

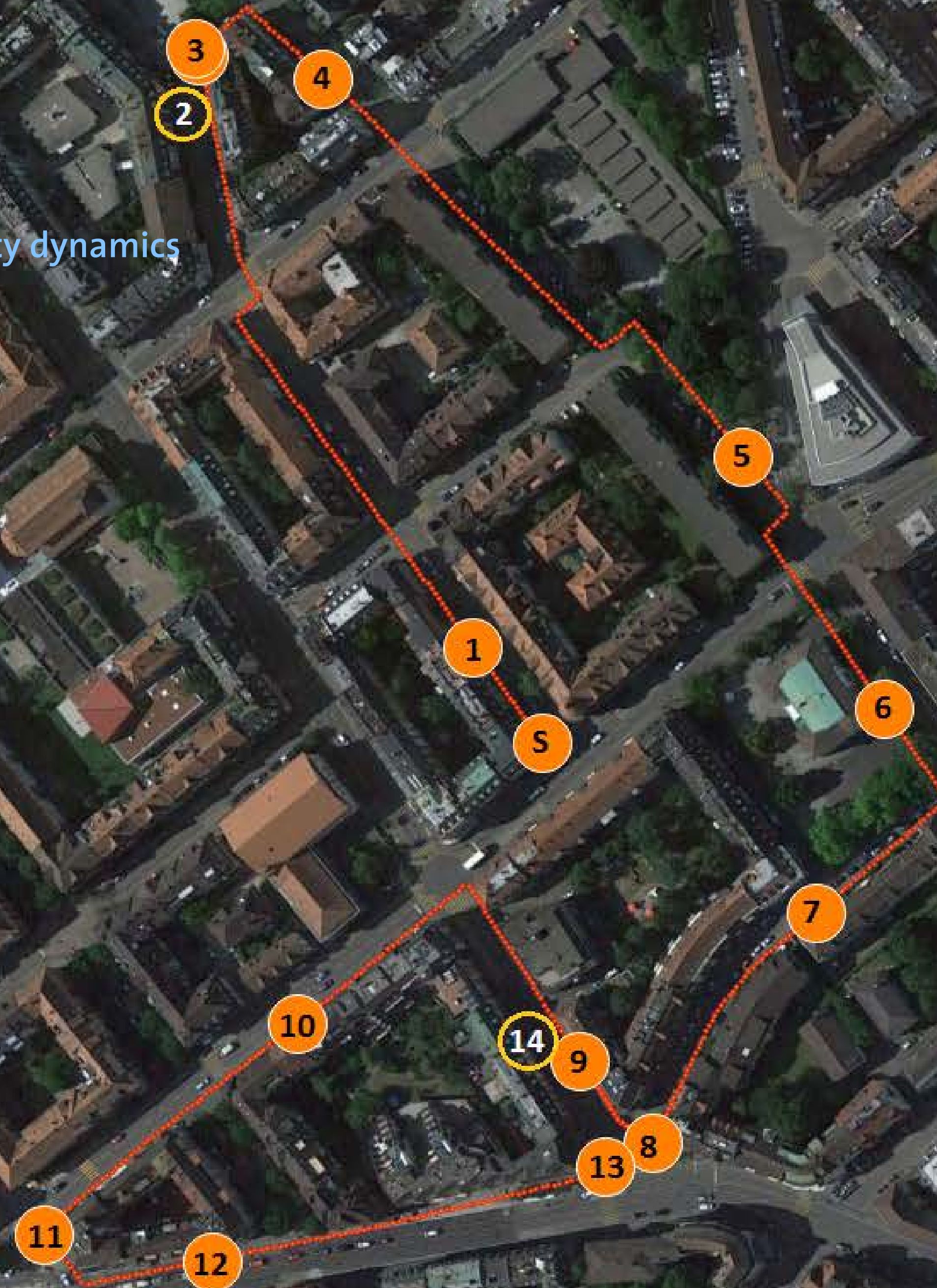
MAPS

Pattern Discovery: Human perception of the city dynamics

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Postdoctoral Researcher

12-July-2017, Zurich

City: Wiedikon, Zurich



ESUM Project- A complex and messy dataset

2

Human Perception

Skin Conductance

Heart rate

Body temperature

Blood volume pressure

City Dynamics

Noise in environment

Dust in environment

Environment temperature

Relative humidity

Brightness

Field of view: Area, Perimeter, Occlusivity, Compactness

Walking space

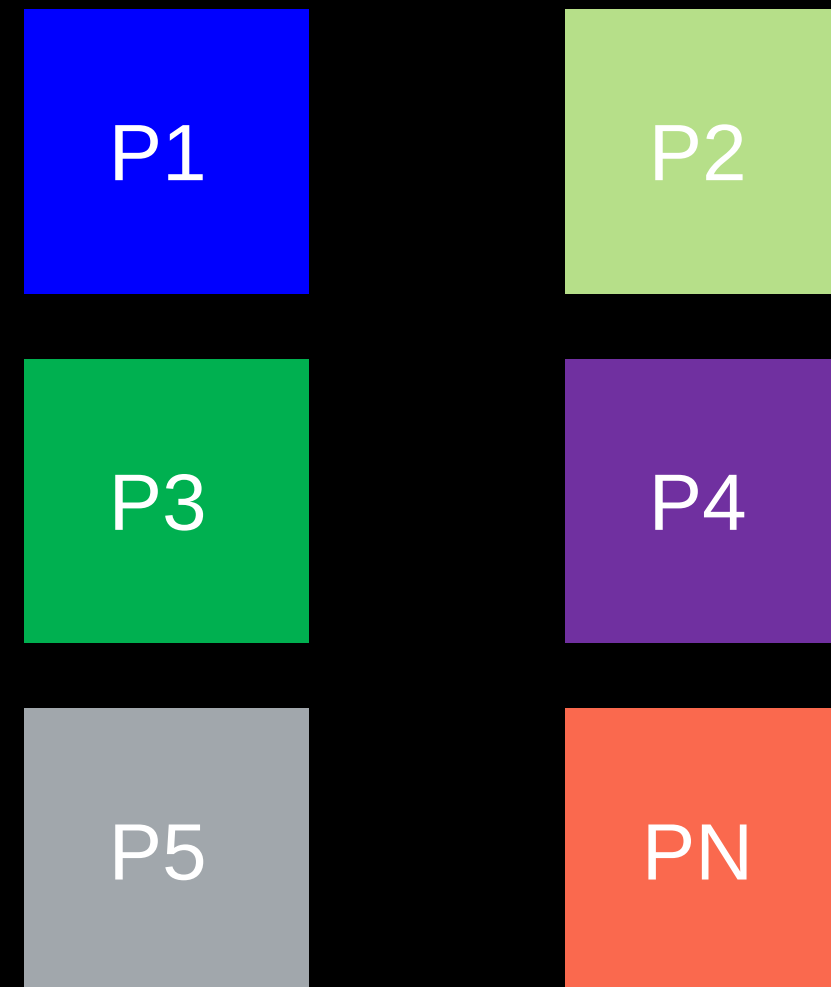
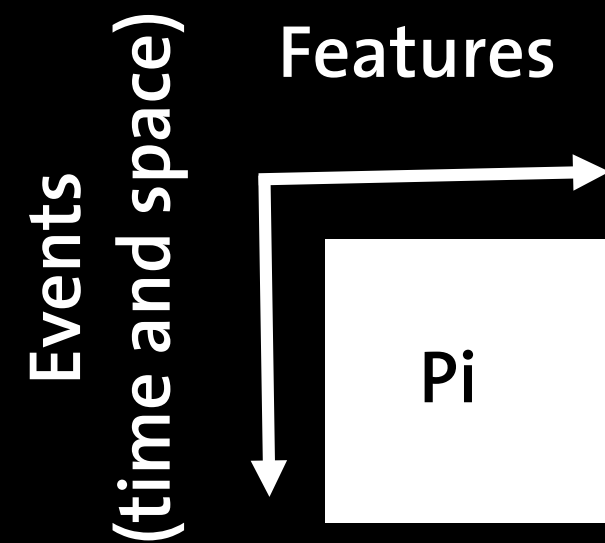
Traffic speed

Building types, etc.

ESUM Project- A complex and messy dataset

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Participant's data



$i=1$ to N

$N = 20$

Some facts

Diversity in days (participants was on different days)

Diversity in experiment day's time slot

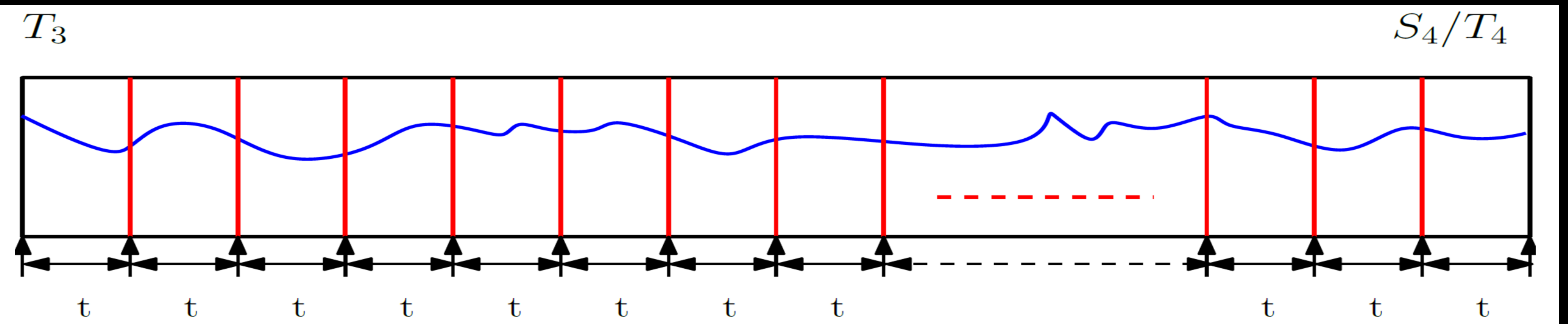
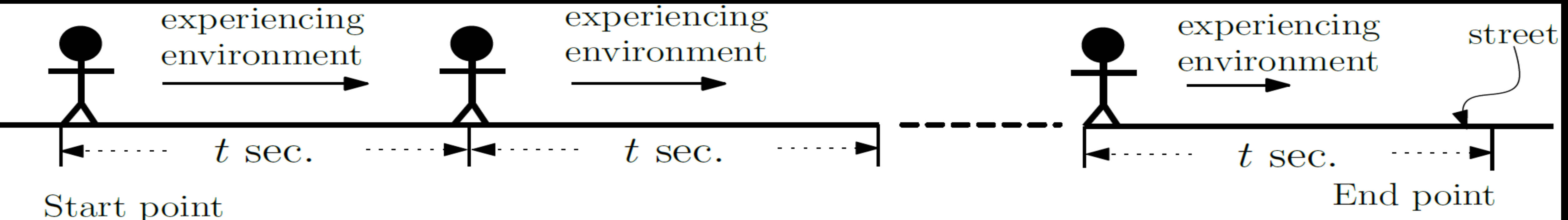
Diversity in participant's demographic profile

Uniformity in season (April 2016)

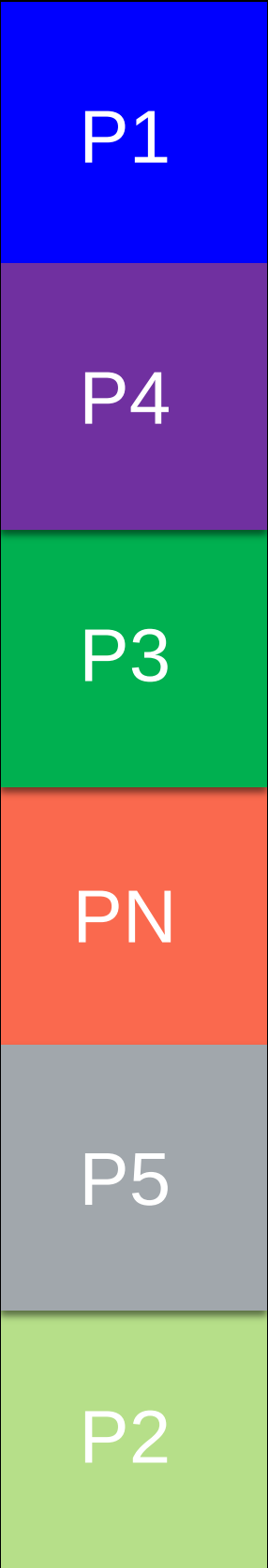
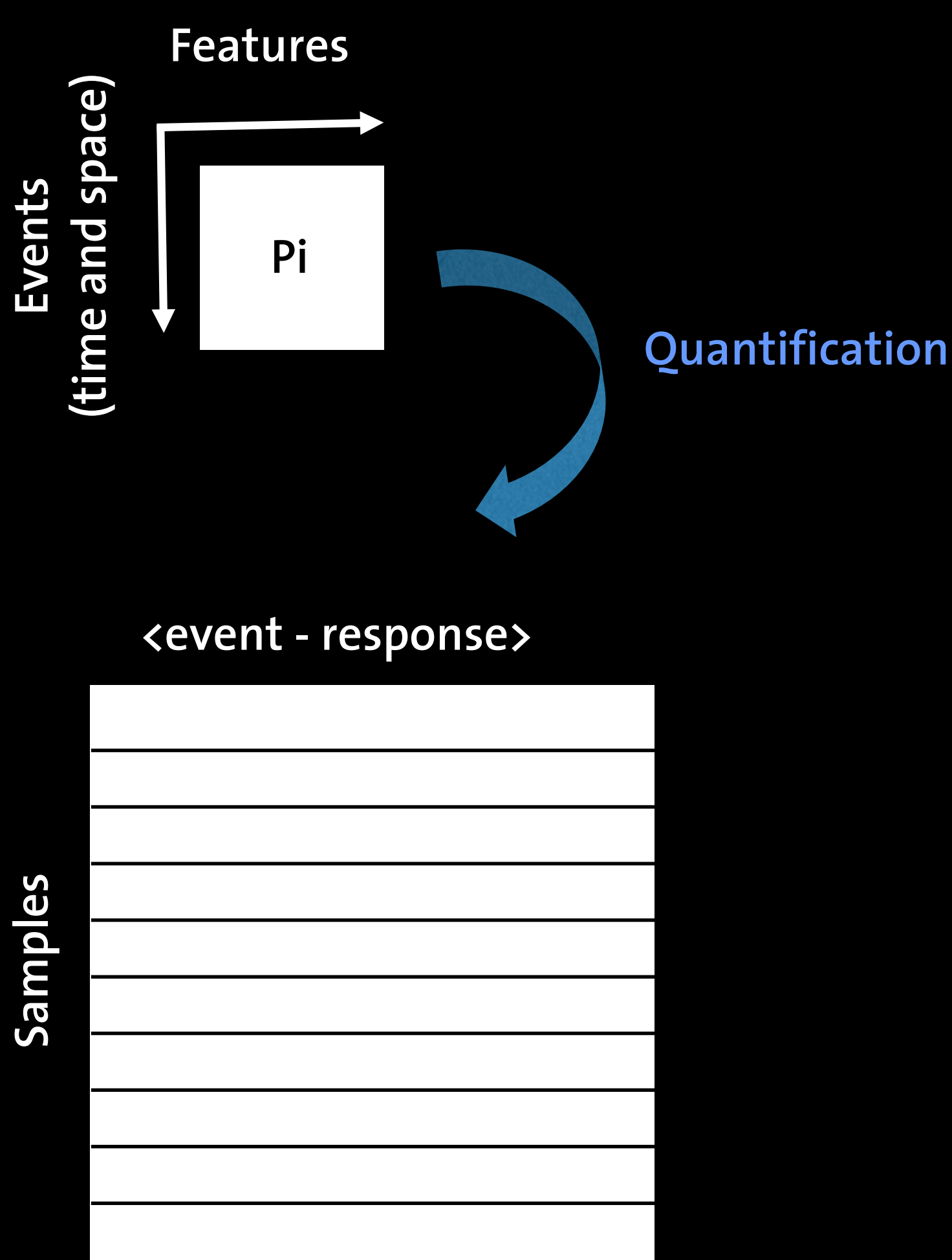
Data samples has record of time and place

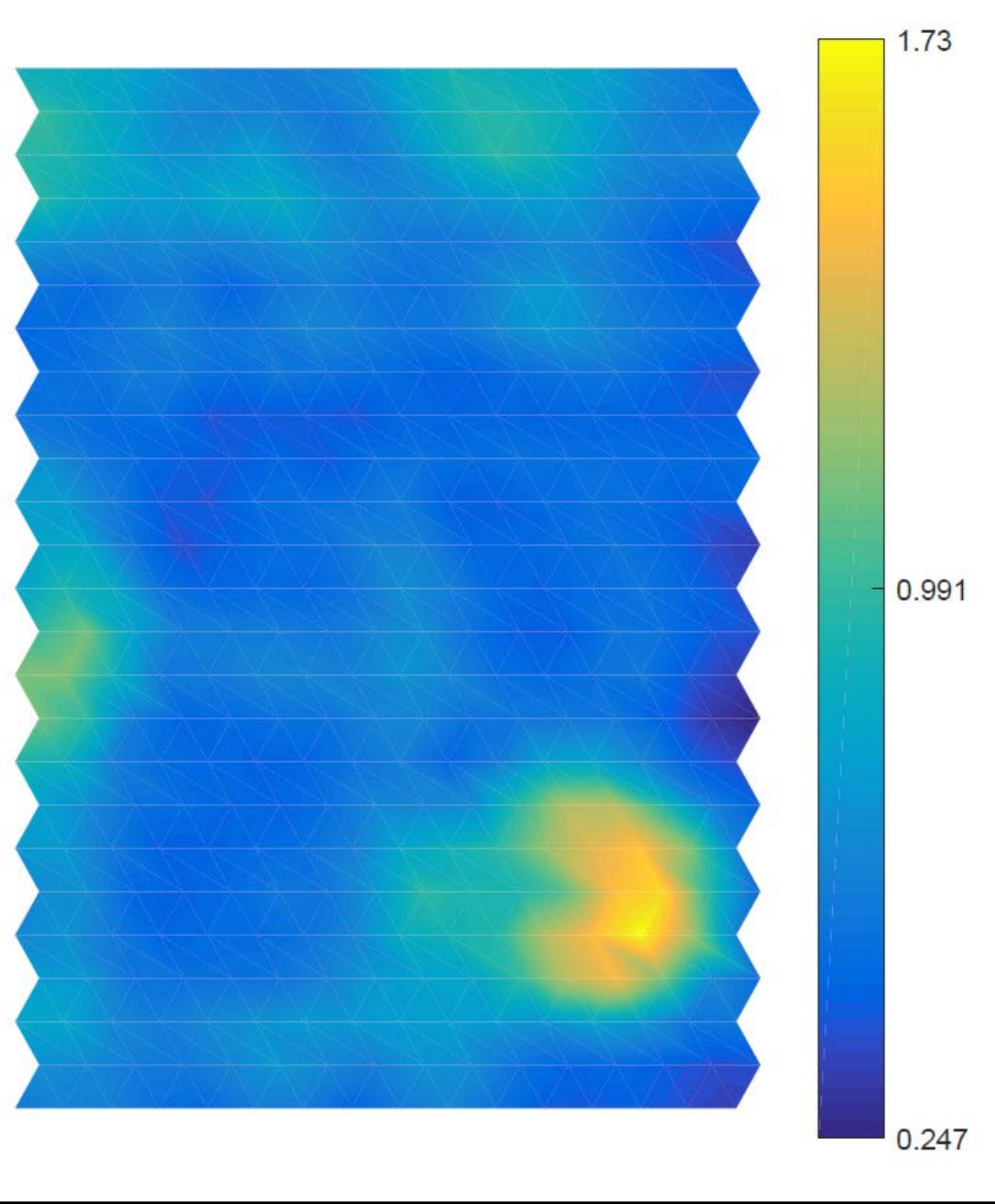
Human perception: Physiological response are time dependent (temporal)

City dynamics: Location depending (non-temporal)

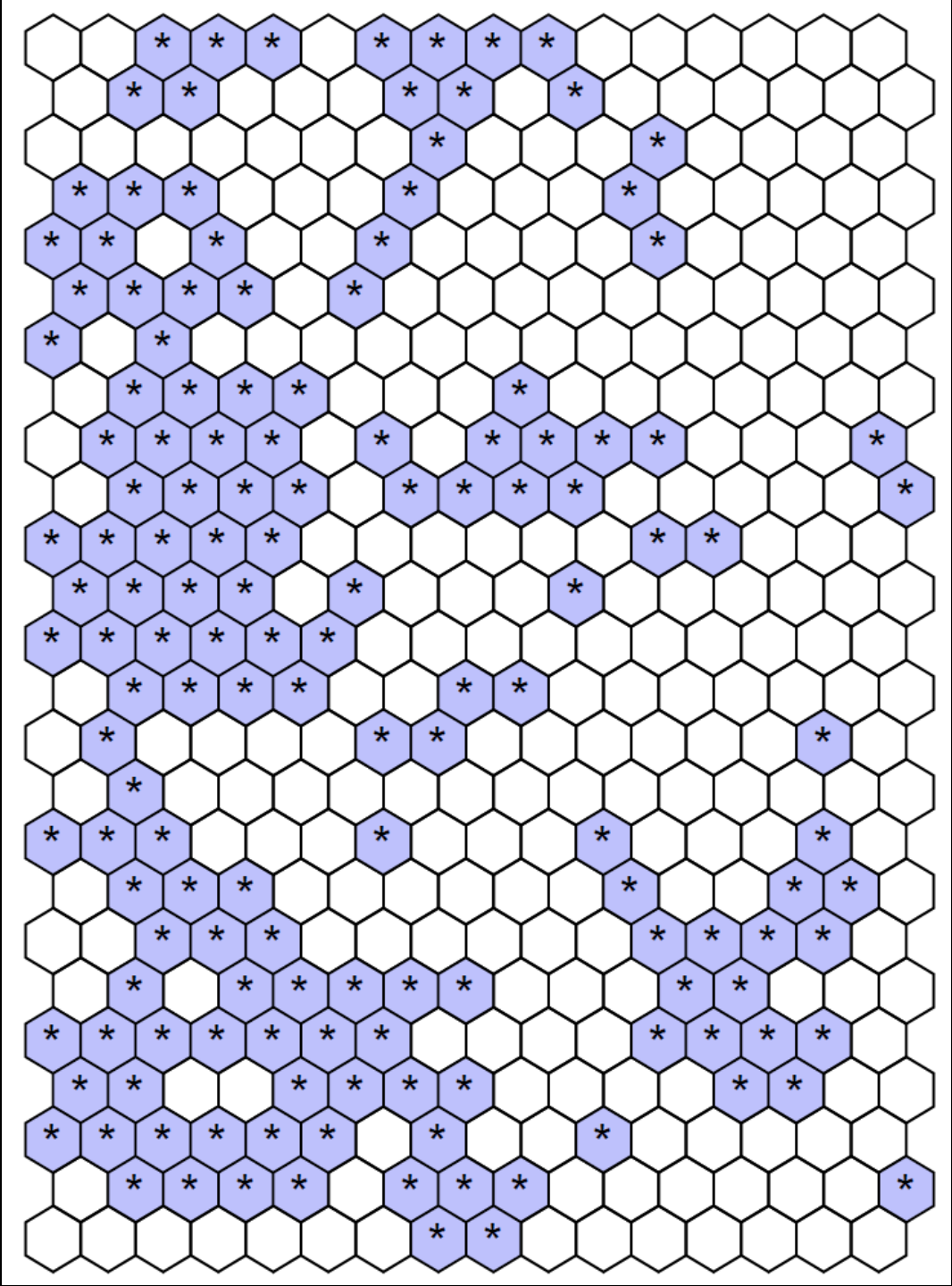


Participant's data arrangement

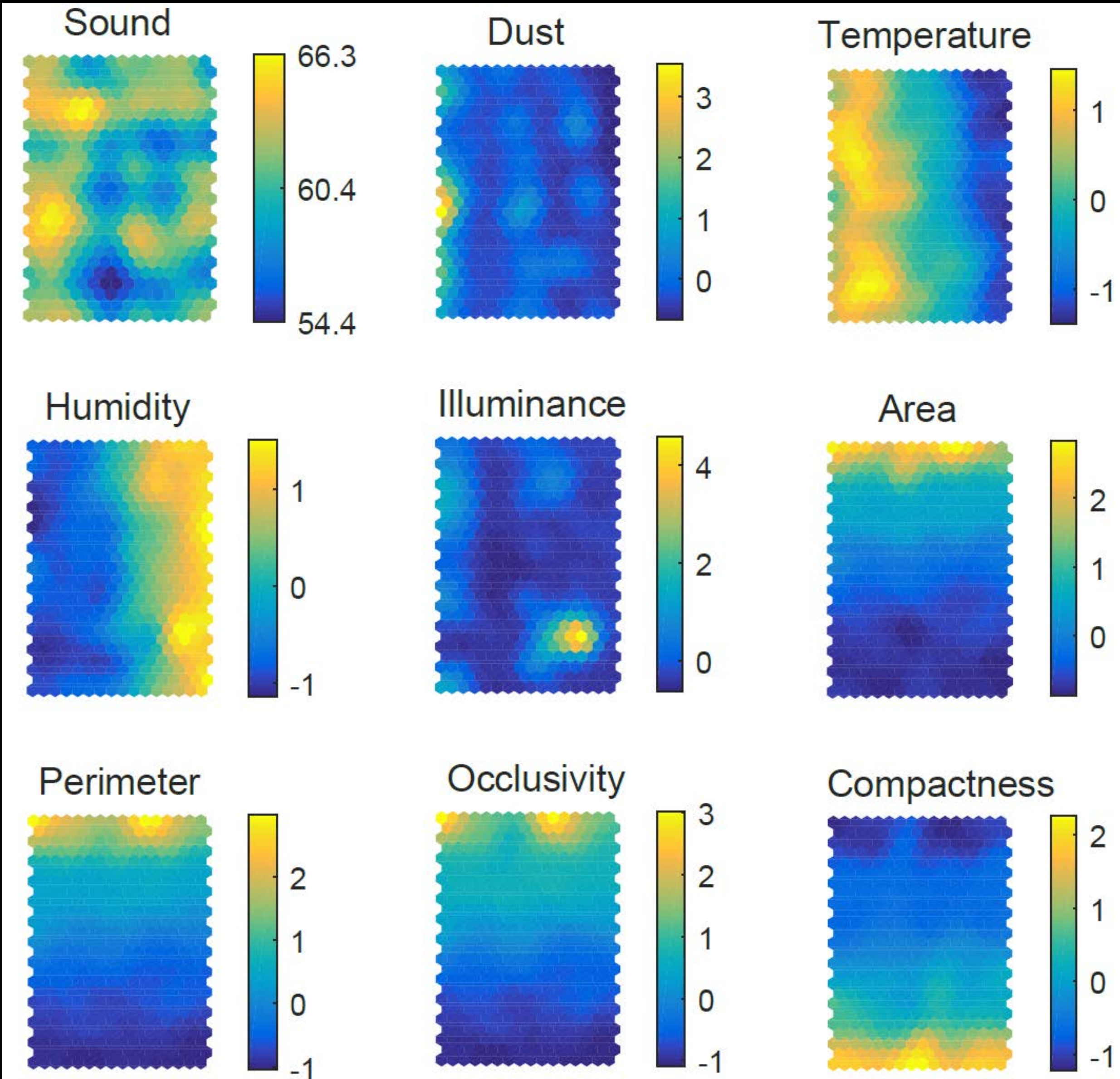


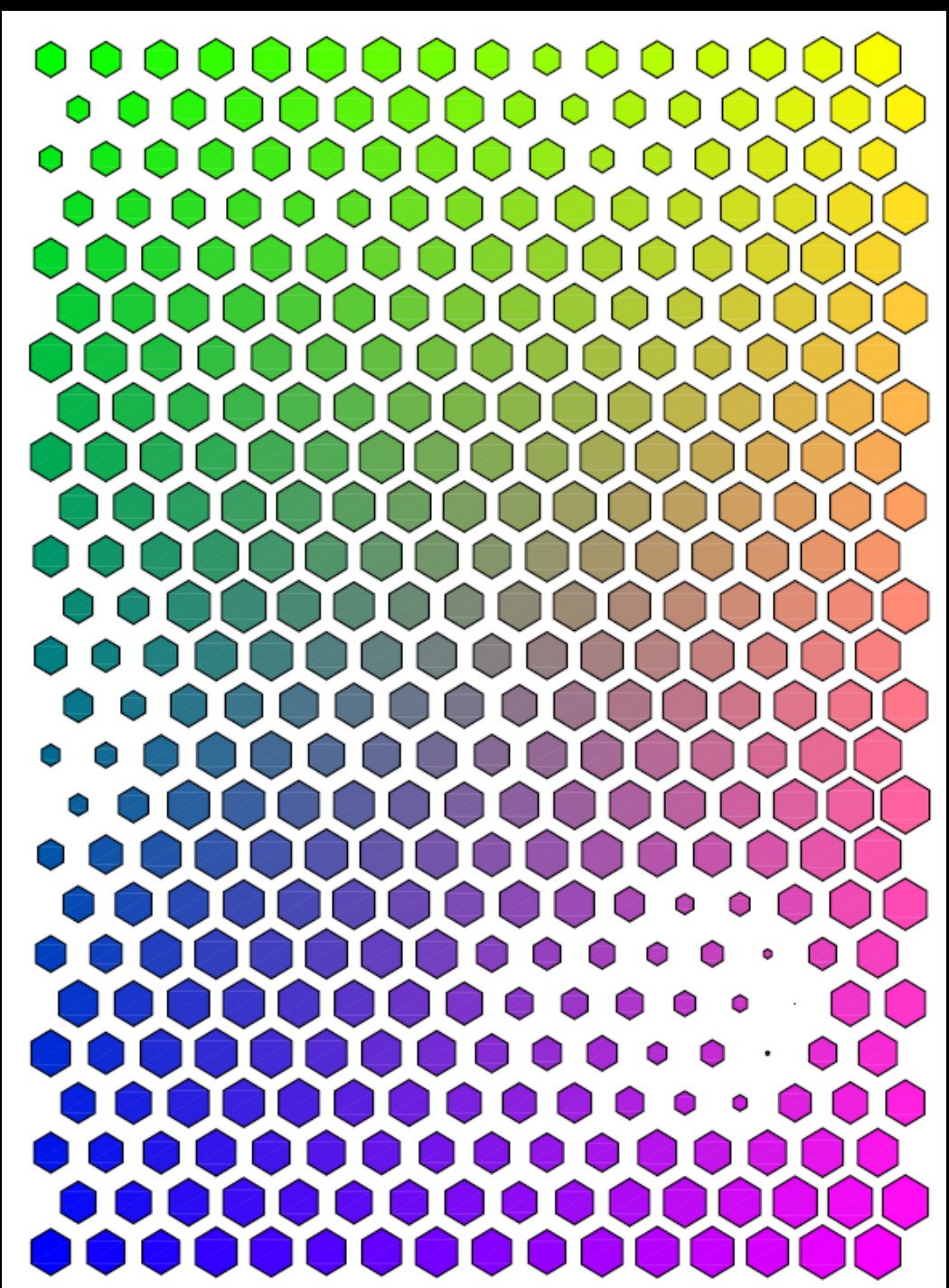


Participant's experience cluster

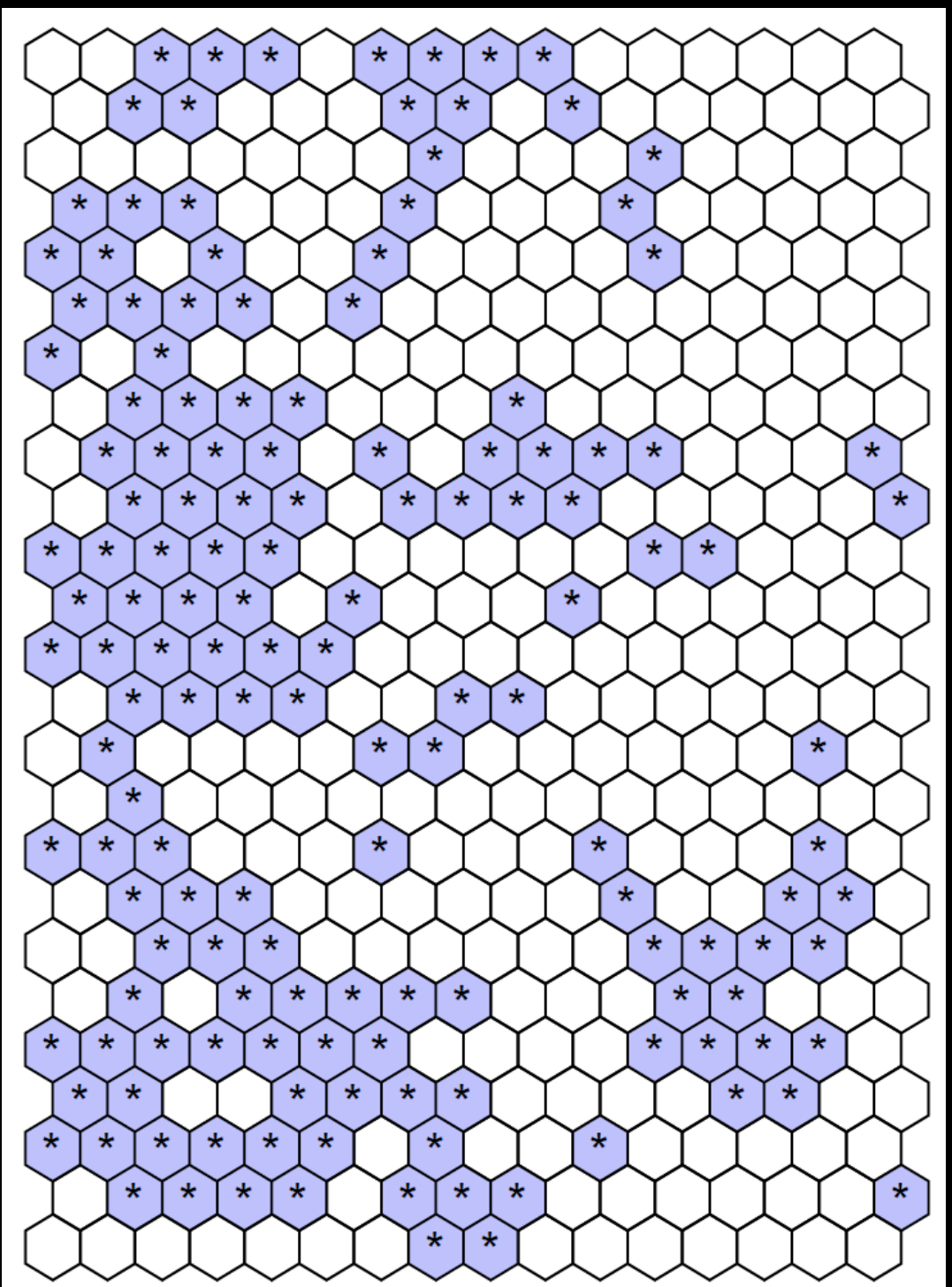


Physiological changes

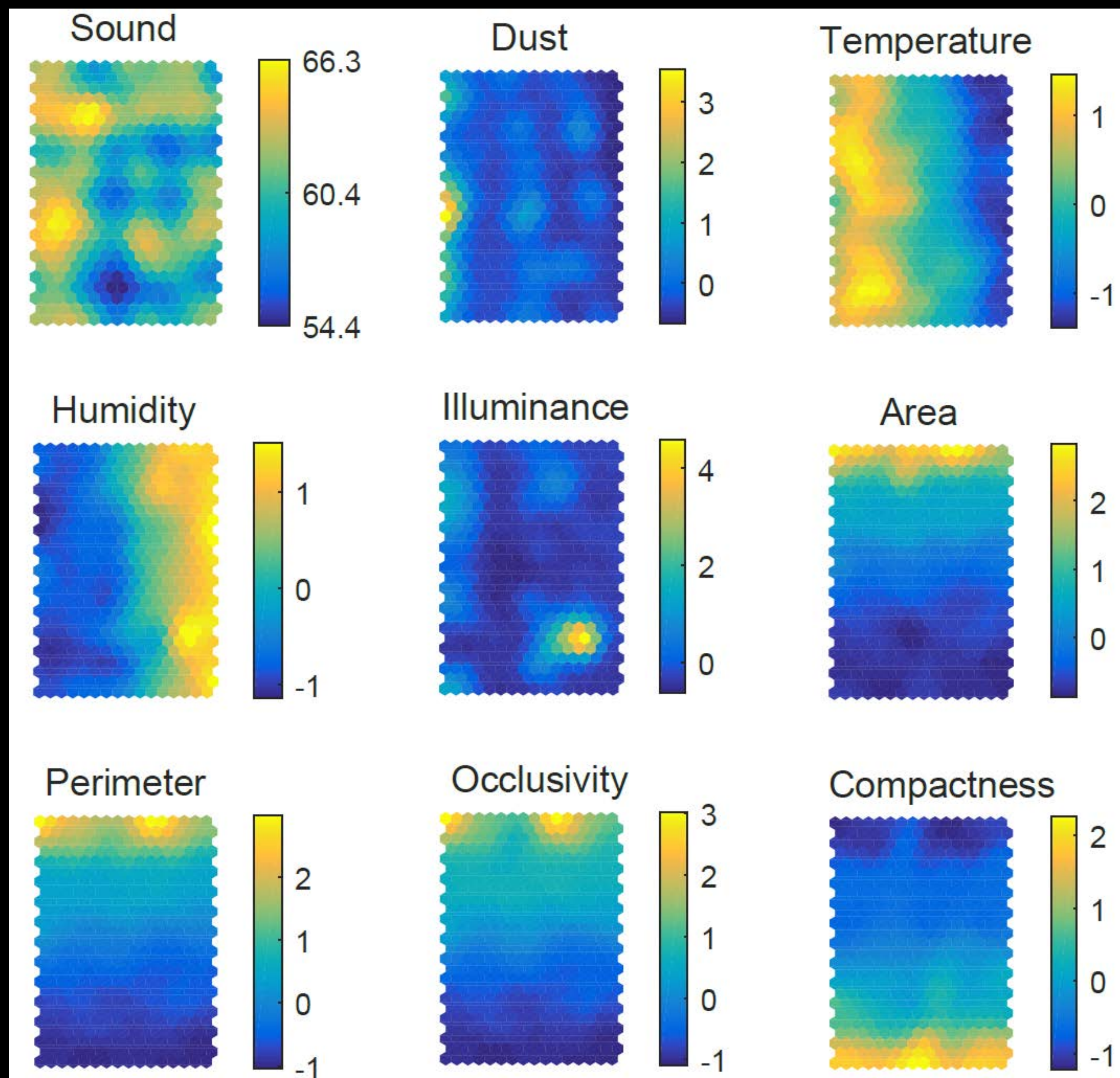


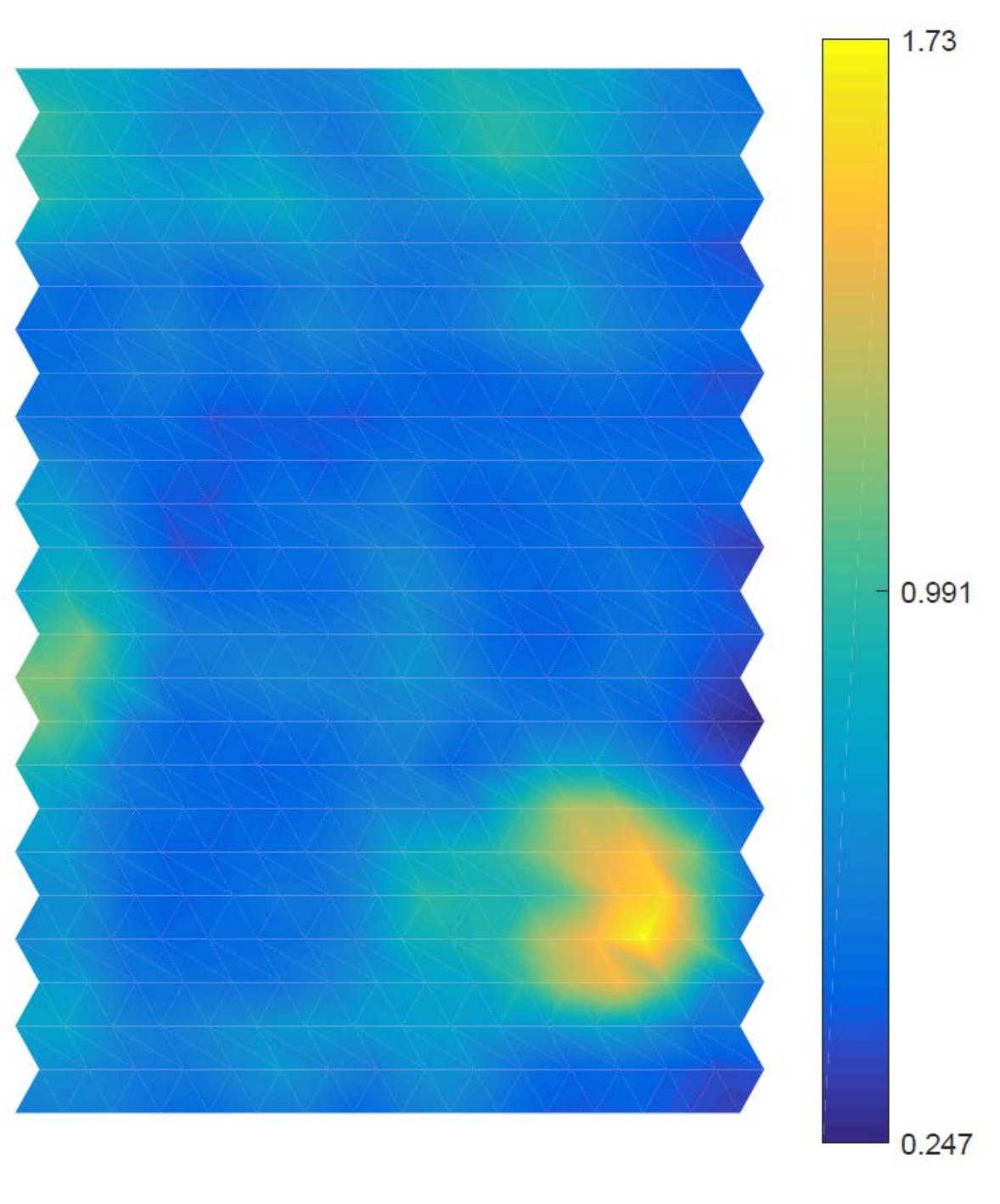


Participant's experience cluster and distance

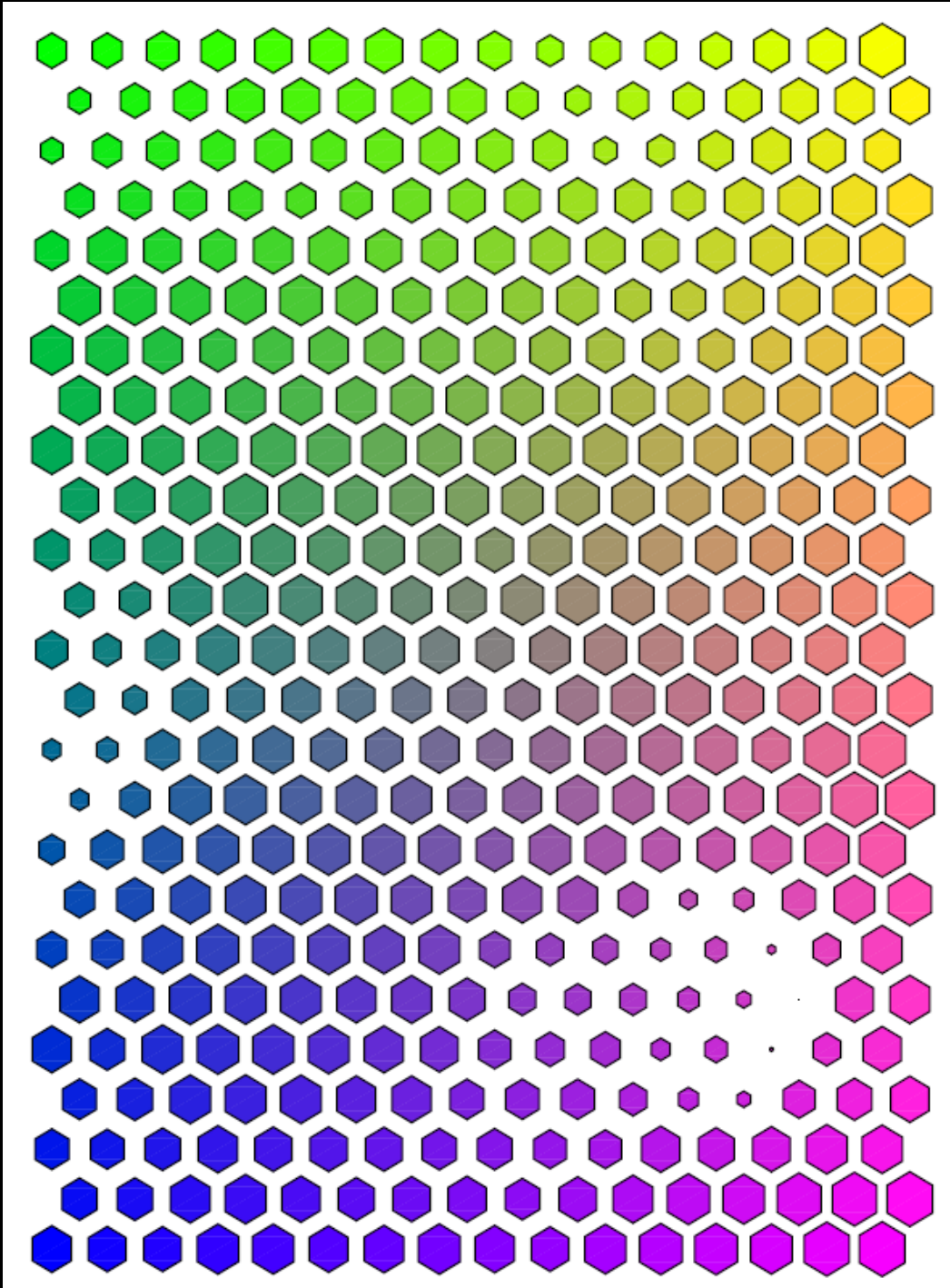


Physiological changes

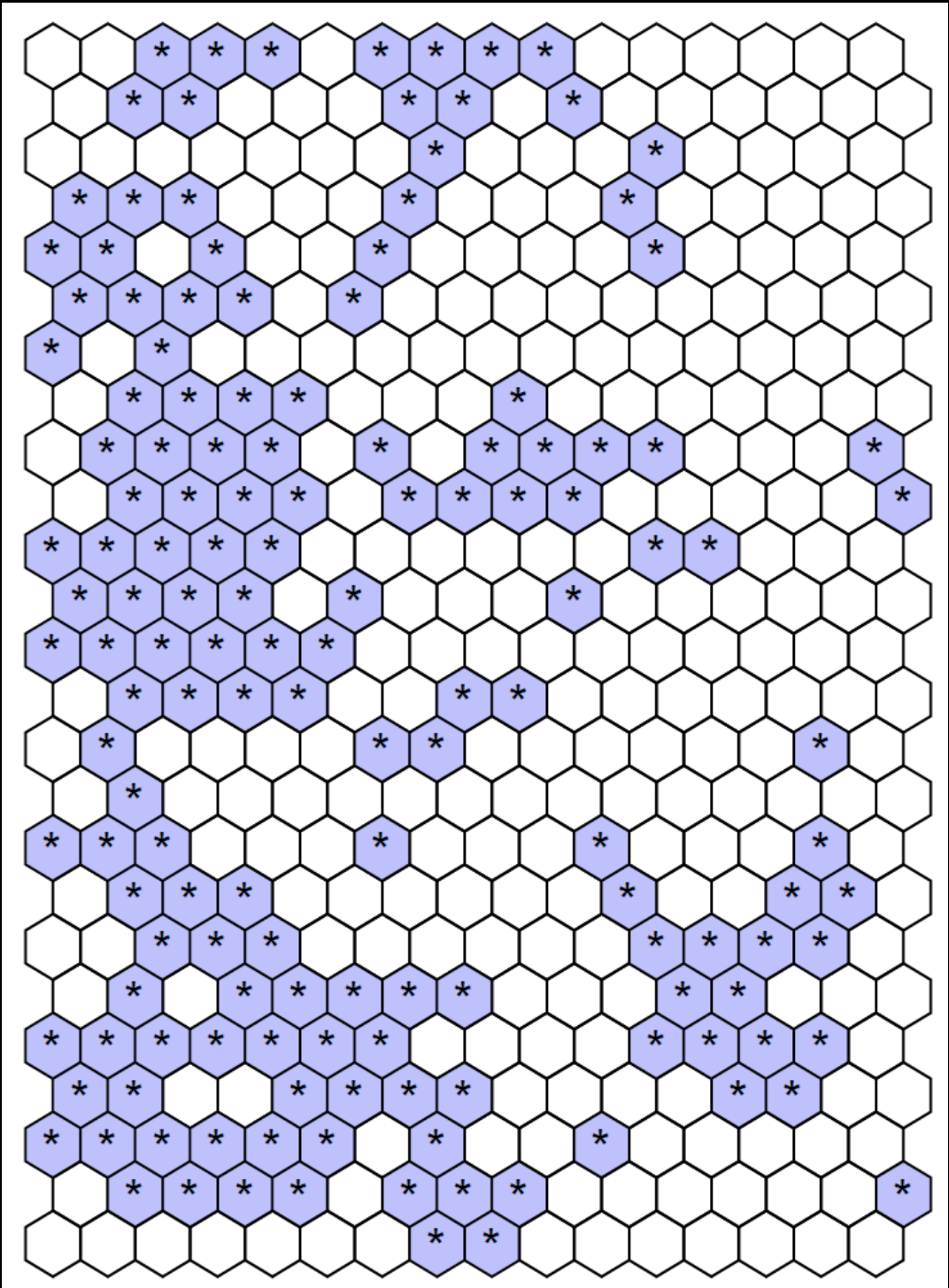




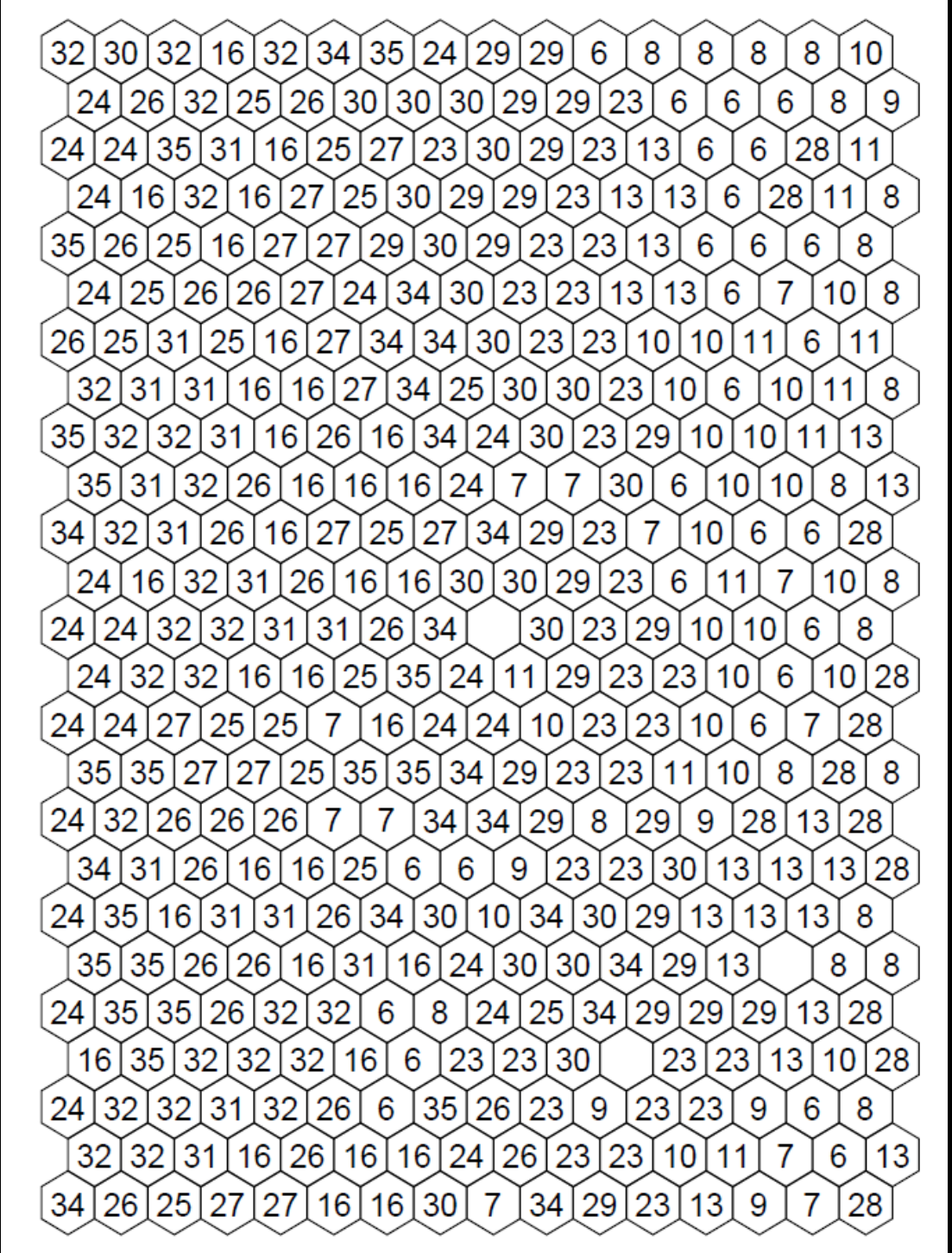
Participant's experience cluster



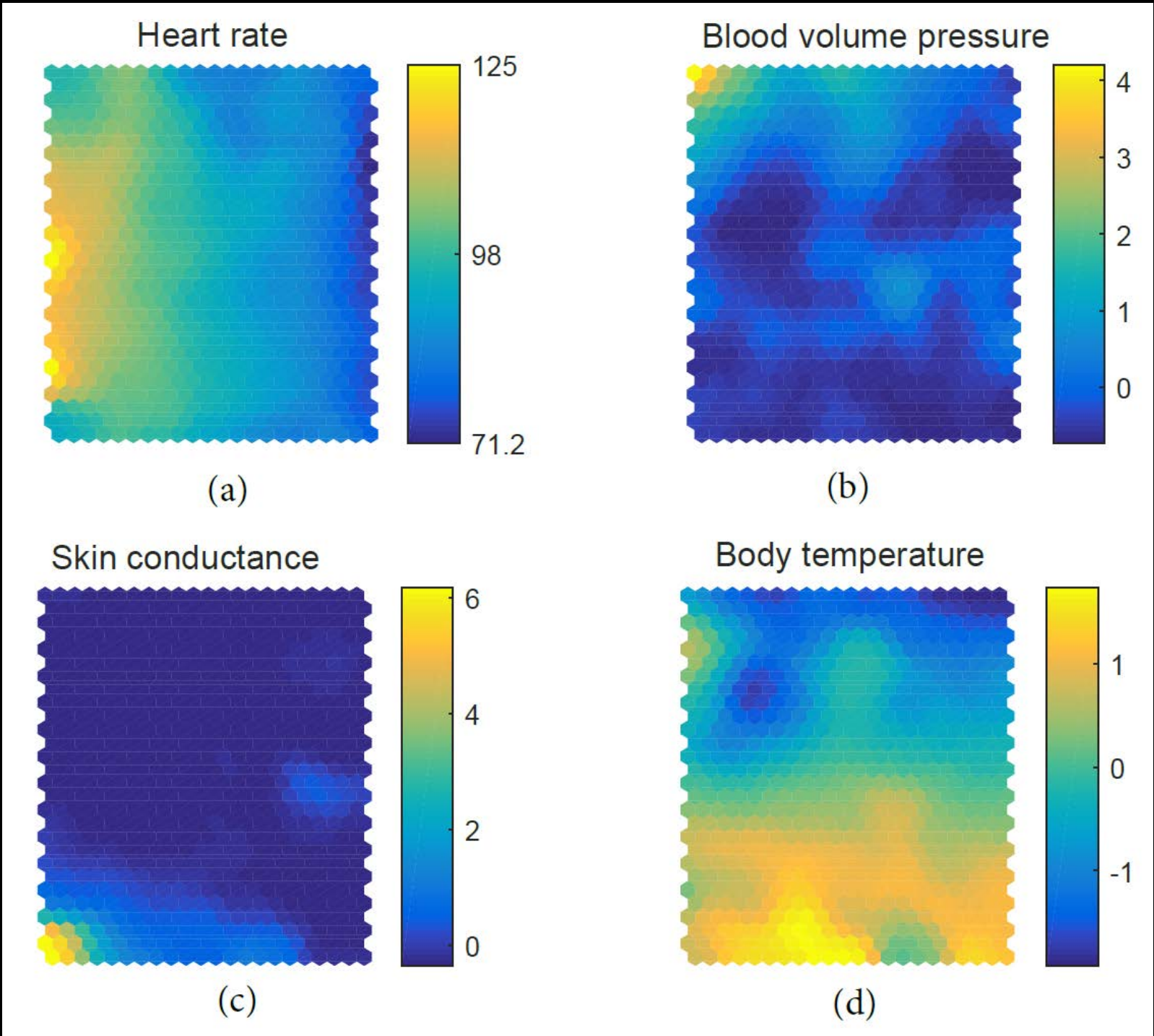
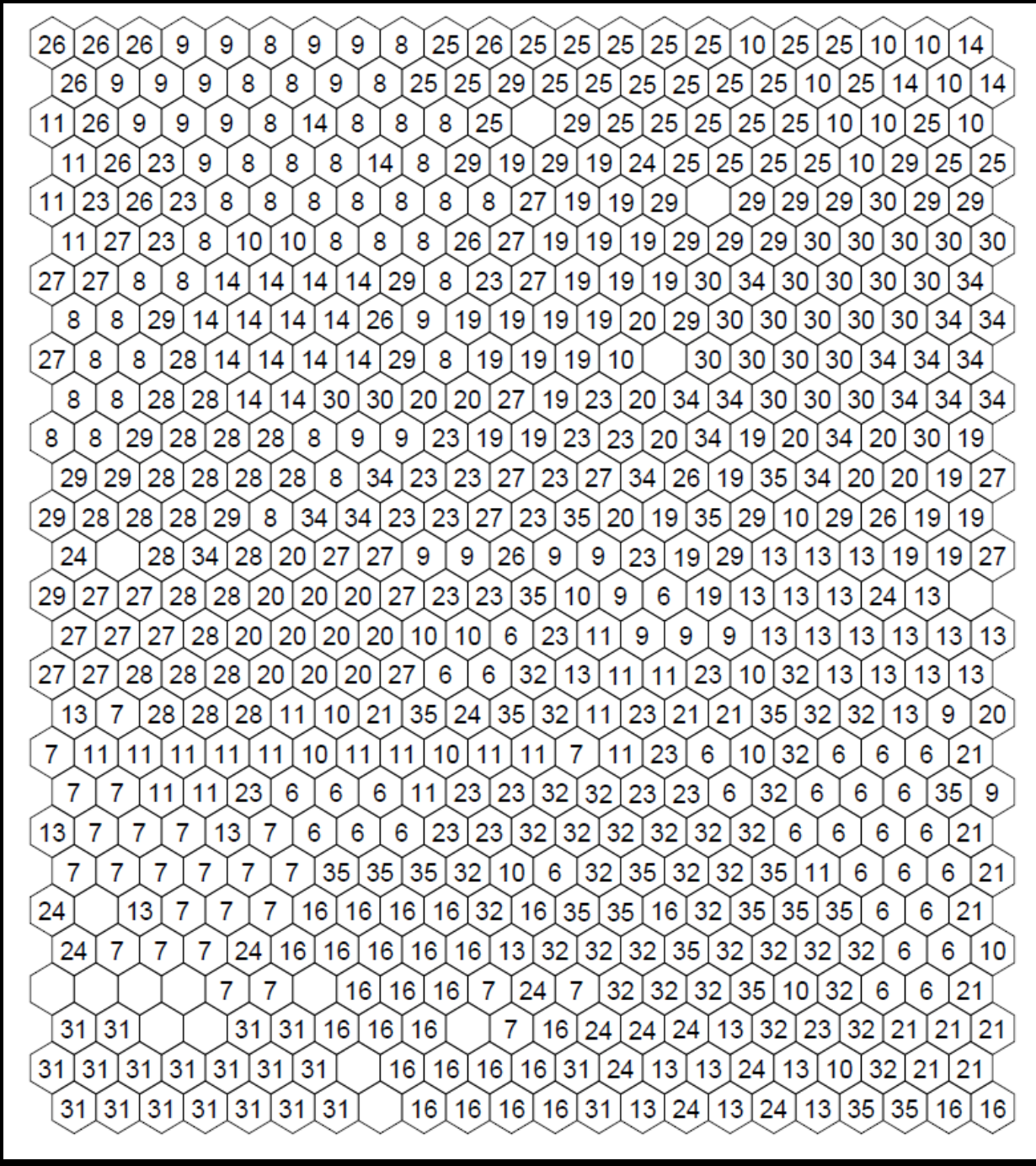
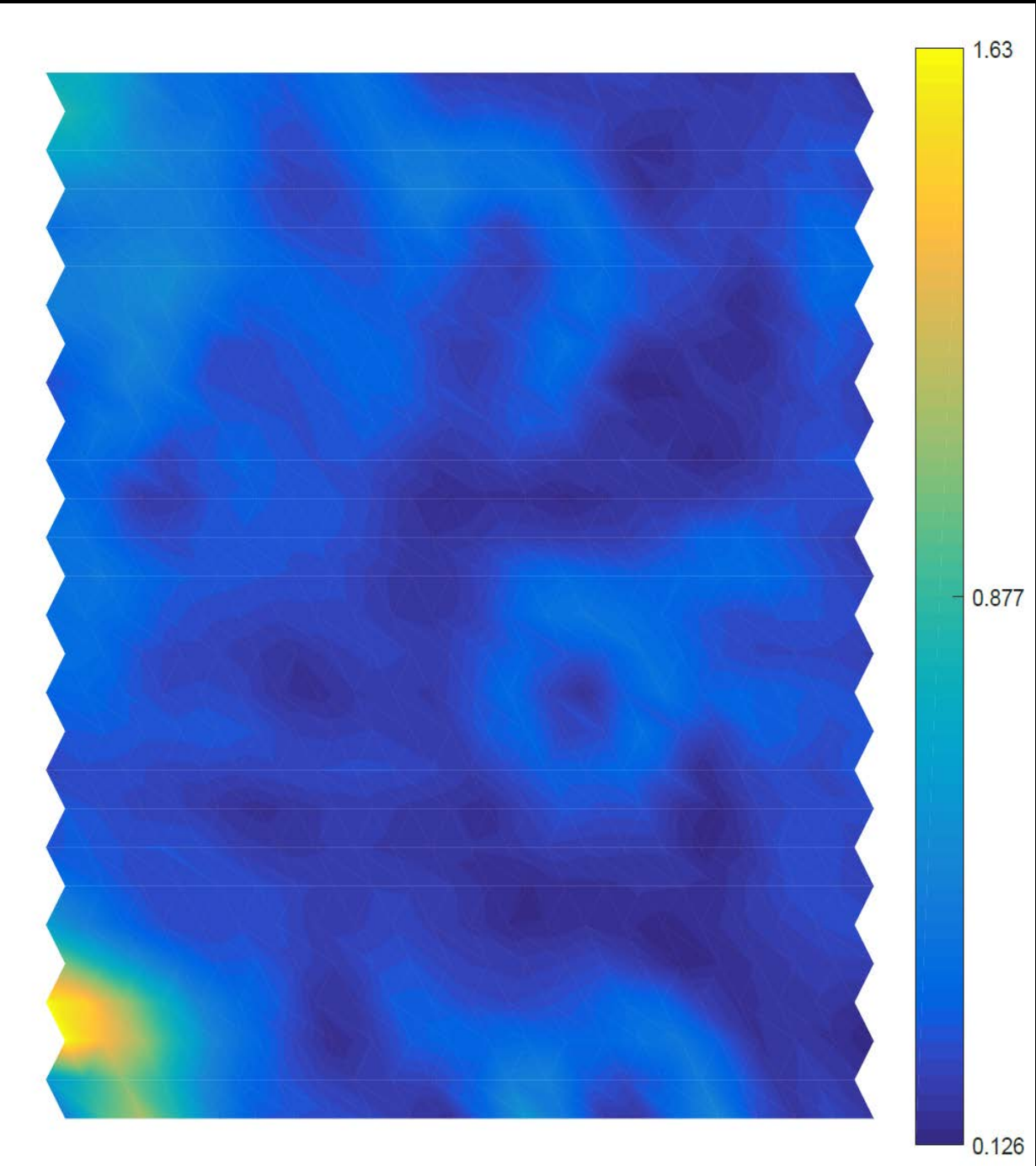
Participant's clusters and distance



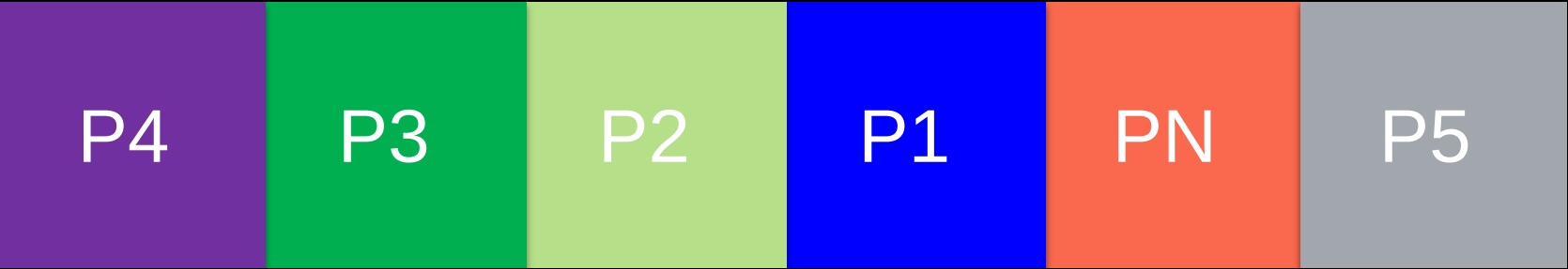
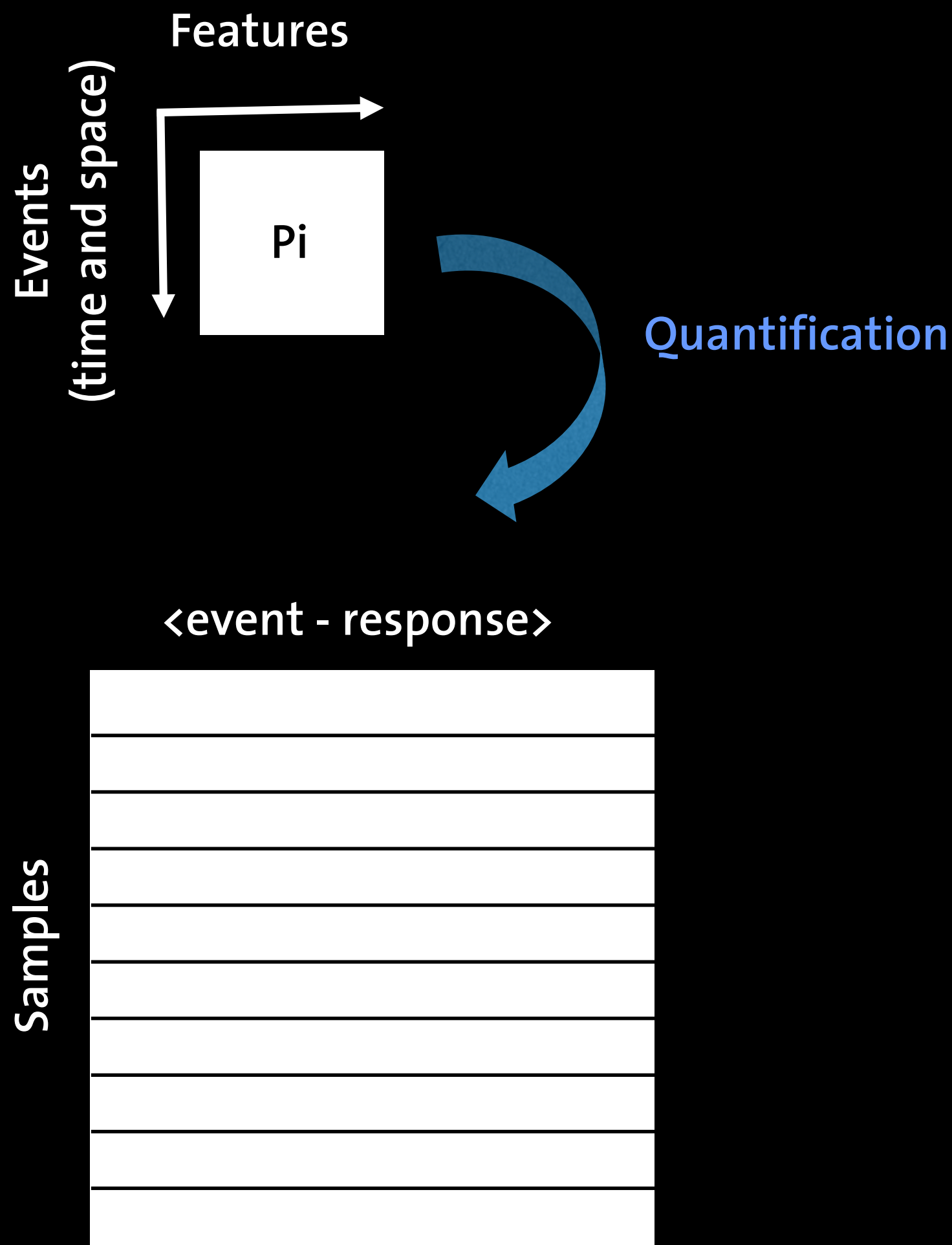
Physiological changes



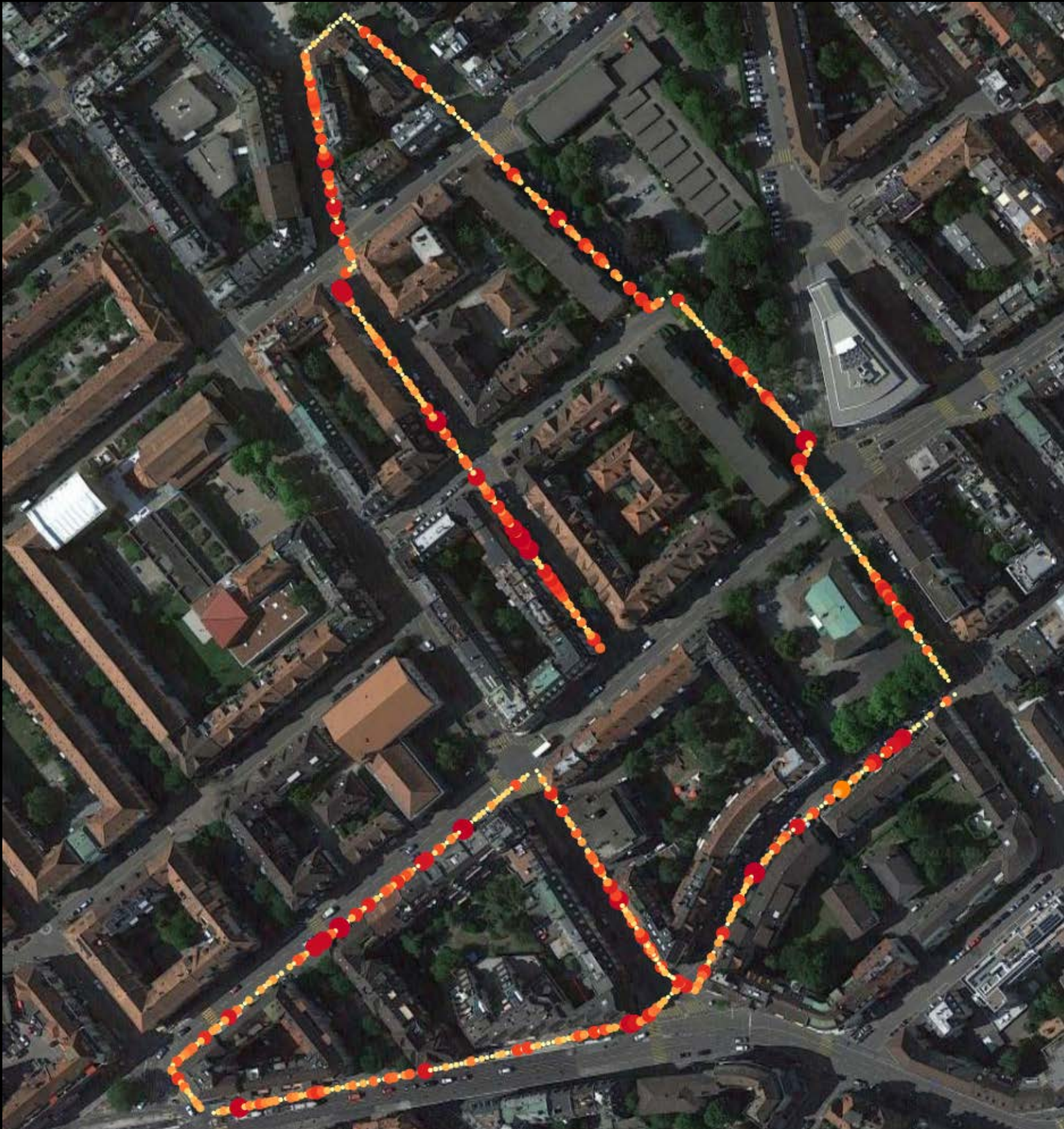
Participant's in clusters



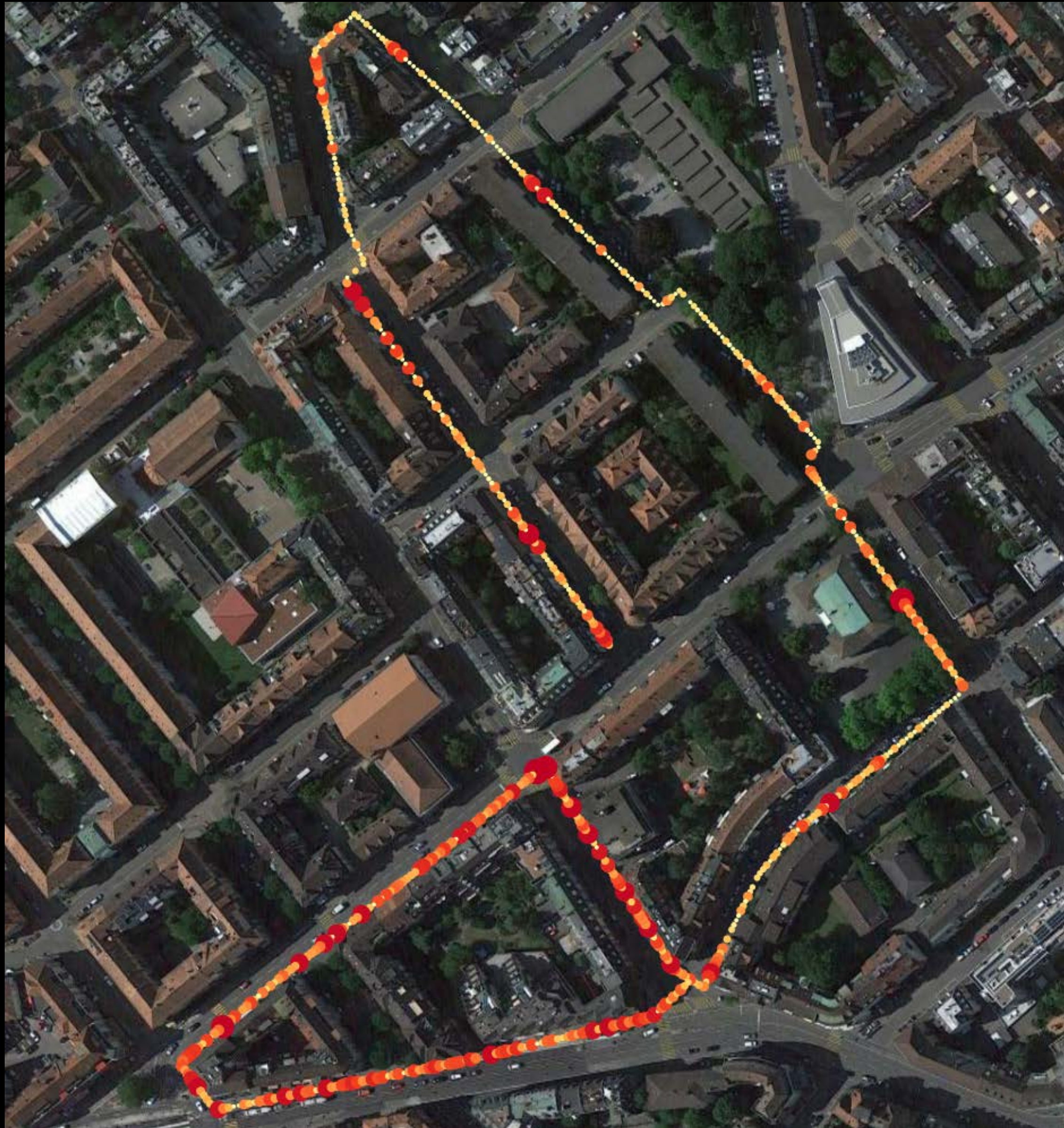
Participants data arrangement



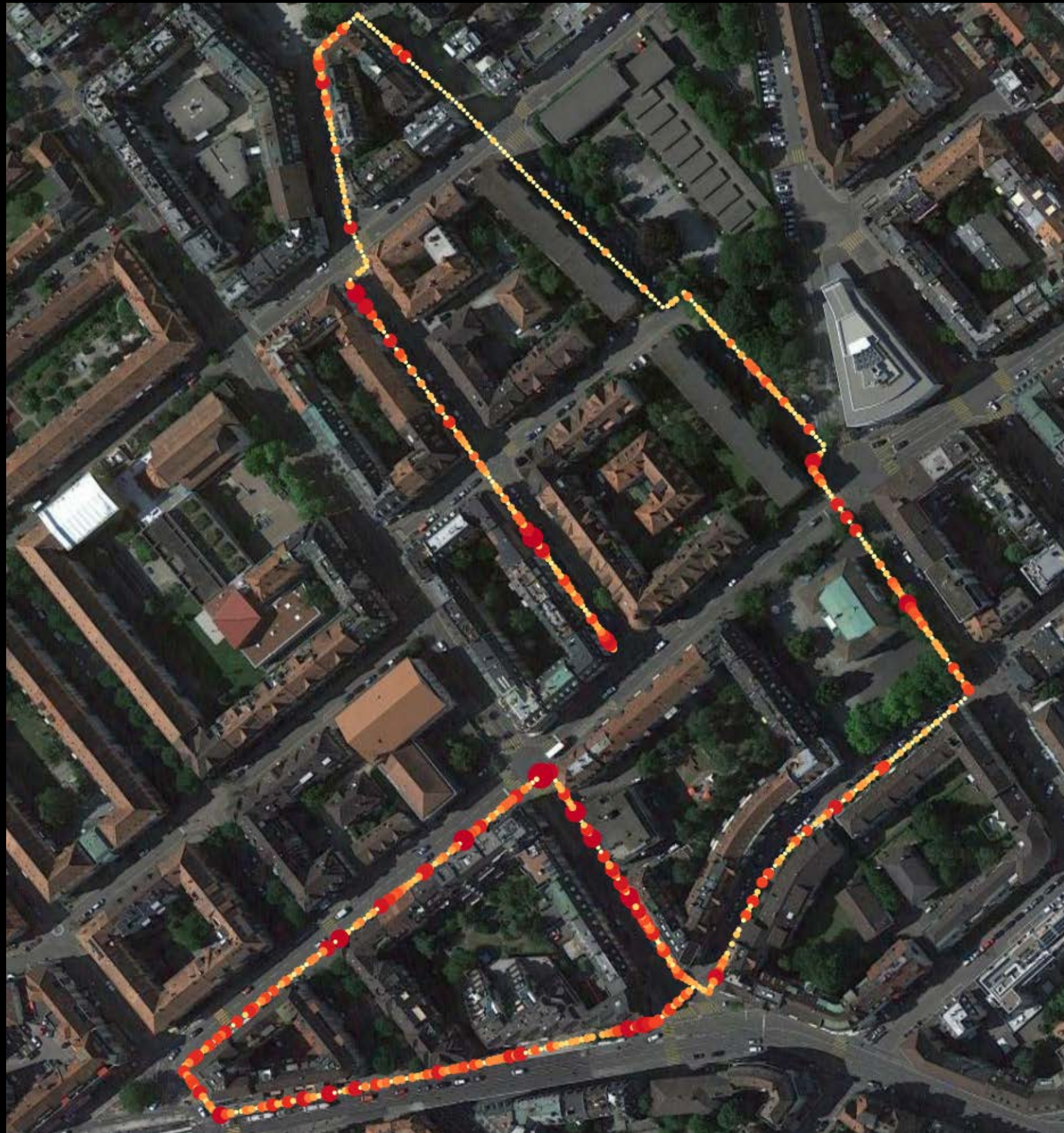
Native (0.13)



Non-native (0.15)



Age 20-29 (0.12)



Age above 30 (0.18)

12

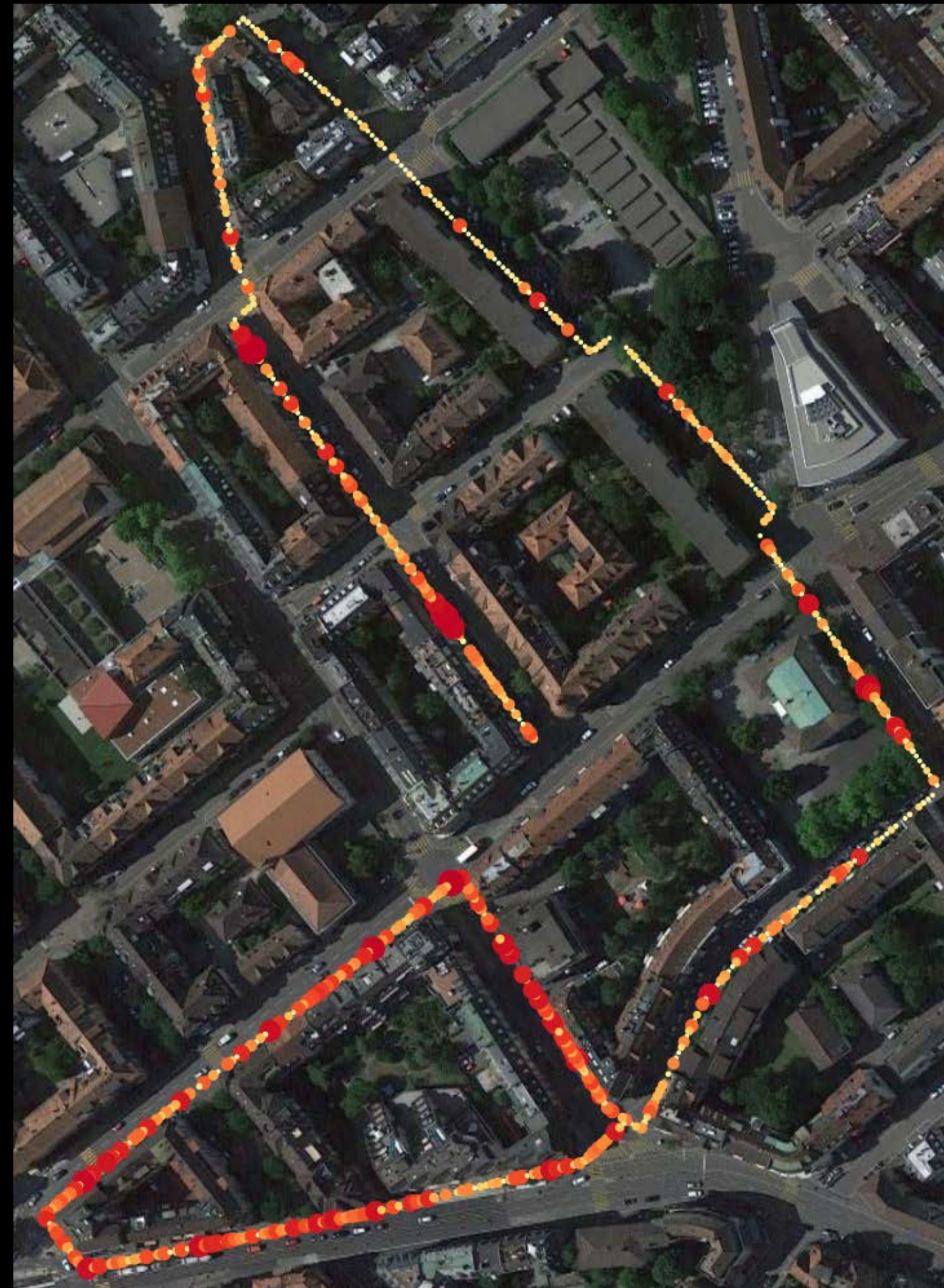
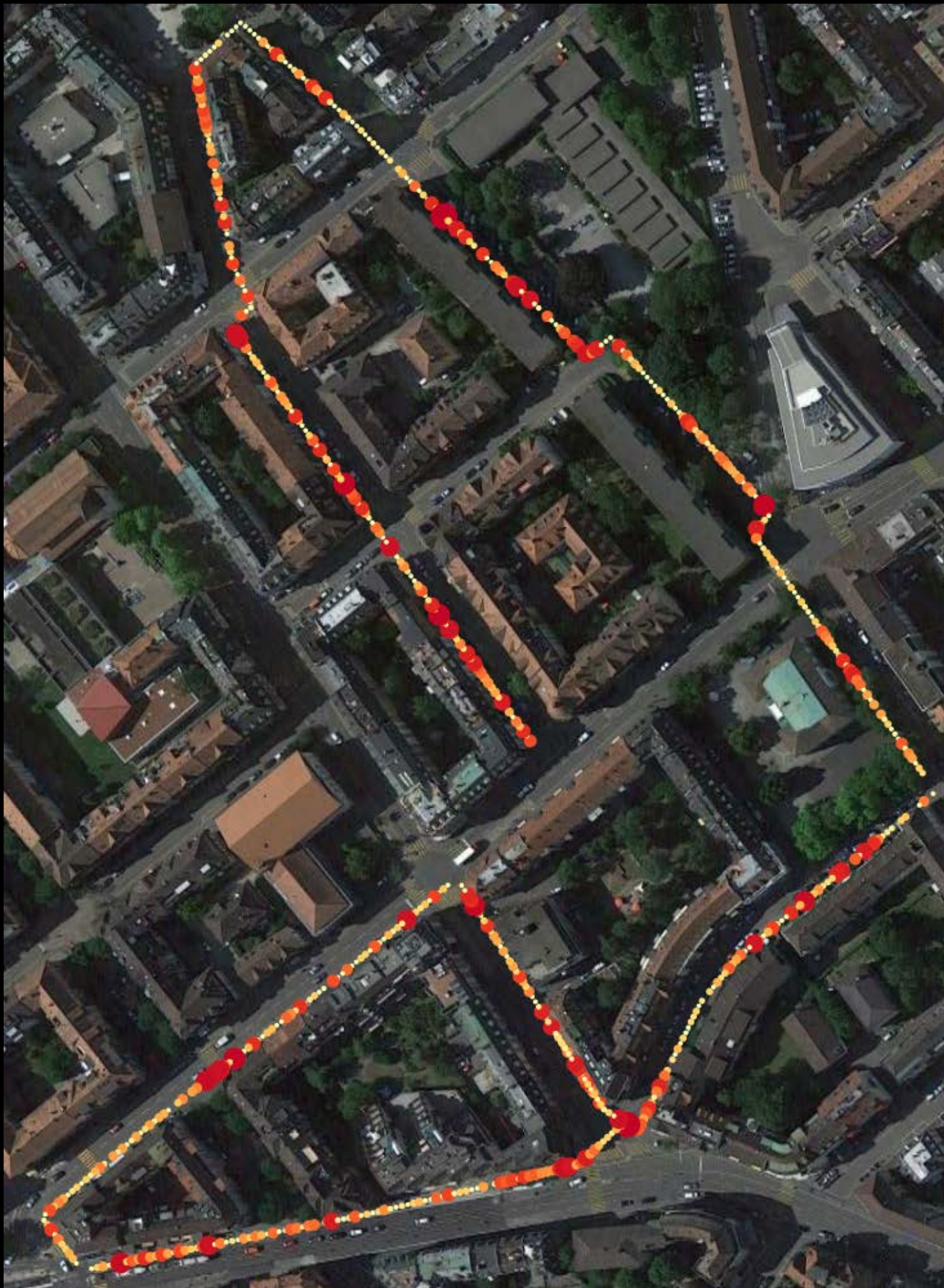


Village (0.13)

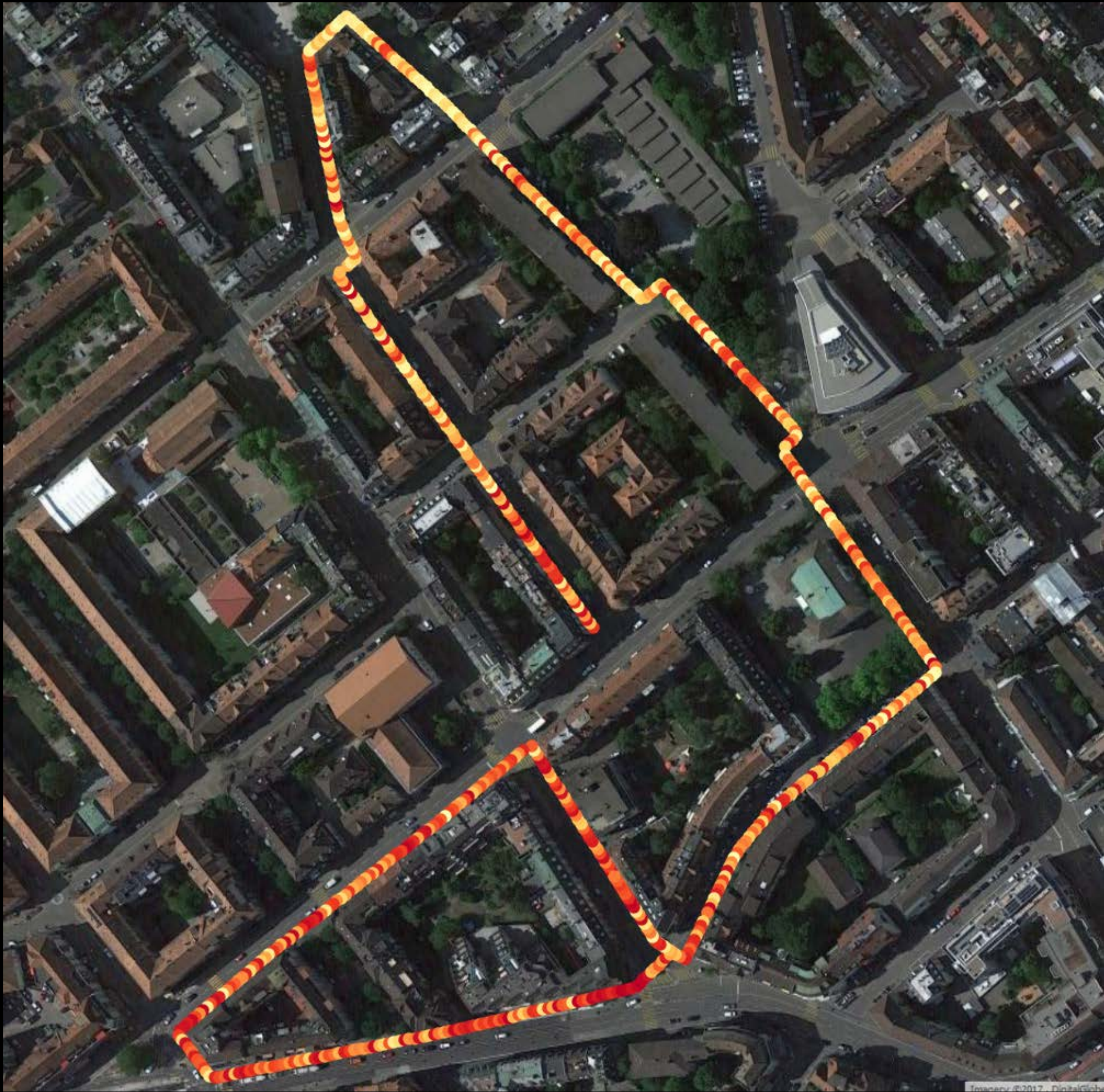
City (0.17)

Metro (0.11)

13



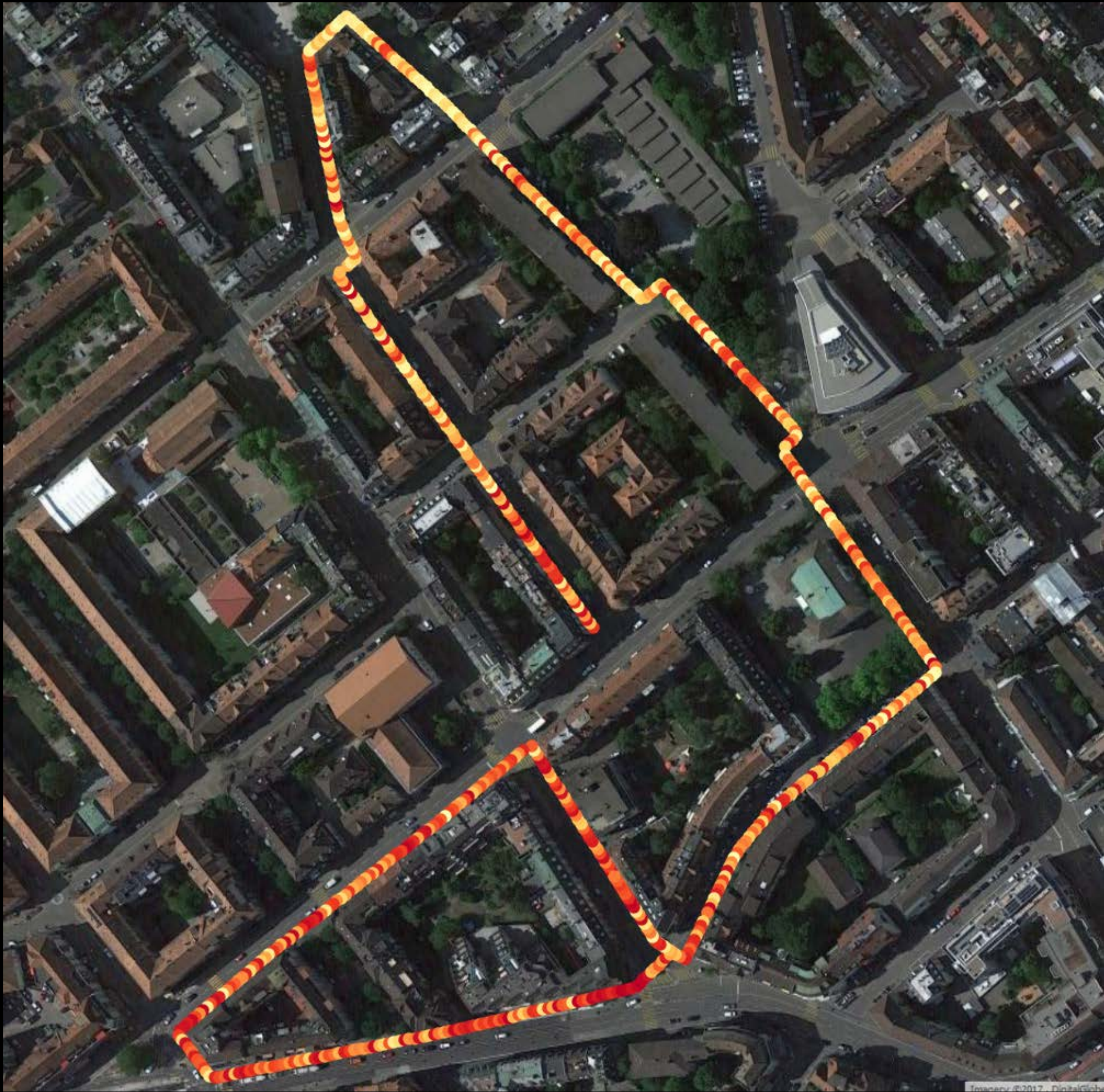
Average response of all participants



Building's construction year



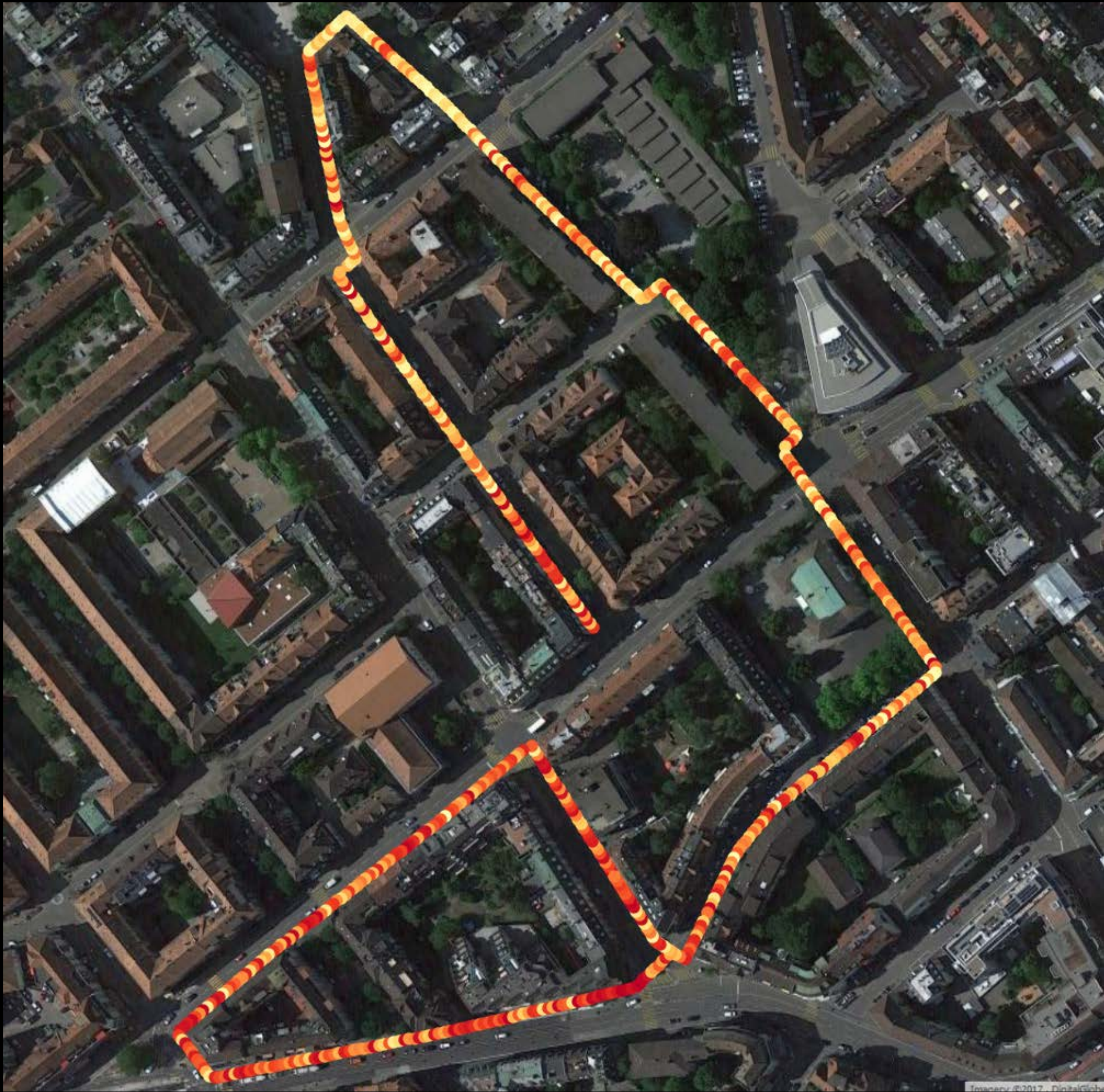
Average response of all participants



Façade color



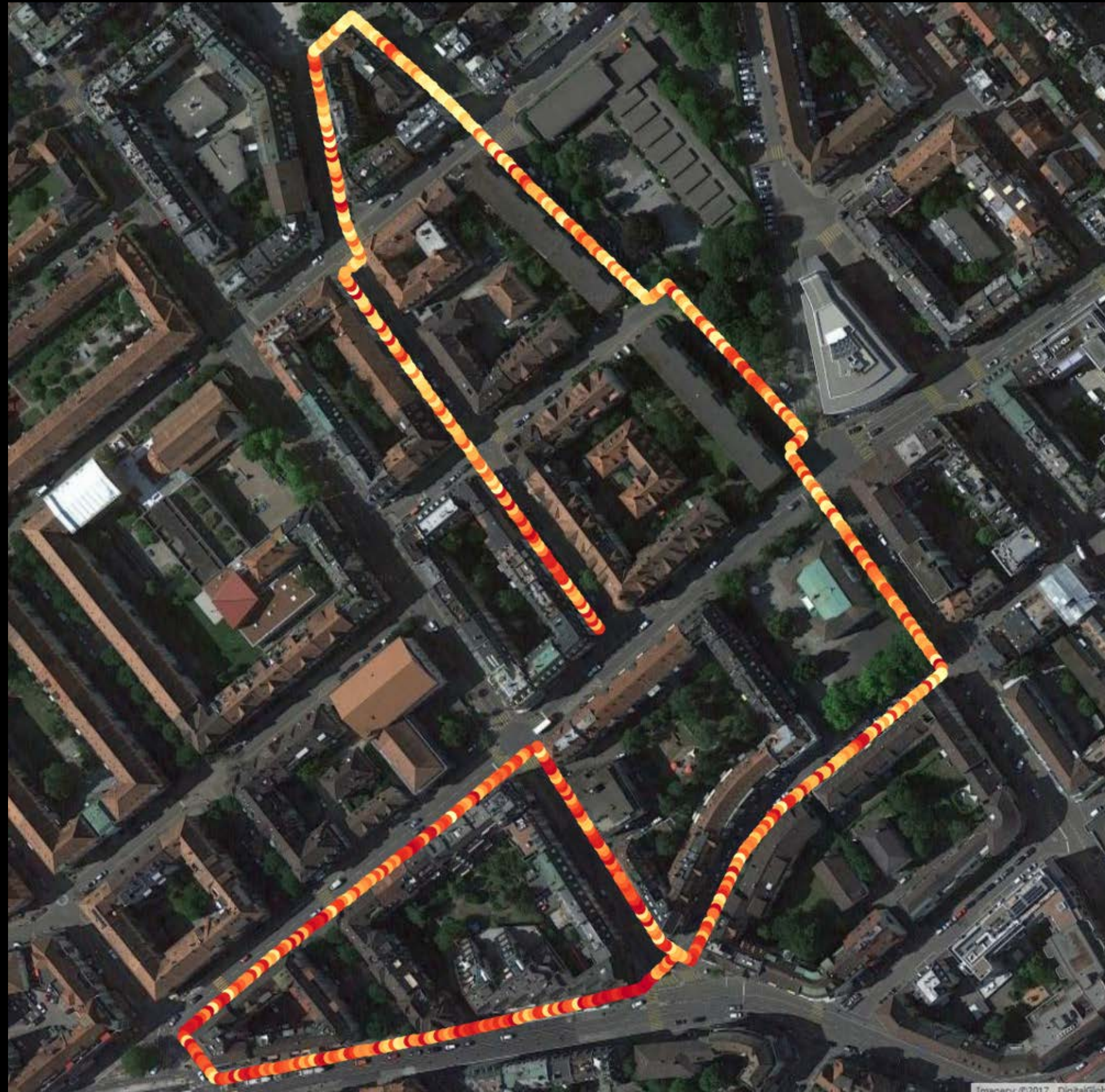
Average response of all participants



Ground floor use

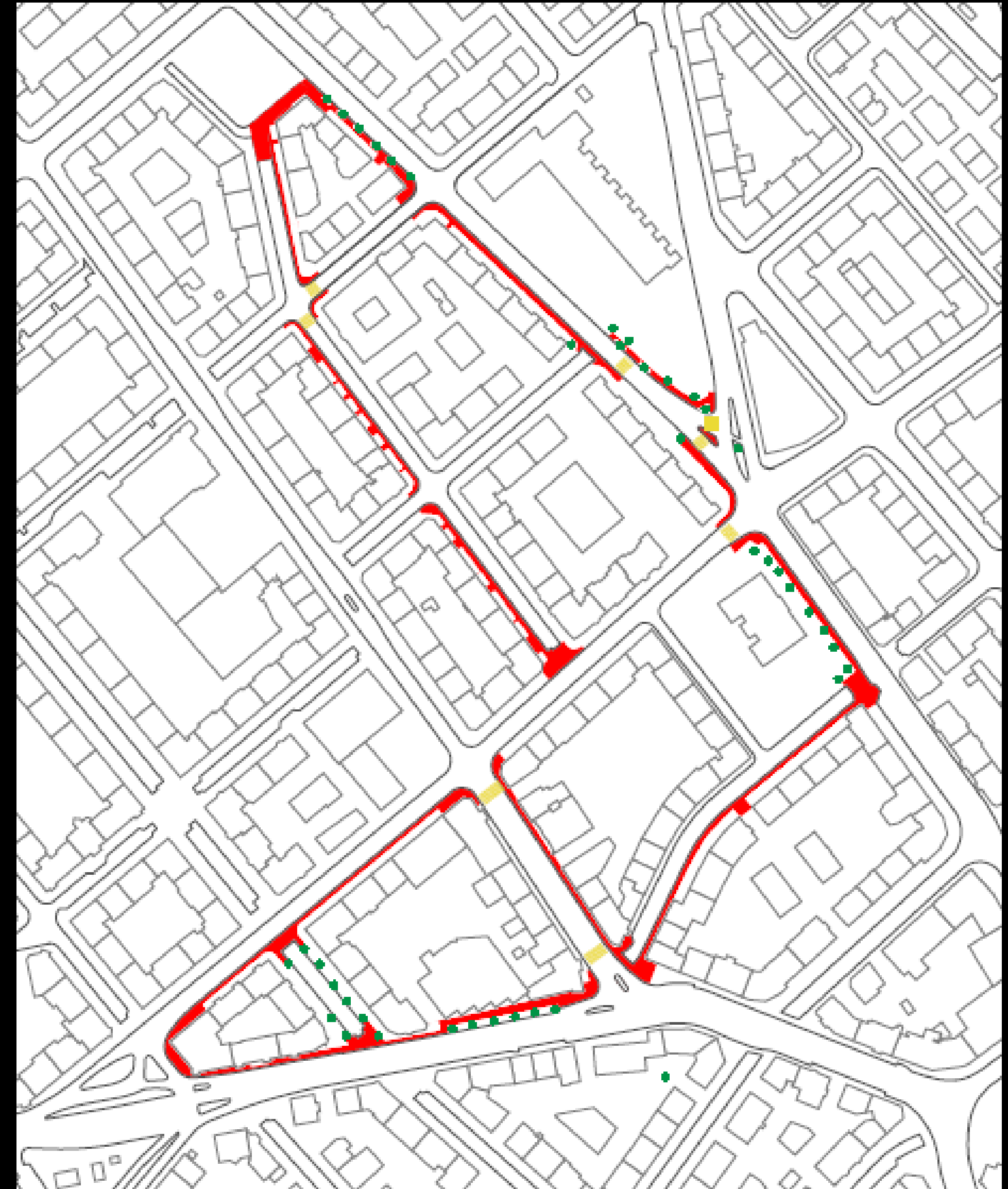


Average response of all participants

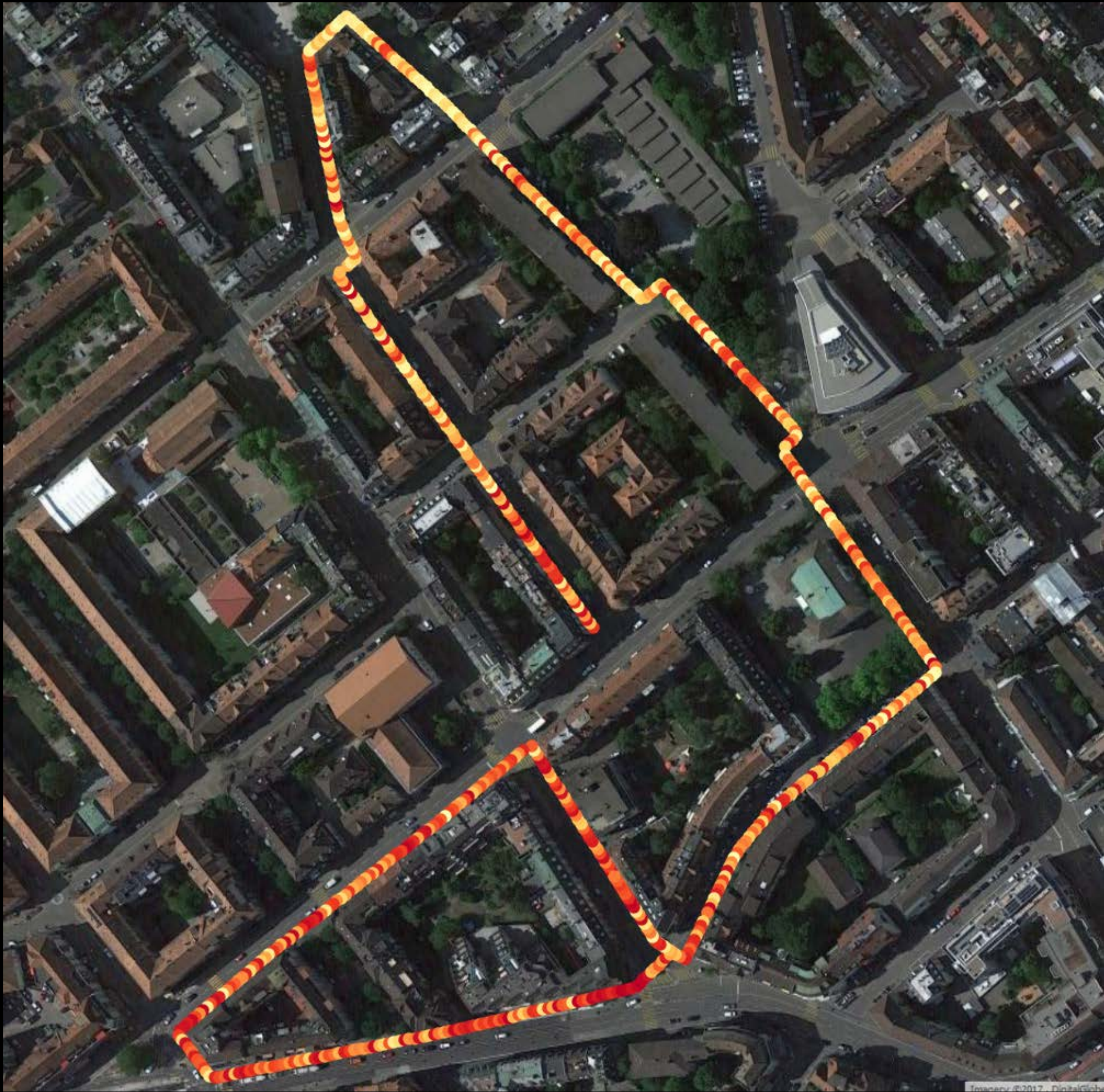


Walking space

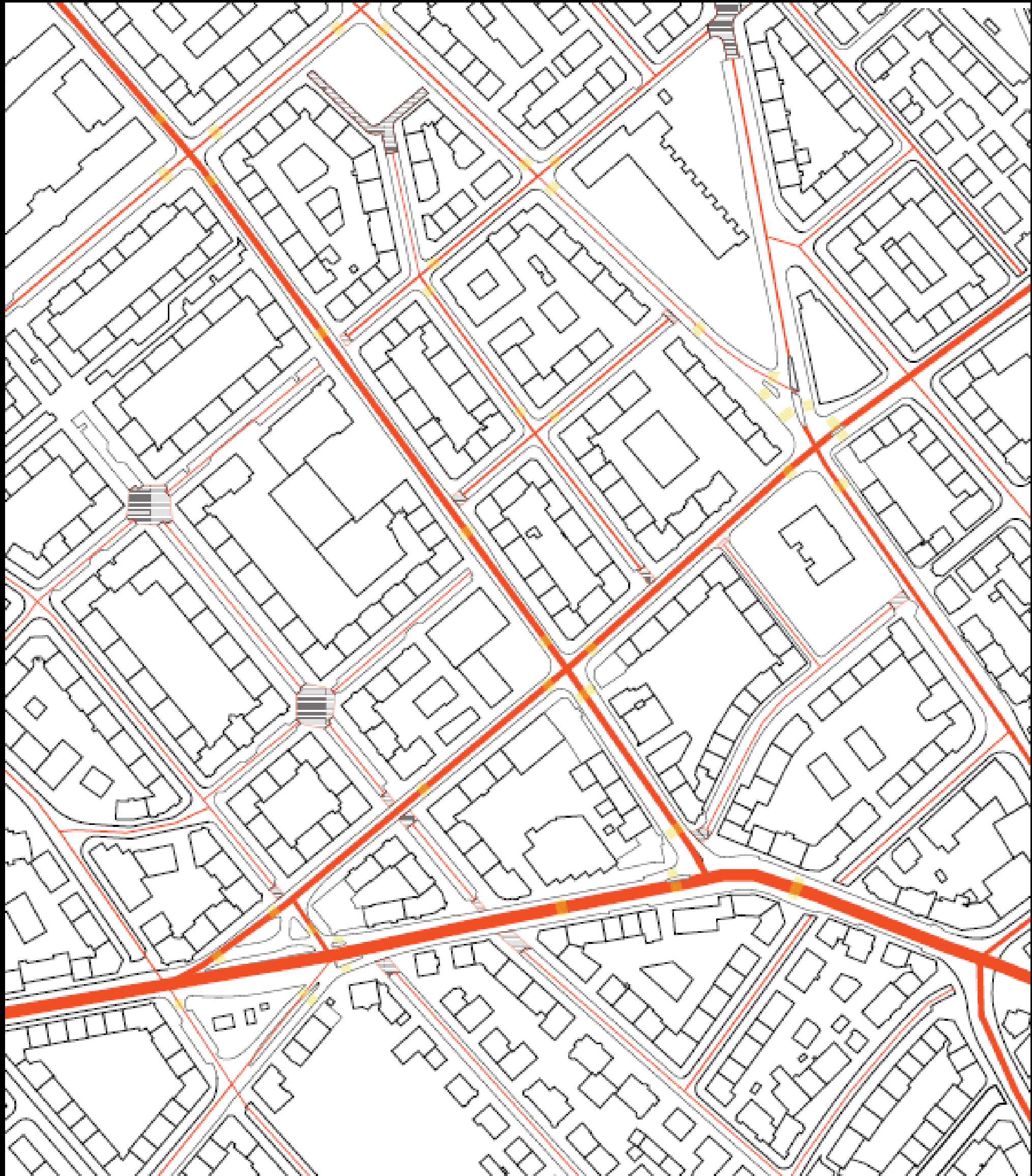
17



Average response of all participants



Traffic speed



Thank you

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