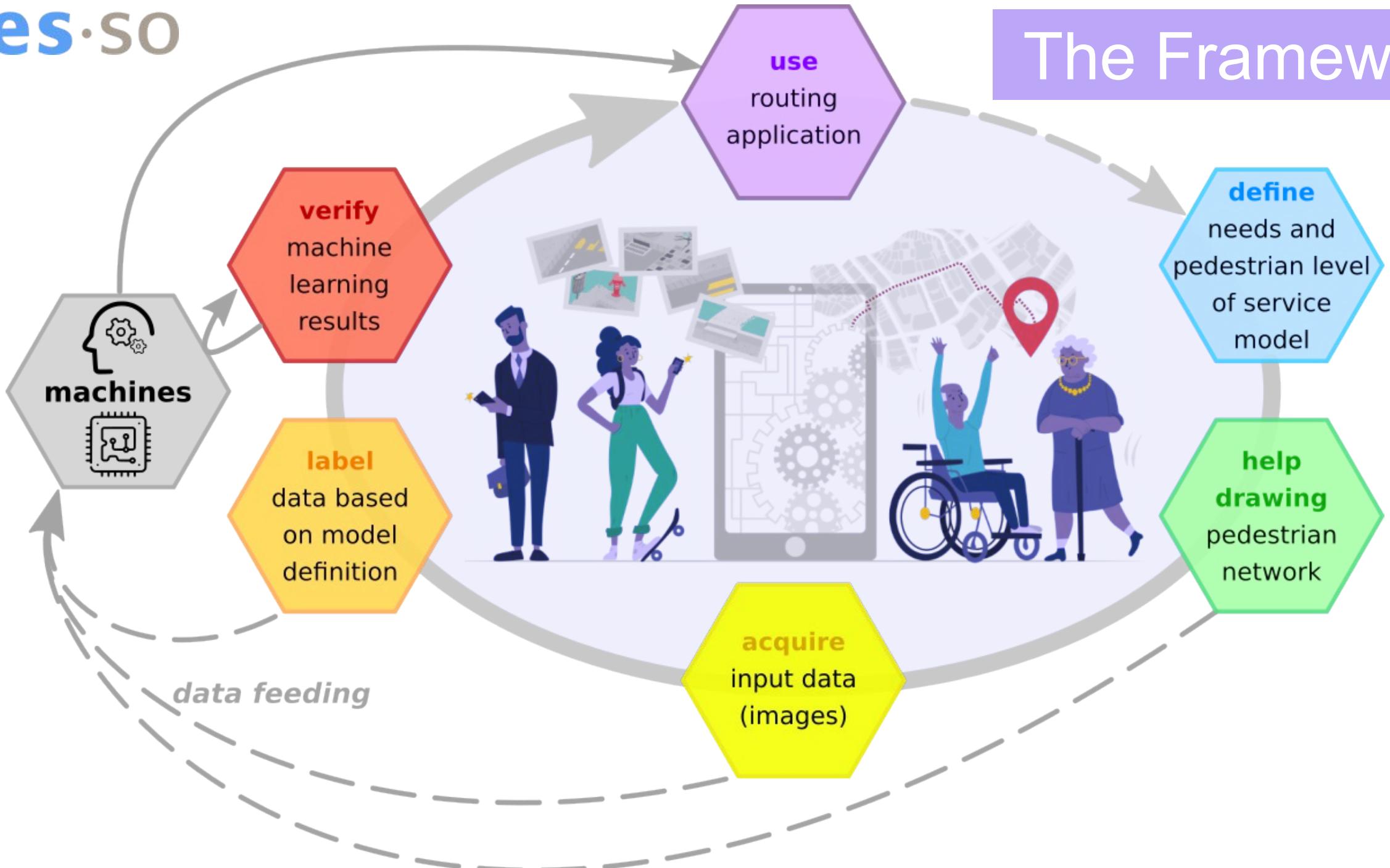
Main Goal

Promote pedestrian mobility in the elderly

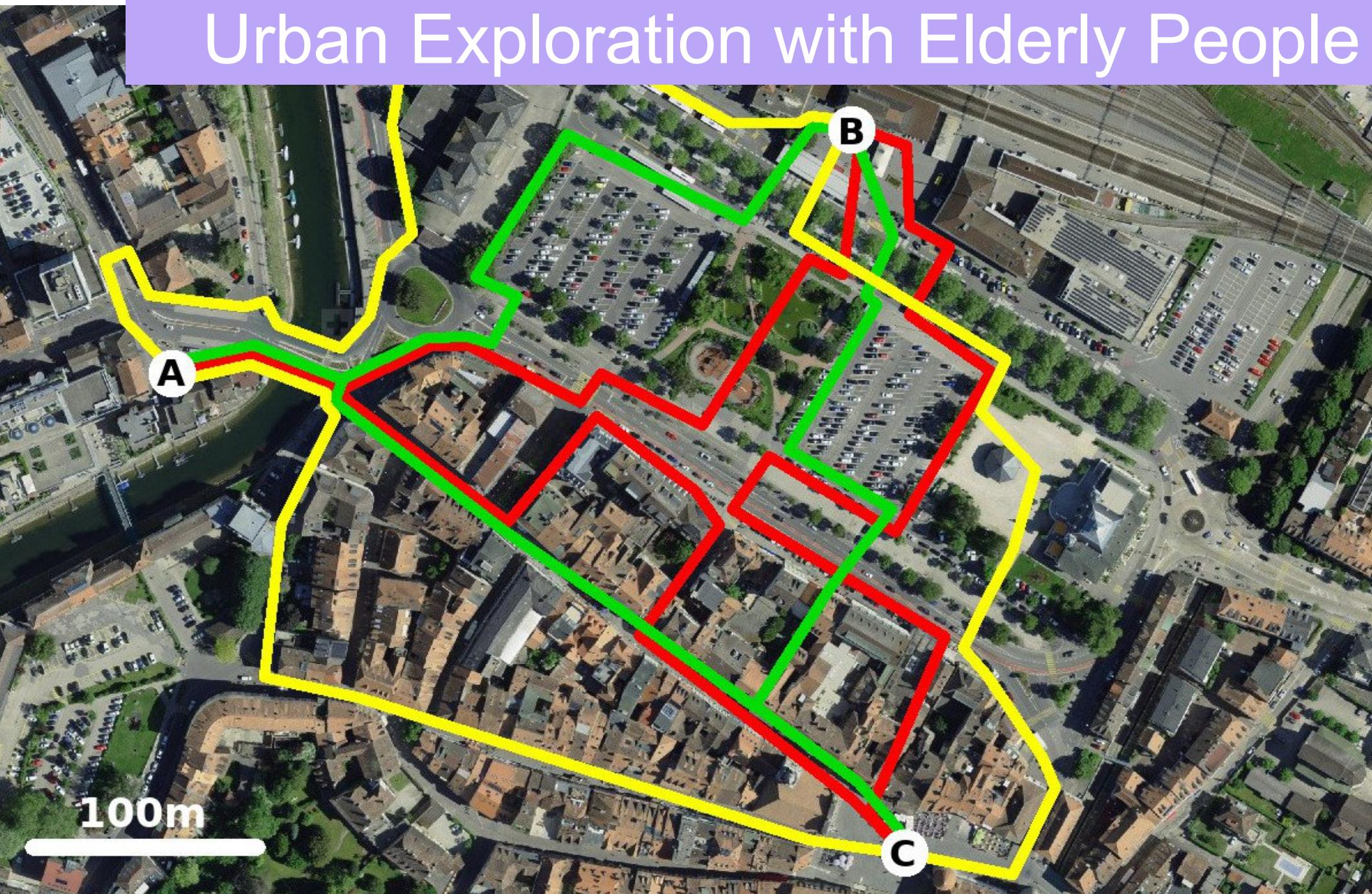
*Underlying
objective*

Influencing urban and policy makers

The Framework



Urban Exploration with Elderly People



Urban Exploration with Elderly People

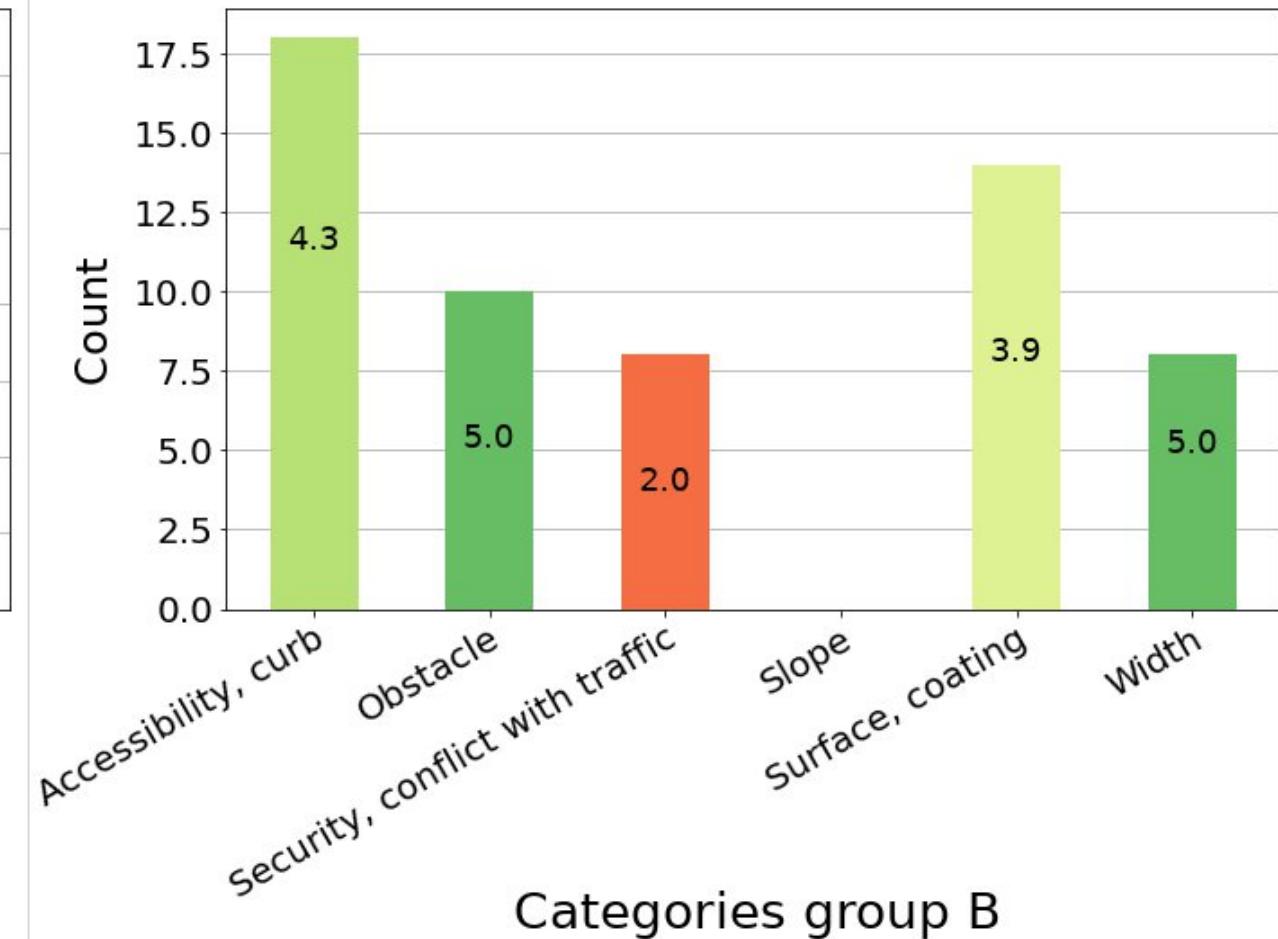
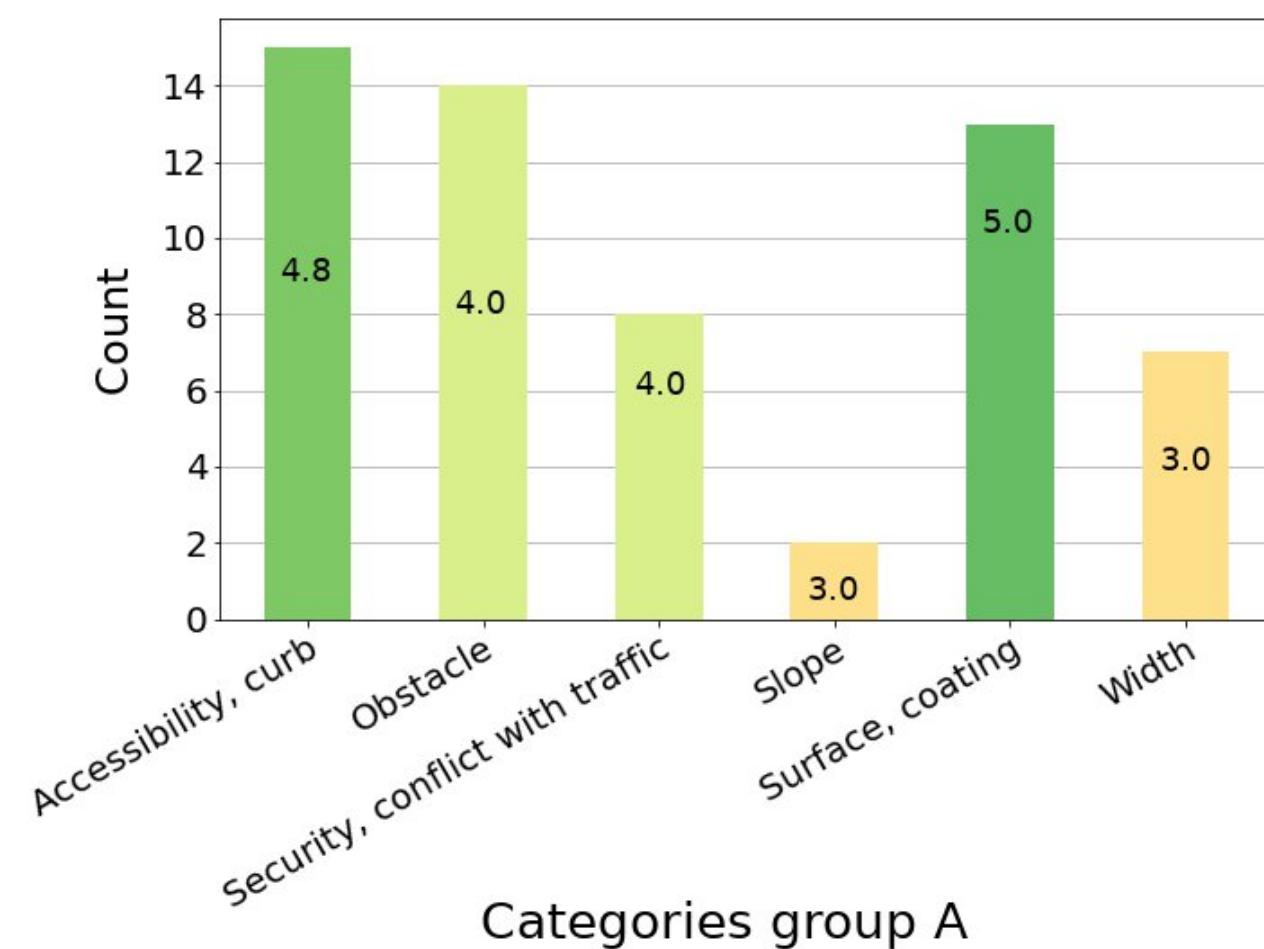


~60 obstacles identified

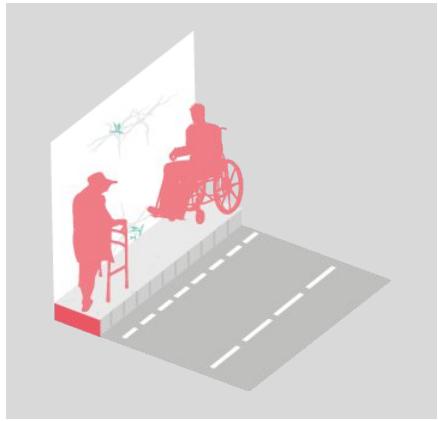
Workshops with Elderly People



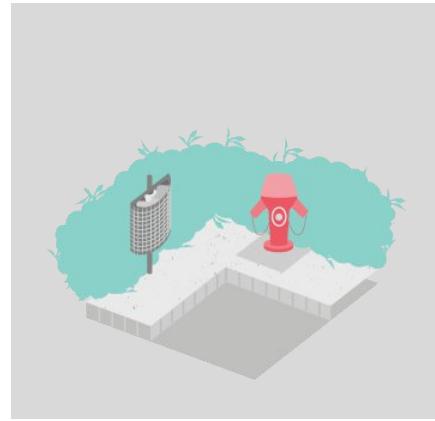
Identified obstacle categories



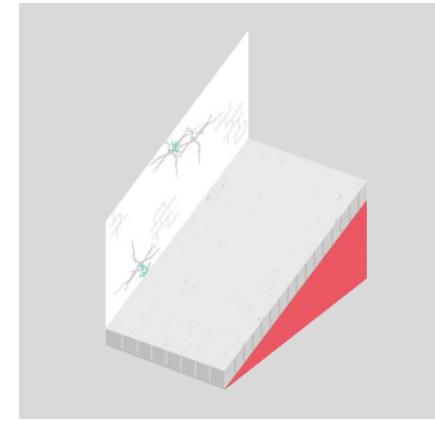
Our Final Typology of Obstacles



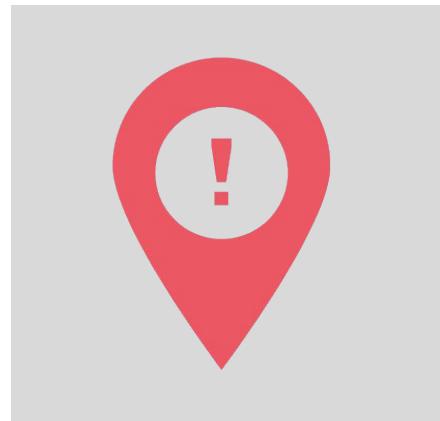
Sidewalk width



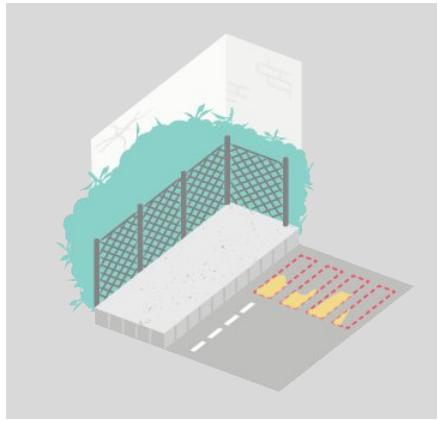
Obstacle on path



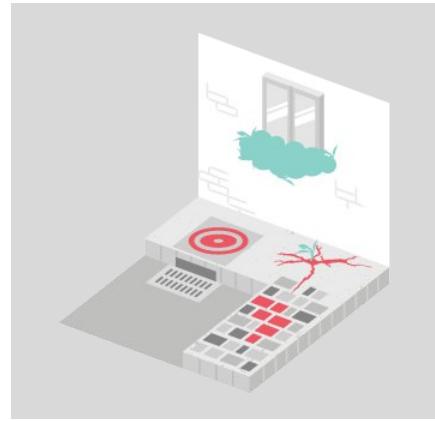
Slope



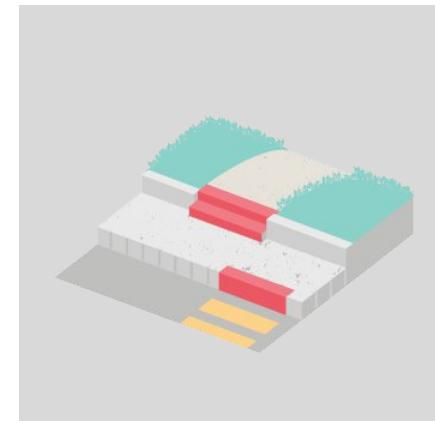
Other



Security / Danger

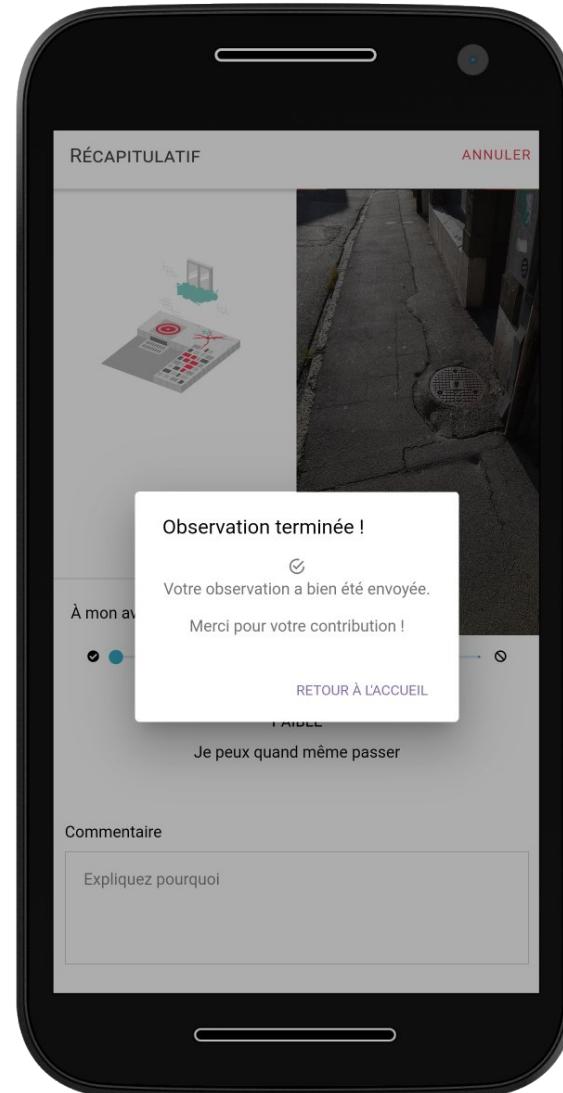
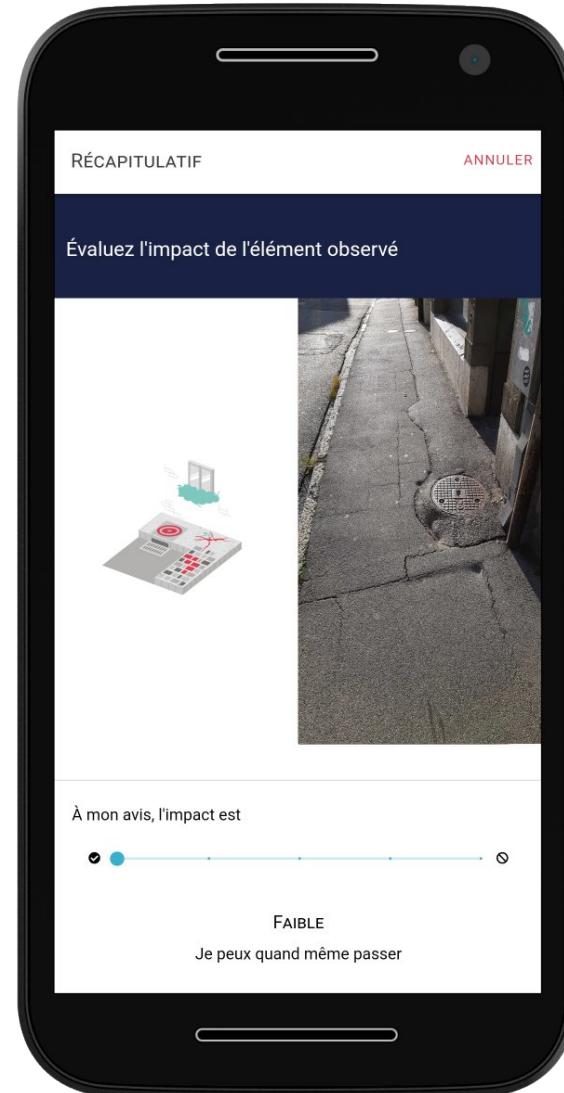
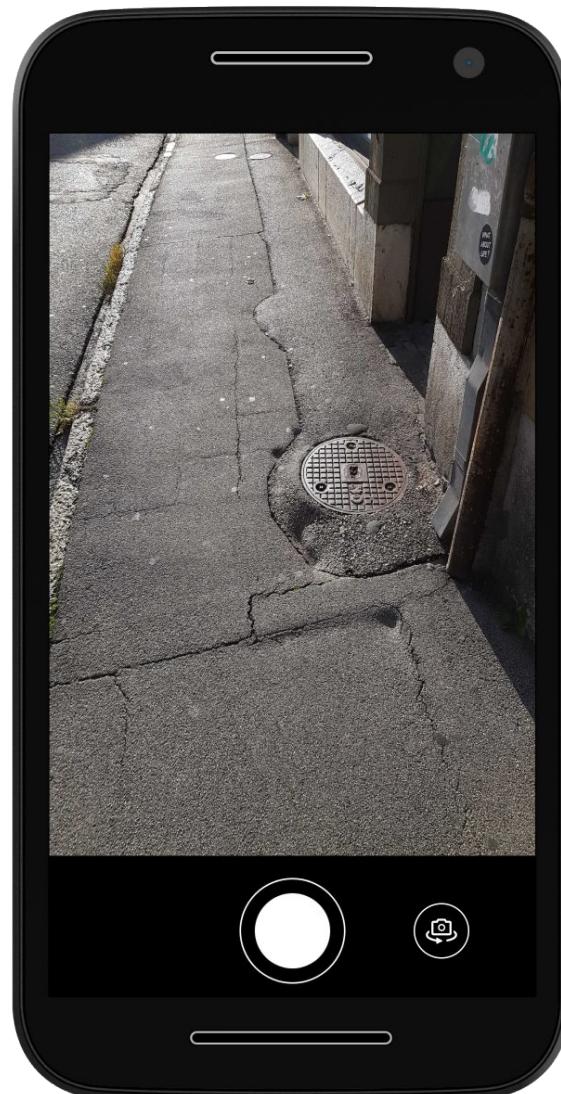
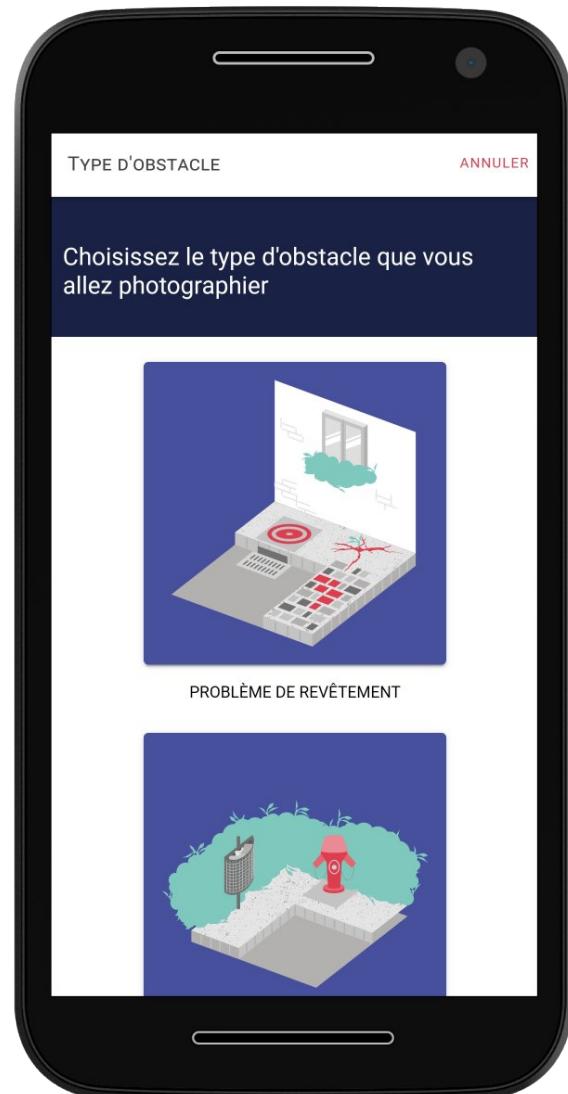


Coating problem

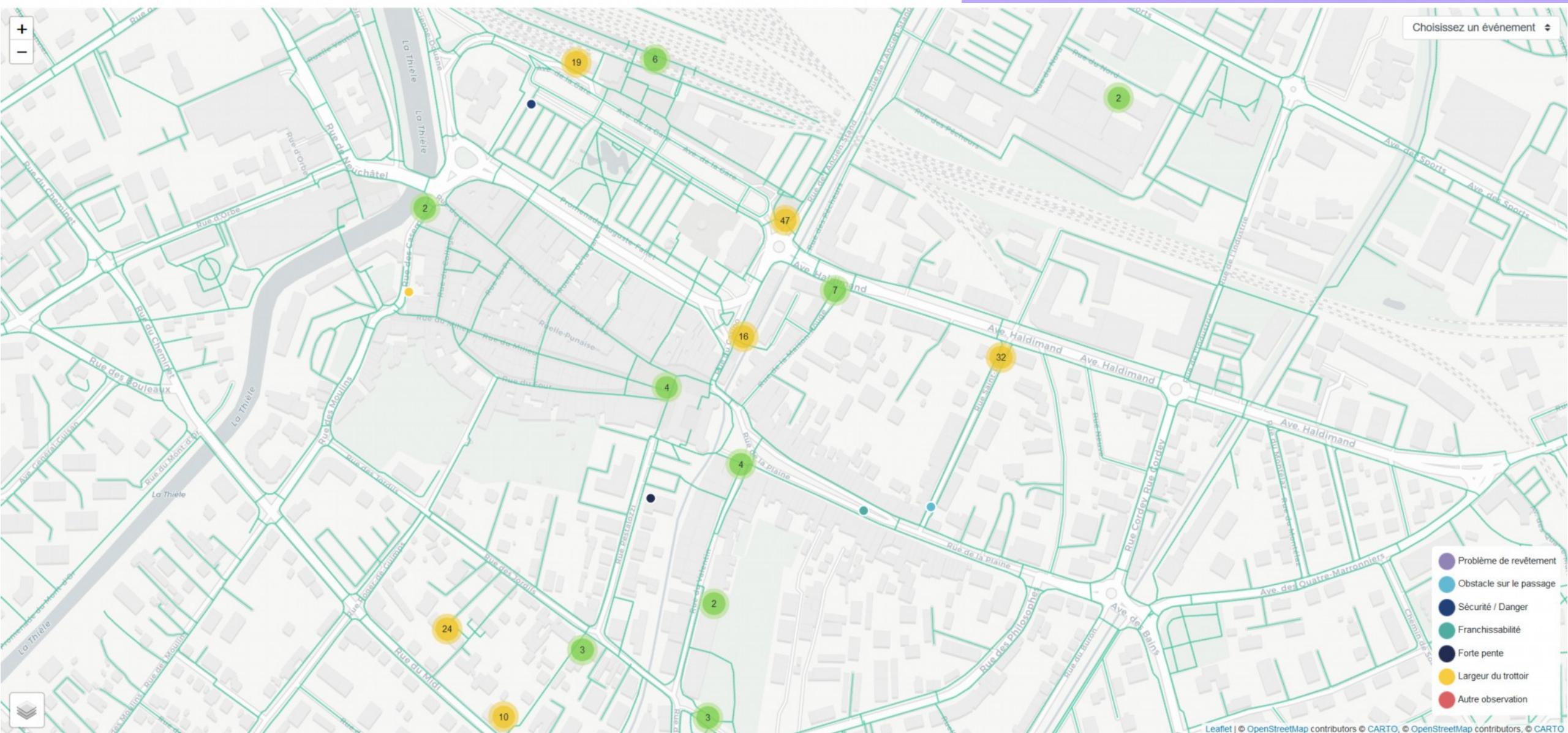


Step, accessibility

The Modos Explorer App



The Mapping Party



CONTRIBUEZ DEPUIS CHEZ VOUS

POUR AMÉLIORER LA MOBILITÉ PIÉTONNE DE VOTRE VILLE

De quelle manière voulez-vous contribuez ?



Labélisation d'obstacle

Analysez des photographies pour identifier d'éventuels obstacles à la mobilité piétonne



Evaluation des obstacles

Évaluez l'impact de plusieurs obstacles en fonction du profil de mobilité des usagers



Validation des obstacles

Parcourez les obstacles déjà évalués par d'autres utilisateur, et validez leurs observations

The Sofa App



Session anonyme 0 pts

Défis du jour

Labeliser 10 obstacles 0 / 10

Evaluer 5 obstacles 0 / 5

Valider 10 obstacles 0 / 5

Mes observations



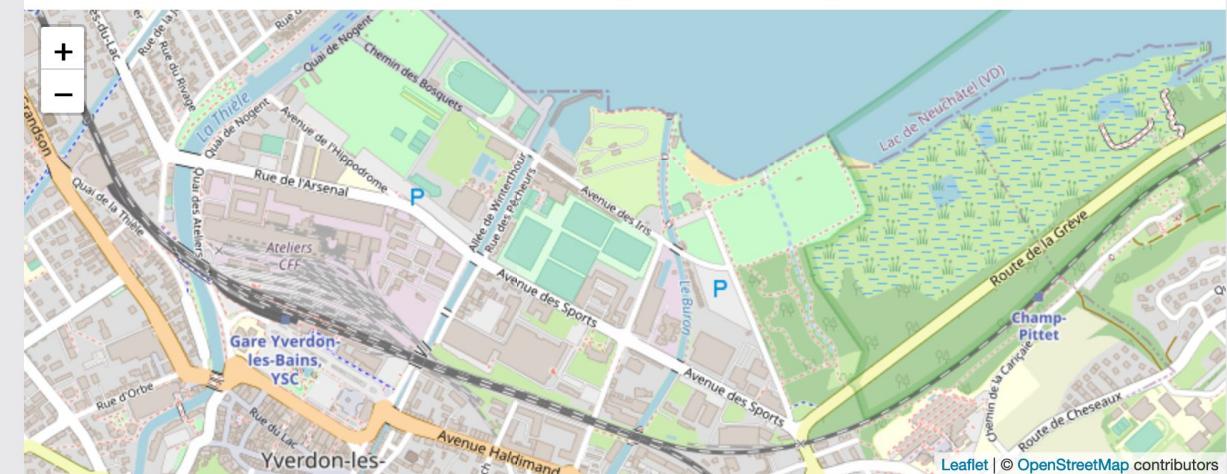
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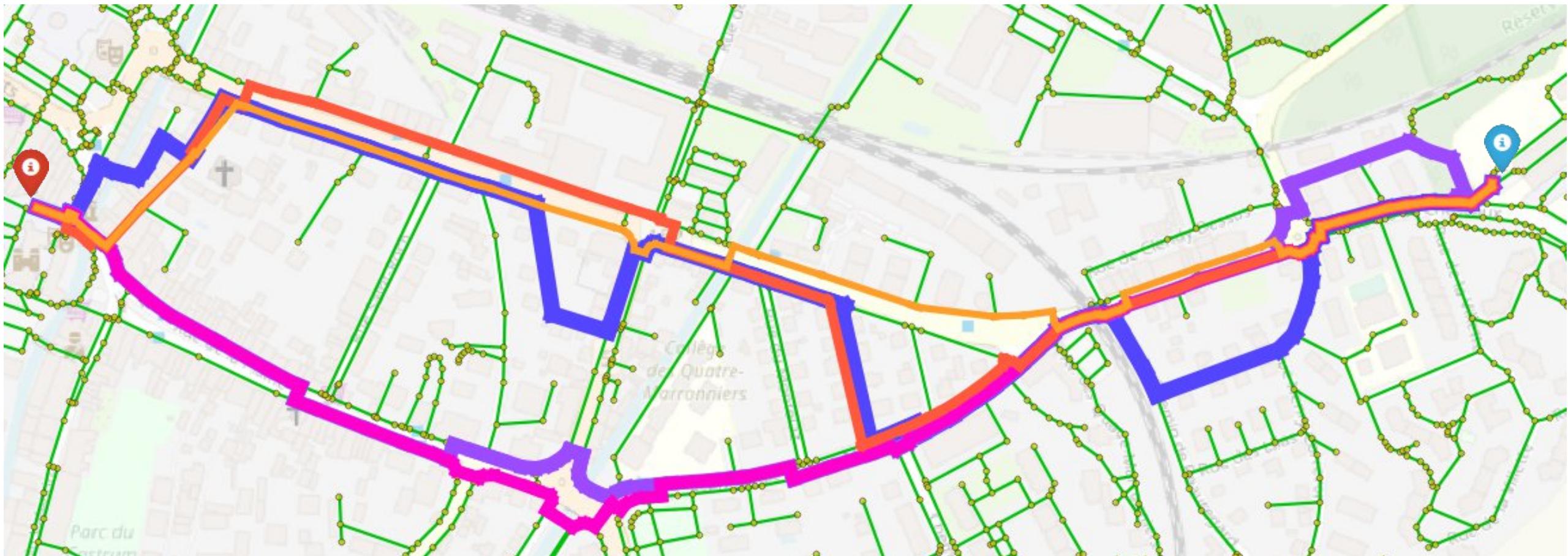


Deconnexion

Leaflet | © OpenStreetMap contributors



Weighting of the edges of the pedestrian network for a user profile



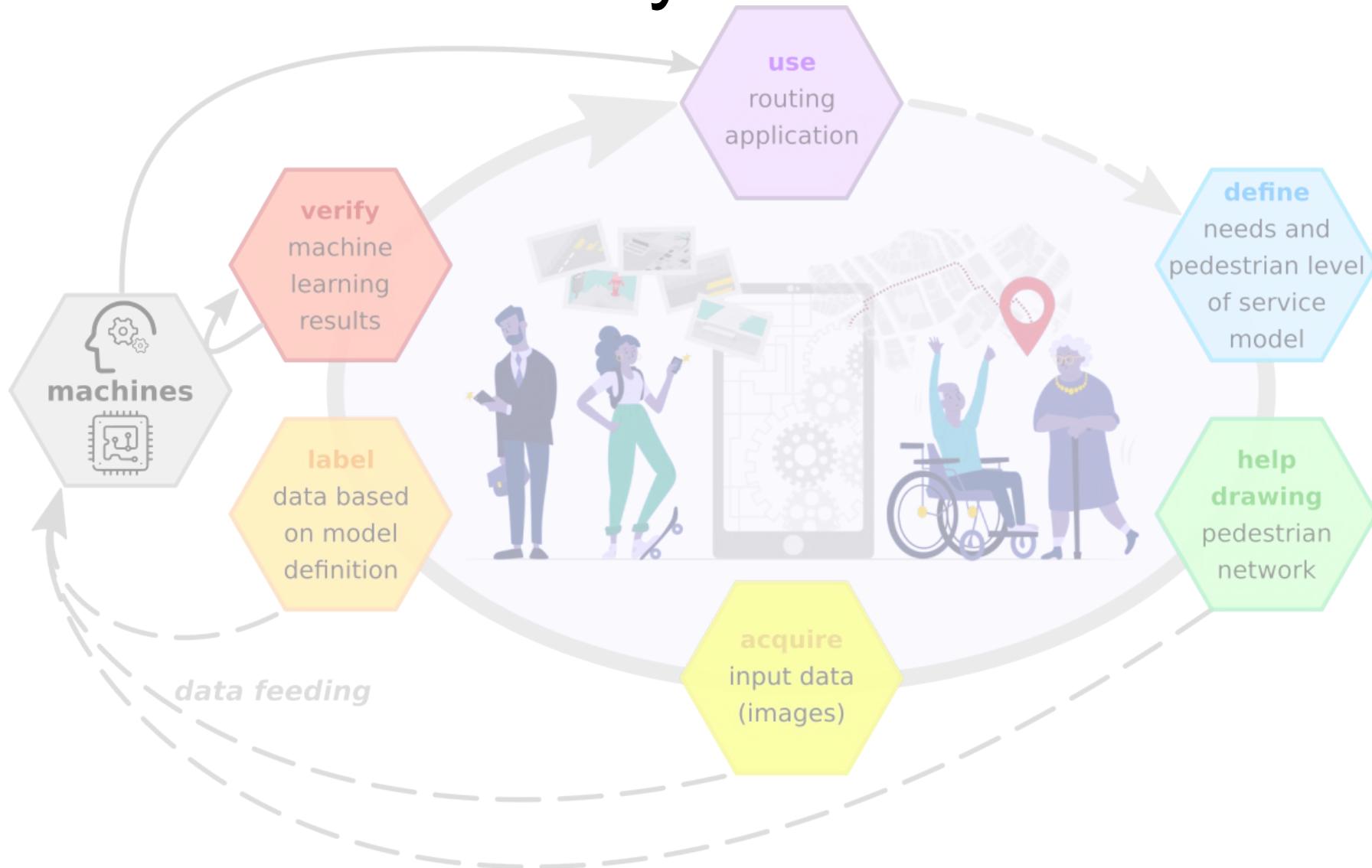
One starting point (📍), one destination point (📍), many user profiles...

Volunteers play a **central** role as they:

- **Develop** and **correct** the pedestrian network
- **Provide** data (images, comments)
- **Label** data
- **Validate / consolidate / invalidate** labels
- **Verify** machine learning results

Constant contact with the local municipality and the senior citizen to better integrate the results to the local decisions for urban development.

Thanks for your attention!



<https://modos.heig-vd.ch/> (main page, contact)

<https://modos.isc.heia-fr.ch/> (sofa app)

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