Introduction to Data for Green Solutions at the Neighborhood Scale
## Insights from Østerbro and Nordhavn in Copenhagen

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How can data assist planners with greenspace planning now and moving forward? We asked a representative sample of residents in the Copenhagen neighborhoods of Østerbro and Nordhavn to digitally map their best and least liked green spaces and to share their visions for future green space development in the up and coming neighborhood of Nordhavn. This is an introduction to a data set collected in December 2022 - February 2023 which provides a unique opportunity for generating a baseline understanding of resident preferences for green space use and planning. Additionally, the data points towards critical challenges and opportunities for solutions to urban green transitions.
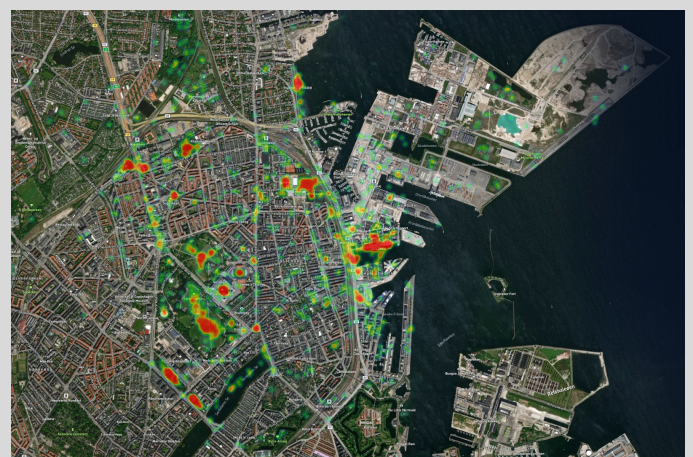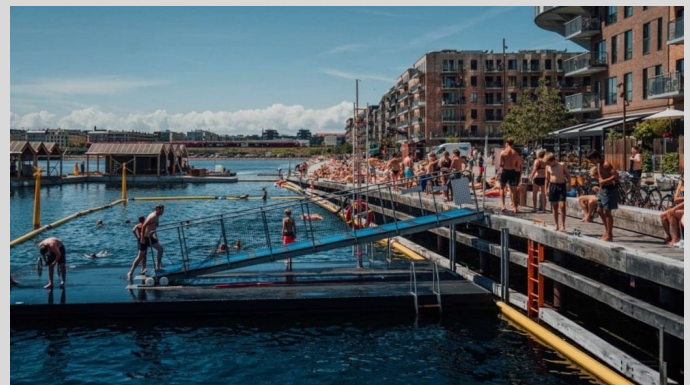
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Project Aims

In Copenhagen there is a struggle to balance increasing demand for recreational spaces with calls for biodiversity conservation. Yet little is known about residents' values regarding the city's green spaces. This data set investigates this challenge by researching preferences, values, and future visions for current and future green spaces in Østerbro and Nordhavn. Our aim is to use these neighborhood examples to better understand the diverse values associated with Copenhagen green space and the opportunities for data-driven multifunctional solutions to green space planning.

Method

Digital mapping survey delivered via e-Boks and administered with Maptionnaire to a representative sample of 12.250 residents of Østerbro and Nordhavn

- 4.607 people completed at least one mapping exercise

Survey generated demographic, spatial, and qualitative data.

- **Demographics:** gender, age, children under 18 in the home, education, occupation, income, language, and participation in sports/environmental group

- **Mapping important green spaces in Østerbro and Nordhavn:** prompt to assign each point a predetermined place value and provide further explanation

- **Mapping disliked green spaces in Østerbro and Nordhavn:** prompt to provide further explanation

- **Nordhavn activities:** frequency of visits, activities, and awareness of the coming Naturpark Nordhavn

- **Mapping participants' desires for green spaces in Nordhavn:** prompt to map where they did and did not want wild nature, sports facilities, well-maintained lawns and flowers, social areas, and other facilities and explain why

- **Hopes and concerns for Nordhavn:** regarding nature, outdoor recreation and sports facilities, experience opportunities, housing, and accessibility

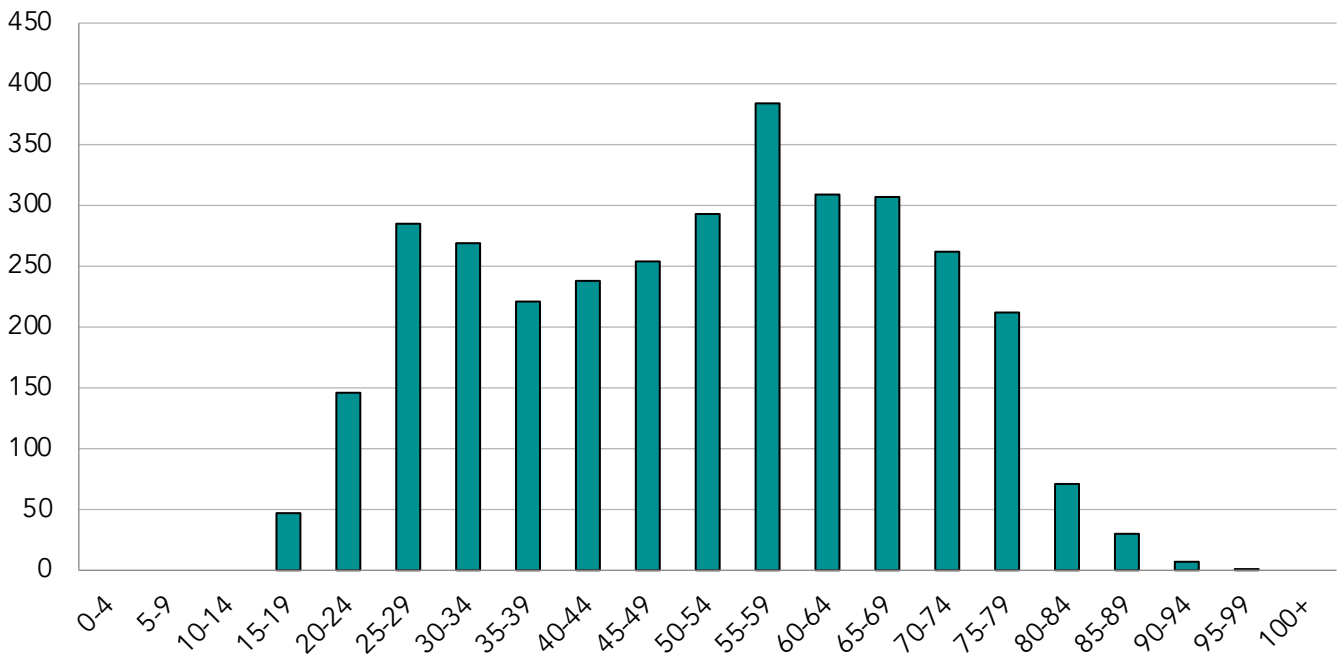# Sample Population Select Demographics

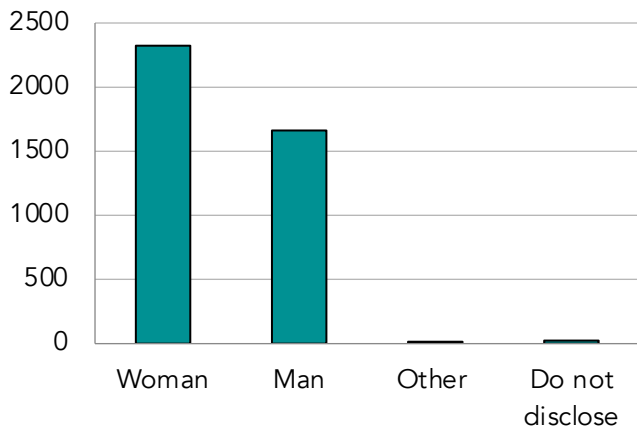## Table 1. Age

Table 2. Gender Identity
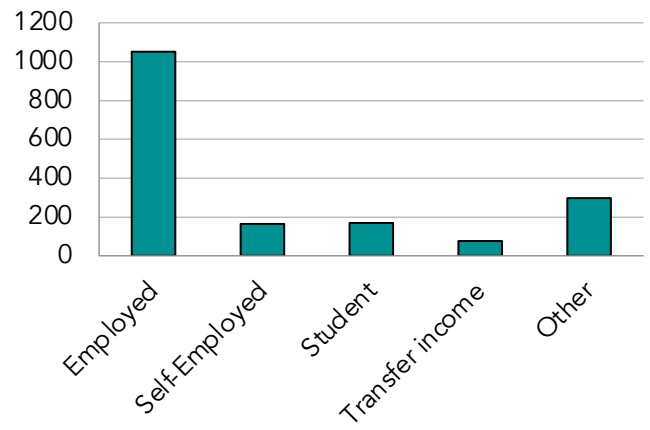

Table 3. Current Occupation

Table 4. Membership in Environmental Organization
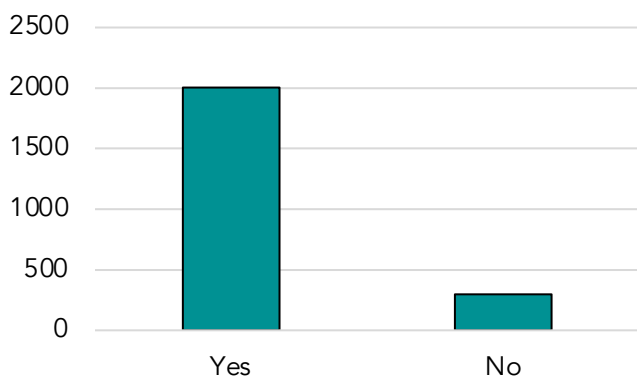
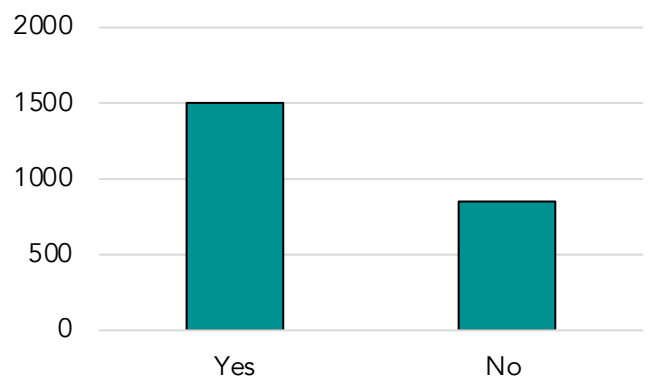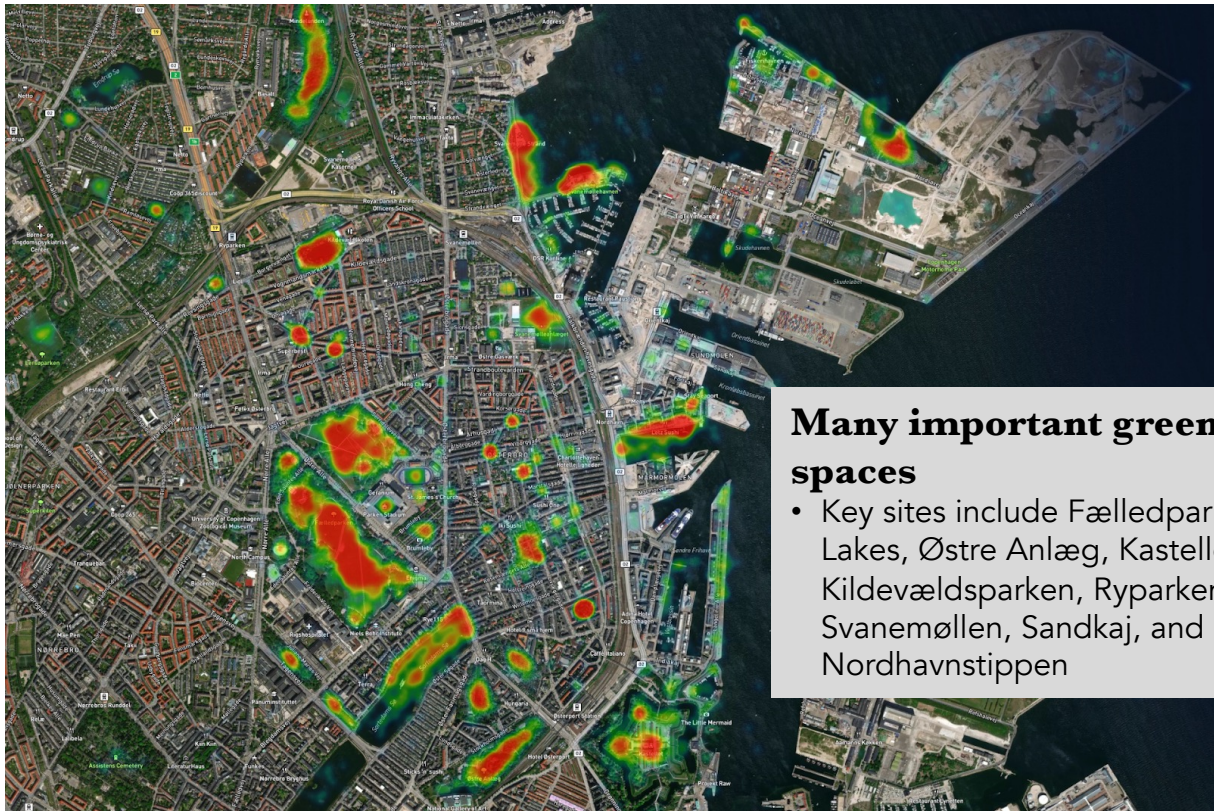## Table 5. Membership in Sports Organization

Many important green spaces
- Key sites include Fælledparken, the Lakes, Østre Anlæg, Kastellet, Kildevældsparken, Ryparken, Svanemøllen, Sandkaj, and Nordhavnstippen

Figure 1. Important Green Spaces in Østerbro and Nordhavn. Heat map depicting the 9372 points participants identified as an important green space in their neighborhood.

Disliked green spaces fewer and more disperse
- Key sites include Fælledparken, Amorparken, Gasværksgrunden, and Sandkaj / Århuskvarteret

Figure 2. Disliked Green Spaces in Østerbro and Nordhavn. Heat map depicting the 1431 points participants identified as a disliked green space in their neighborhood.
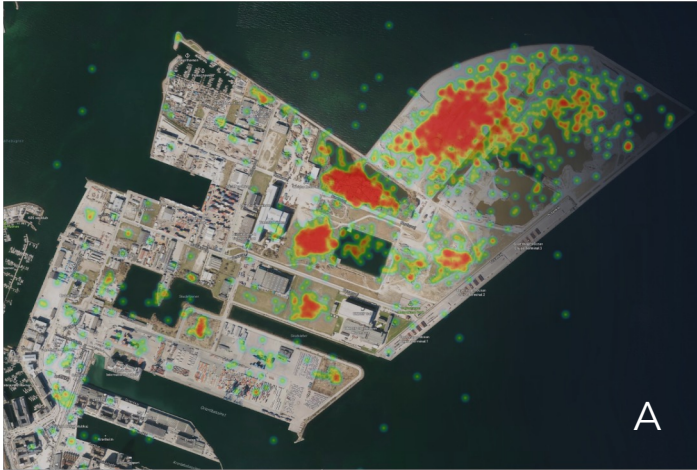
Figure 3. Desires for Wild Nature. (A) 2131 points where participants do want wild nature and (B) 138 points where participants do not want wild nature.

Figure 4. Desires for Sports Facilities. (C) 409 points where participants do want sports facilities and (D) 291 points where participants do not want sports facilities.

Strong support for wild nature areas in Nordhavn

- High concentrations of points indicating a desire for wild nature; far fewer points asking for no wild nature or sports facilities

Support for sports facilities, but in limited area

- Clear clustering of indicating sites where sports facilities are desired and where the are not wanted

Citizens' Hopes & Concerns for Nordhavn

"Ved udviklingen af nye områder er det vigtigt at give plads til naturen/vild natur."

"Det er alt for svært at komme derud på cykel fordi der er så mange lastbiler på ruten."

Future Directions for Research

Many opportunities associated with a large data set showing residents' spatially located preferences for urban green space

- What currently works in green space planning and how can we adapt these approaches for future developments?
- What are residents dislikes of urban green spaces and how can these guide planning for future urban development and densification projects?

Opportunities to work with UCPH researchers to identify research questions and use this data to find green solutions for Copenhagen.

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