

Residential Bicycle Parking: Analysis of Urban Streetscapes

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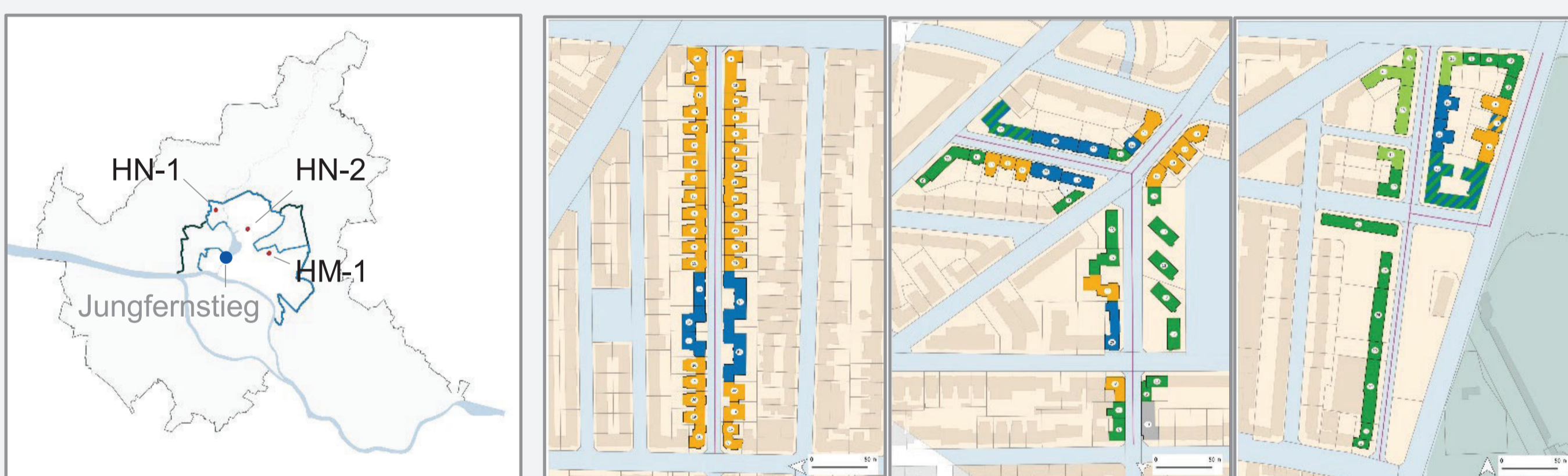
1 Introduction

Making cycling more attractive means reducing hurdles to getting on a bike, including improving residential bicycle parking. In dense urban areas, bicycle parking can be enabled or hindered by micro-scale arrangements of public and private street space.

2 Method Overview

The study aim is to gather rich information about how bicycle parking is variously afforded on the micro scale at the edge of public and private space on urban residential streets.

- Data Collected: (1) Location and locking of parked bicycles and micromobility devices, (2) open space uses and features, (3) signage, and (4) additional building data. Mapping focused on the space between building facades, including public space and private front open space.
- Case Selection: The three street cases are in two districts (Bezirke) in Hamburg, Germany. Buildings are 4-6 stories tall and primarily residential. One case is extreme, two cases have mixed building age typologies.



Case	Extreme (HN-1)	Mixed (HN-2)	Mixed (HM-1)
Distance to Center (Jungfernstieg)	6.3 km (22 min)	5 km (18 min)	4.8 km (16 min)
Number of apt. buildings	40	31	22
Number of primary entrances	49	54	50
Street canyon width (approx.)	16 m	16 m	23 m

Gründerzeit 1930s/30s 1950s/60s

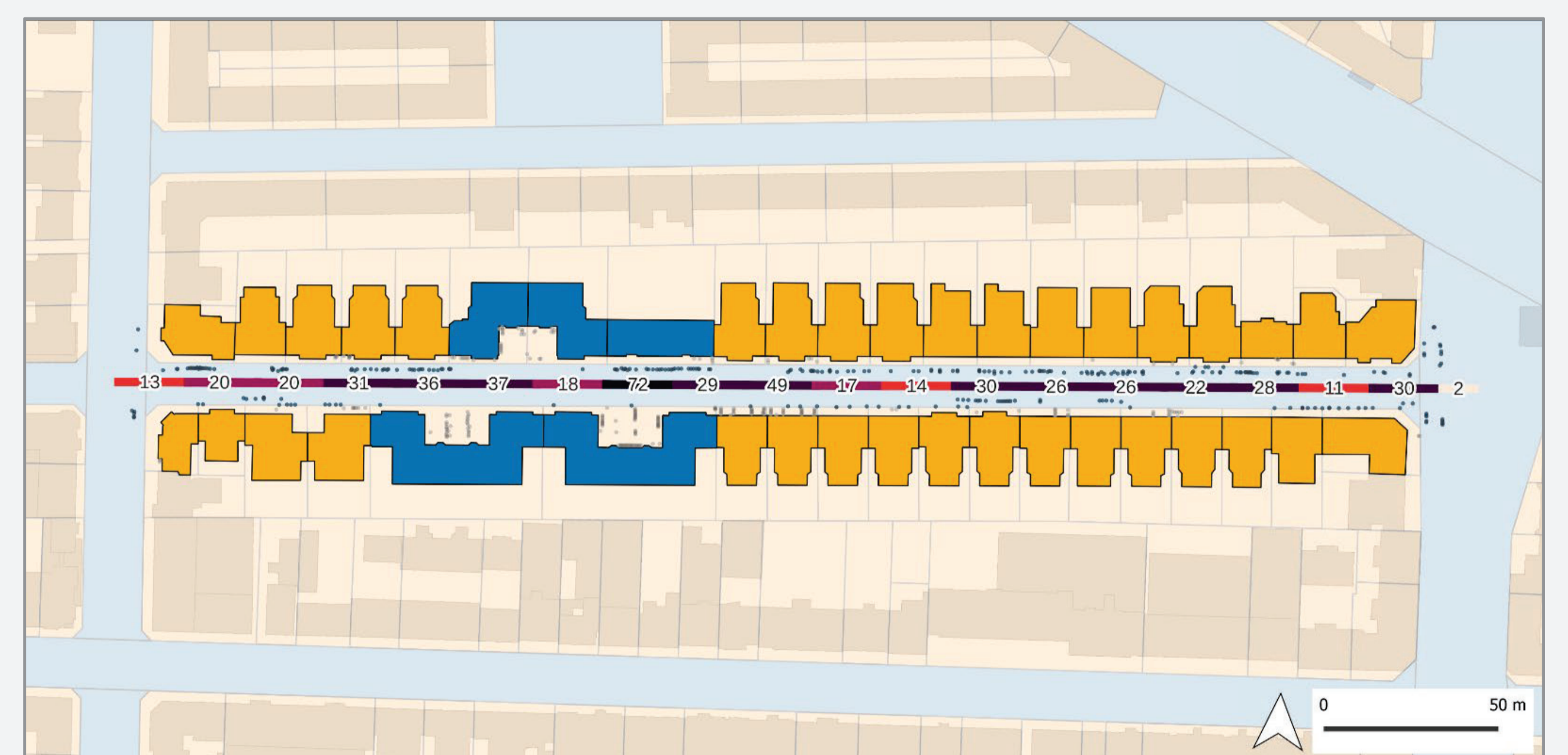
3 Materials



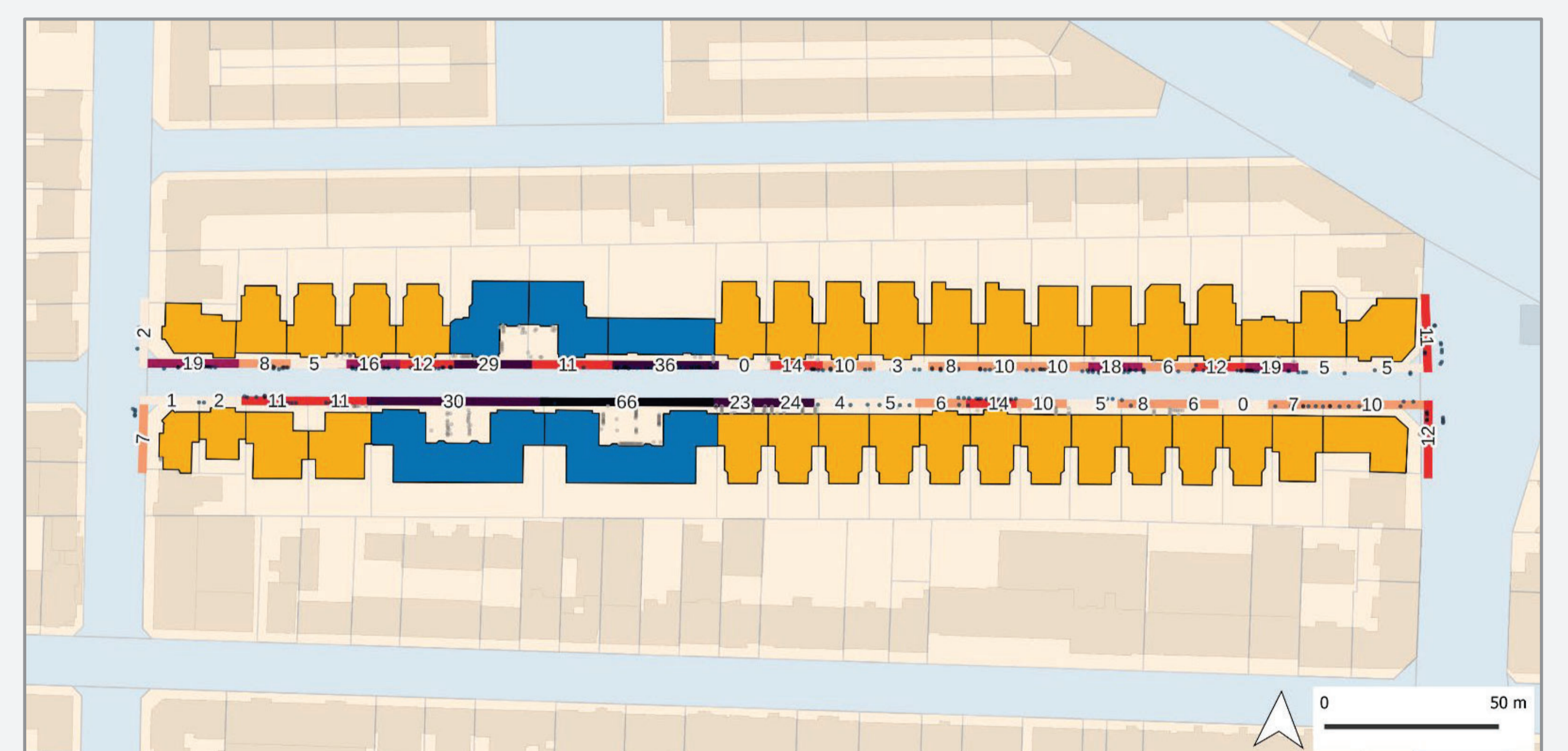
Example "sidewalk view" photo taken during data collection (Source: Julia Sievert)

- Materials used during on-site data collection: 1:250-scale printed maps, spreadsheets, and photos.
- Data collection took place on six days in July – August 2023. Each site was visited twice.
- Results were digitized in QGIS.

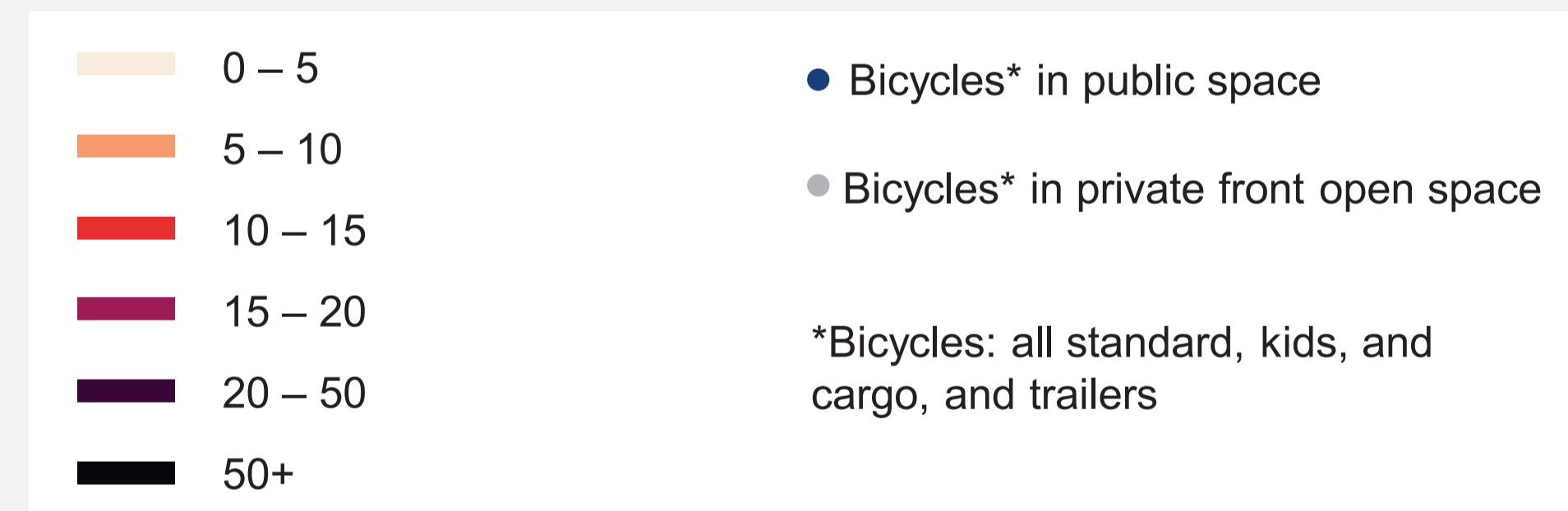
4 Results and Discussion



HN-1 (Extreme case): Number of parked bicycles* – Street centerline – 20m Segments



HN-1 (Extreme case): Number of parked bicycles* – Sidewalk centerline – Split at plot lines



Case	Extreme (HN-1)	Mixed (HN-2)	Mixed (HM-1)
Number of bicycles (standard, kids, cargo, bike trailers)	531	328	101
% of bicycles in public space	54 %	66 %	40 %
... in private space	46 %	34 %	60 %
Number of micromobility devices	566	370	122

5 Next Steps

- Develop categories for types of front open space arrangements.
- Analysis of additional collected variables and data, including bicycle locking, signage, and derived variables.
- Analysis of mobility survey data and population statistics.
- Investigation of bicycle parking on private space beyond front open space.