Experimentation evaluation toolkit

How to choose metrics and tools to track in experiments

SPIN UNIT | miltton

FORUM VIRIUM HELSINKI | NORDIC SMART CITY NETWORK | Nordic Innovation | HELSINKI INNOVATION DISTRICTS

About this project

Background

This toolkit is for everyone involved in facilitating experiments in urban space and gathering user information from them.

Different metrics can be chosen based on the aims of the experiment in question.

How to read the doc

Introduction to the metric (toolkit cards).

- What are metrics about.
- How can that information be used.
- Why it should be used.

Tools to measure it with (deployment).

- What kind of digital & physical tools can be used.
- What kind of information can be gathered with the tools.
- Practical consideration related to choosing and using the tools.

X Limitations

This project started when the experiment was taking place. We lack measurements taken before the experiment to evaluate its impact.

Low activity in July meant less data on social media.

When to use the toolkit

Planning ahead

Select the metrics at the very start of the project for compliance with city strategy goals.

The right time to use this toolkit is when you are planning on, what type of information you wish to gather from the experiment and wondering how to do it.

A 3 months work

Start tracking metrics 1 month before, 1 month during and 1 month after the experimentation.

The duration, nature and location of the experiment affect the length of time needed for data gathering, but a good ballpark is one month before, during and after. This way you will be able to identify weekly trends as well as day/night trends.

Seasonal trends

Track data for longer time to account for weather-related biases.

If the experiment is permanent or semi-permanent, the data gathering should be repeated on different seasons in order to cover different types of weather.

Our methodology

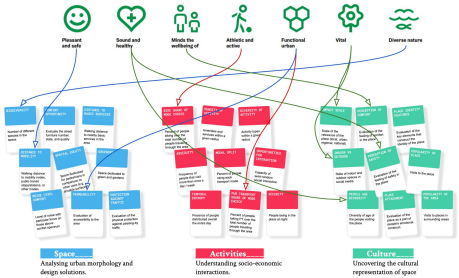
Urban metrics

Preselection of urban metrics for our database.



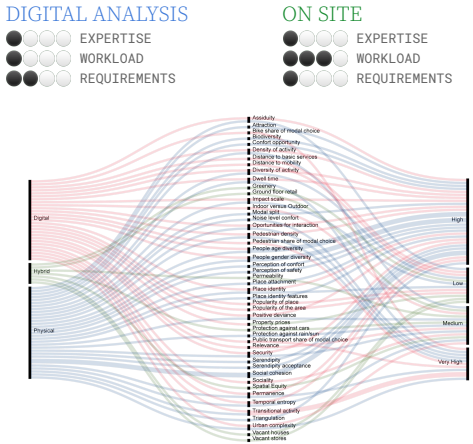
Value setting

Narrowing down the preselection to 20 metrics that track Helsinki strategy goals.



Evaluating deployment

For each of the metric selected we have assessed the efforts needed to deploy them.



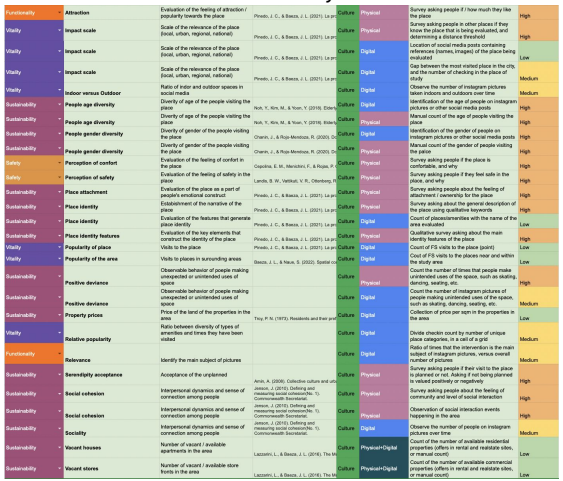
URBAN METRICS

Metrics for urban **Space**



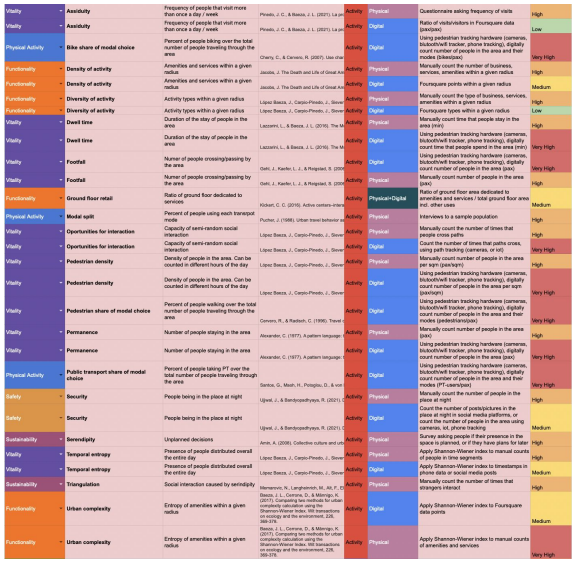
Biodiversity	Biodiversity	Number of different species in the space		Space	Physical	Apply Shannon-Wiener index to the number of species of plants and animals, and the number of entities of each type	High
Wellbeing	Confort opportunity	Evaluate the street furniture number, state, and quality		Space	Physical	Inspect the quality, number, and characteristics of street furniture in the site.	High
Functionality	Distance to basic services	Walking distance to nearby basic services in the area	Mouila, R., Kotze, N., & Block, L. (2011). H	Space	Digital	Distance to the closest service by type (m)	Low
Sustainability	Distance to mobility	Walking distance to mobility nodes, public transit stops/stations, or other modes	Nadapur, Bhagyashree, Shilpa Mallampa	Space	Digital	Distance to the closest mobility service by type (m)	Low
Biodiversity	Greenery	Space dedicated to green and gardens	Inaoui, Edorta, Gabriela Augusto, and Pe	Space	Physical+Digital	Ratio of green spaces/ total (sqm)	Low
Safety	Noise level comfort	Level of noise with particular focus on those above confort spectrum	Yang, W., & Kang, J. (2005). Acoustic com	Space	Physical	Measurement of noise levels in the area (dB)	Very High
Functionality	Permeability	Evaluation of accessibility to the area	Berton, A., Hoyas, D., & Wulff, M. (2021). Permeability of the city–Physical barriers i	Space	Physical+Digital	Ratio of accessible perimeter / total perimeter (m/m)	Medium
Safety	Protection against cars	Evaluation of the physical protection against passing-by traffic	Boston, D. (2006). Streets and sidewalks,	Space	Physical+Digital	Ratio of protected perimeter / total perimeter (m/m)	Medium
Safety	Protection against rain/sun	Assessment of area covered by a surface	Ch, Y. H. M. B., de Oliveira, J. M., & Lopes	Space	Physical	Ratio of covered or semi-covered area / total area (sqm/sqm)	Medium
Sustainability	Spatial Equity	Space dedicated for pedestrians in comparison to other uses (e.g. drivable surfaces)	Tonet, K., Czech, P., & Jurek, M. (2017). T	Space	Physical+Digital	Ratio of walkable/total, ridable/total, drivable/total (sqm)	Medium

Metrics for **Cultural** analytics



Functionality	Attraction	Evaluation of the feeling of attraction / popularity towards the place	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Physical	Survey asking people if / how much they like the place	High
Vitality	Impact scale	Scale of the relevance of the place (local, urban, regional, national)	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Physical	Survey asking people in other places if they know the place that is being evaluated, and determining a distance threshold	High
Vitality	Impact scale	Scale of the relevance of the place (local, urban, regional, national)	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Digital	Location of social media posts containing references (names, images) of the place being evaluated	Low
Vitality	Impact scale	Scale of the relevance of the place (local, urban, regional, national)	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Digital	Gap between the most visited place in the city, and the number of checking in the place of study	Medium
Vitality	Indoor versus Outdoor	Ratio of indor and outdoor spaces in social media		Culture	Digital	Observe the number of instagram pictures taken indoors and outdoors over time	Medium
Sustainability	People age diversity	Diversity of age of the people visiting the place	Noh, Y., Kim, M., & Yoon, Y. (2016). Elder	Culture	Digital	Identification of the age of people on instagram pictures or other social media posts	High
Sustainability	People age diversity	Diversity of age of the people visiting the place	Noh, Y., Kim, M., & Yoon, Y. (2016). Elder	Culture	Physical	Manual count of the age of people visiting the place	High
Sustainability	People gender diversity	Diversity of gender of the people visiting the place	Chanin, J., & Rojo-Mendoza, R. (2020). D	Culture	Digital	Identification of the gender of people on instagram pictures or other social media posts	High
Sustainability	People gender diversity	Diversity of gender of the people visiting the place	Chanin, J., & Rojo-Mendoza, R. (2020). D	Culture	Physical	Manual count of the gender of people visiting the place	High
Safety	Perception of confort	Evaluation of the feeling of confort in the place	Copolina, E. M., Marickhof, F., & Rojas, P.	Culture	Physical	Survey asking people if the place is confortable, and why	High
Safety	Perception of safety	Evaluation of the feeling of safety in the place	Landis, B. W., Vattikuti, V. R., Ottenberg, R	Culture	Physical	Survey asking people if they feel safe in the place, and why	High
Sustainability	Place attachment	Evaluation of the place as a part of people's emotional construct	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Physical	Survey asking people about the feeling of attachment / ownership for the place	High
Sustainability	Place identity	Establishment of the narrative of the place	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Physical	Survey asking about the general description of the place using qualitative keywords	High
Sustainability	Place identity	Evaluation of the features that generate place identity	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Digital	Count of places/amenities with the name of the area evaluated	Low
Sustainability	Place identity features	Evaluation of the key elements that construct the identity of the place	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Physical	Qualitative survey asking about the main identity features of the place	High
Vitality	Popularity of place	Visits to the place	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Culture	Digital	Count of FS visits to the place (point)	Low
Vitality	Popularity of the area	Visits to places in surrounding areas	Baeza, J. L., & Naus, S. (2022). Spatial co	Culture	Digital	Cout of FS visits to the places near and within the study area	Low
Sustainability	Positive deviance	Observable behavior of people making unexpected or unintended uses of space		Culture	Physical	Count the number of times that people make unintended uses of the space, such as skating, dancing, seating, etc.	High
Sustainability	Positive deviance	Observable behavior of people making unexpected or unintended uses of space		Culture	Digital	Count the number of instagram pictures of people making unintended uses of the space, such as skating, dancing, seating, etc.	Medium
Sustainability	Property prices	Price of the land of the properties in the area	Trey, P. N. (1973). Residents and their pref	Culture	Digital	Collection of price per sqm in the properties in the area	Low
Vitality	Relative popularity	Ratio between diversity of types of amenities and times they have been visited		Culture	Digital	Divide checkin count by number of unique place categories, in a cell of a grid	Medium
Functionality	Relevance	Identify the main subject of pictures		Culture	Digital	Ratio of times that the intervention is the main subject of instagram pictures, versus overall number of pictures	Medium
Sustainability	Serendipity acceptance	Acceptance of the unplanned	Amin, A. (2008). Collective culture and urb	Culture	Physical	Survey asking people if their visit to the place is planned or not. Asking if not being planned is valued positively or negatively	High
Sustainability	Social cohesion	Interpersonal dynamics and sense of connection among people	Jenkins, J. (2015). Defining and measuring social cohesion(No. 1). Commonwealth Secretariat.	Culture	Physical	Survey asking people about the feeling of community and level of social interaction	High
Sustainability	Social cohesion	Interpersonal dynamics and sense of connection among people	Jenkins, J. (2015). Defining and measuring social cohesion(No. 1). Commonwealth Secretariat.	Culture	Physical	Observation of social interaction events happening in the area	High
Sustainability	Sociality	Interpersonal dynamics and sense of connection among people	Jenkins, J. (2015). Defining and measuring social cohesion(No. 1). Commonwealth Secretariat.	Culture	Digital	Observe the number of people on instagram pictures over time	Medium
Sustainability	Vacant houses	Number of vacant / available apartments in the area	Lazzarini, L., & Baeza, J. L. (2016). The M	Culture	Physical+Digital	Count of the number of available residential properties (offers in rental and realstate sites, or manual count)	Low
Sustainability	Vacant stores	Number of vacant / available store fronts in the area	Lazzarini, L., & Baeza, J. L. (2016). The M	Culture	Physical+Digital	Count of the number of available commercial properties (offers in rental and realstate sites, or manual count)	Low

Metrics for **Activity** patterns



Vitality	Axxiality	Frequency of people that visit more than once a day / week	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Activity	Physical	Questionnaire asking frequency of visits	High
Vitality	Axxiality	Frequency of people that visit more than once a day / week	Pinedo, J. C., & Baeza, J. L. (2021). La pr	Activity	Digital	Ratio of visits/visitors in Foursquare data (pie/plot)	Low
Physical Activity	Bike share of modal choice	Percent of people biking over the total number of people traveling through the area	Cherry, C., & Cervero, R. (2007). Use cha	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count number of people in the area and their modes (bike/pole)	Very High
Functionality	Density of activity	Amenities and services within a given radius	Jacobs, J. The Death and Life of Great Am	Activity	Physical	Manually count the number of business, services, amenities within a given radius	High
Functionality	Density of activity	Amenities and services within a given radius	Jacobs, J. The Death and Life of Great Am	Activity	Digital	Foursquare points within a given radius	Medium
Functionality	Diversity of activity	Activity types within a given radius	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Physical	Manually count the type of business, services, amenities within a given radius	High
Functionality	Diversity of activity	Activity types within a given radius	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Digital	Foursquare types within a given radius	Low
Vitality	Dwell time	Duration of the stay of people in the area	Lazzarini, L., & Baeza, J. L. (2016). The M	Activity	Physical	Manually count time that people stay in the area (min)	High
Vitality	Dwell time	Duration of the stay of people in the area	Lazzarini, L., & Baeza, J. L. (2016). The M	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count time that people spend in the area (min)	Very High
Vitality	Footfall	Number of people crossing/passing by the area	Gehl, J., Kaefer, L. J., & Reigstad, S. (2006	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count number of people in the area (pax)	Very High
Vitality	Footfall	Number of people crossing/passing by the area	Gehl, J., Kaefer, L. J., & Reigstad, S. (2006	Activity	Physical	Manually count number of people in the area (pax)	High
Functionality	Ground floor retail	Ratio of ground floor dedicated to services	Eckert, C. C. (2016). Active centers-interv	Activity	Physical+Digital	Ratio of ground floor area dedicated to amenities and services / total ground floor area incl. other uses	Medium
Physical Activity	Modal split	Percent of people using each transport mode	Pucher, J. (1988). Urban travel behavior in	Activity	Physical	Interviews to a sample population	High
Vitality	Oportunities for interaction	Capacity of semi-random social interaction	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Physical	Manually count the number of times that people cross paths	High
Vitality	Oportunities for interaction	Capacity of semi-random social interaction	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Digital	Count the number of times that paths cross, using path tracking (cameras, or iot)	Very High
Vitality	Pedestrian density	Density of people in the area. Can be counted in different hours of the day	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Physical	Manually count number of people in the area per sqm (pax/sqm)	High
Vitality	Pedestrian density	Density of people in the area. Can be counted in different hours of the day	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count number of people in the area per sqm (pax/sqm)	Very High
Vitality	Pedestrian share of modal choice	Percent of people walking over the total number of people traveling through the area	Cervero, R., & Radisch, C. (1996). Travel c	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count number of people in the area and their modes (pedestrian/pole)	Very High
Vitality	Permanence	Number of people staying in the area	Alexander, C. (1977). A pattern language:	Activity	Physical	Manually count number of people in the area (pax)	High
Vitality	Permanence	Number of people staying in the area	Alexander, C. (1977). A pattern language:	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count number of people in the area (pax)	Very High
Physical Activity	Public transport share of modal choice	Percent of people taking PT over the total number of people traveling through the area	Santos, G., Maoh, H., Potoglou, D., & von	Activity	Digital	Using pedestrian tracking hardware (cameras, bluboth/wifi tracker, phone tracking), digitally count number of people in the area and their modes (PT-user/pax)	Very High
Safety	Security	People being in the place at night	Ujwal, J., & Bandyopadhyaya, R. (2021).	Activity	Physical	Manually count the number of people in the place at night	High
Safety	Security	People being in the place at night	Ujwal, J., & Bandyopadhyaya, R. (2021).	Activity	Digital	Count the number of posts/pictures in the place at night in social media platforms, or count the number of people in the area using sameas, let, phone tracking	Medium
Sustainability	Serendipity	Unplanned decisions	Amin, A. (2008). Collective culture and urb	Activity	Physical	Survey asking people if their presence in the space is planned, or if they have plans for later	High
Vitality	Temporal entropy	Presence of people distributed overall the entire day	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Physical	Apply Shannon-Wiener index to manual counts of people in time segments	High
Vitality	Temporal entropy	Presence of people distributed overall the entire day	López Baeza, J., Carpio-Pinedo, J., Sever	Activity	Digital	Apply Shannon-Wiener index to timestamps in phone data or social media posts	Medium
Sustainability	Triangulation	Social interaction caused by serendipity	Hamanova, N., Langhanonh, M., Ali, F., D	Activity	Physical	Manually count the number of times that strangers interact	High
Functionality	Urban complexity	Entropy of amenities within a given radius	Baeza, J. L., Corrona, D., & Mánrigo, K. (2017). Computing two methods for urban complexity calculation using the Shannon-Wiener Index, 9th transactions on ecology and the environment, 228, 369-379.	Activity	Digital	Apply Shannon-Wiener index to Foursquare data points	Medium
Functionality	Urban complexity	Entropy of amenities within a given radius	Baeza, J. L., Corrona, D., & Mánrigo, K. (2017). Computing two methods for urban complexity calculation using the Shannon-Wiener Index, 9th transactions on ecology and the environment, 228, 369-379.	Activity	Physical	Apply Shannon-Wiener index to manual counts of amenities and services	Very High

**Extracts from SPIN Unit database of metrics for illustrative purposes*

VALUE SETTING - 20 SELECTED METRICS

SPACE

BIODIVERSITY
Diversity of natural species

PERMEABILITY
Easiness to get in and out the public space

SPATIAL EQUITY
Space dedicated to pedestrians vs cars

ACTIVITIES

PERMANENCE
Number of people staying in the area

FOOTFALL
Number of people passing by

BIOPHILIA
Use of green areas

TRANSIT STOPS RELEVANCE
Popularity of public transit

DWELL TIME
Time spent by people in public space

RICHNESS
Density of amenities and services

CULTURE

RELEVANCE
The scale of the relevance of public spaces

SOCIALITY
Social dynamics in public space

POSITIVE DEVIANCE
Unexpected and unintended uses

LOCAL LANDMARKS
Features that represent the place

POPULARITY
How crowded is the space

AGE GROUPS
Diversity of the age of visitors

DIGITAL FOOTPRINT
How the space is perceived online

ASSIDUITY
The number of returning visitors

EMOTIONAL APPEAL
Positive and Negative emotions in public space

GENDER GAP
Diversity of gender of visitors

OUTDOOR VS INDOOR
Preference of outdoor or outdoor space

DEPLOYMENT

PERMANENCE
The number of people that are dwelling in a specific area in a time interval.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

FOOTFALL
The number of people entering a street or an area in a time interval.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

DWELL TIME
The average time spent by people within an area or near an amenity or landmark.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

RICHNESS
The number of amenities and services within an area or along a street.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

SOCIALITY
Surveying interpersonal dynamics and socialisation among people.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

POSITIVE DEVIANCE
Recognising unexpected or unintended uses that contribute to the livelihood of a public space.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

LOCAL LANDMARKS
Evaluating the social use of local landmarks.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

DIGITAL FOOTPRINT
Analysing the sense of place of public space on social media.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ASSIDUITY
The number of returning visitors in a public space.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

POPULARITY
Measuring how popular is the public space, amenity or living lab experiment.

DIGITAL ANALYSIS
EXPERTISE
WORKLOAD
REQUIREMENTS

ON SITE
EXPERTISE
WORKLOAD
REQUIREMENTS

DEPLOYMENT

EMOTIONAL APPEAL
Measuring how popular is the public space, amenity or living lab experiment.

DIGITAL ANALYSIS


ON SITE


GENDER GAP
Measuring gender gaps in public space.

DIGITAL ANALYSIS


ON SITE


AGE GROUPS
Measuring the age diversity of people in public space or who are actively using the living lab experiment.

DIGITAL ANALYSIS


ON SITE


INDOOR VS OUTDOOR
Mapping people's preference for outdoor or indoor spaces.

DIGITAL ANALYSIS


ON SITE


RELEVANCE
Ranking the social relevance of places in the city.

DIGITAL ANALYSIS


ON SITE


BIODIVERSITY
Mapping the presence and measuring diversity of natural species in the area.

DIGITAL ANALYSIS


ON SITE


SPATIAL EQUITY
Measuring the space reserved for pedestrians compared to the space reserved for vehicles.

DIGITAL ANALYSIS


ON SITE


PERMEABILITY
Mapping the accessibility of public spaces and easiness of movement throughout the space.

DIGITAL ANALYSIS


ON SITE


TRANSIT STOPS RELEVANCE
Measuring the use and popularity of transit stops near the living lab experiment.

DIGITAL ANALYSIS


ON SITE


BIOPHILIA
The number of people and the time they spend in green areas.

DIGITAL ANALYSIS


ON SITE


Using the toolkit

Metric category

ACTIVITY



Metric name

PERMANENCE

The number of people that are dwelling in a specific area in a time interval.

Metric description



City goals tracked by the metric

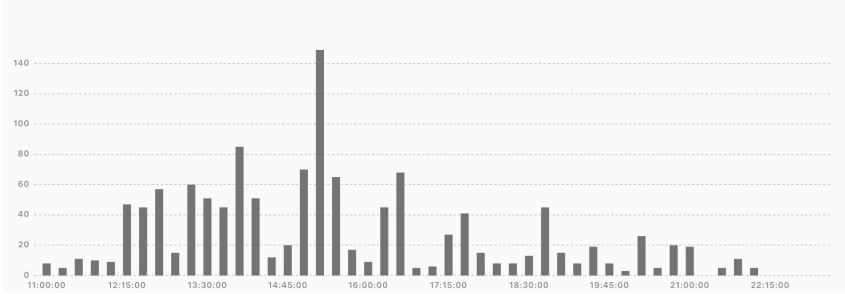
FEATURES

This is measured by counting how many people are stationary in the area in a given time interval.

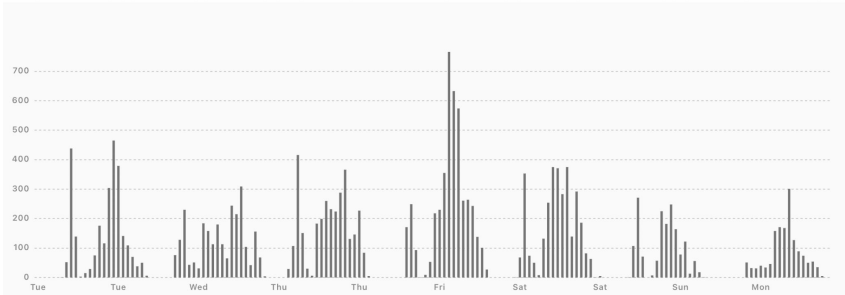
How to use this metric

This metric is useful to determine when interventions increased both the attractivity and the comfort of the space.

Why to use this metric



A typical data collection output for this metric (hourly)



A typical data collection output for this metric (daily)

Using the toolkit

Digital

EXPERTISE
WORKLOAD
REQUIREMENTS

Install AI-enabled tracking cameras (eg. FYMA) to count the number of people in the area in intervals of 15 minutes or 1 hour. Collect data for at least 4 weeks.

How to implement the metric through data collection and analysis.

REQUIREMENTS

- A stable electricity connection for each mobile camera.
- Also existing IoT surveillance cameras can be used.

Requirements for the minimal deployment of this metric

On Site

EXPERTISE
WORKLOAD
REQUIREMENTS

TYPE 1 Survey permanence in an area for intervals of 15 mins. Carry out site observations at least during the morning and evening peak hours. Repeat during weekdays and weekends.

TYPE 2 Surv… intervals of 15… people are performing. Later it will be possible to determine the most permanent activities in the area.

How to implement the metric through on-site data collection and analysi…ties

REQUIREMENTS

- A customized worksheet to count people.
- At least one surveyor per area.

Requirements for the minimal deployment of this metric

/

DIGITAL

Footfall is best measured with digital means because it allows gathering data 24/7 and acqui… across times of the day… week.

The pros of using automated data collection and digital analysis tool to evaluate the intervention.

ON SITE

On Site analysis is beneficial in the case there is int… behaviour…

The pros of using on site analysis to collection qualitative and quantitative data by a surveyors.

HYBRID

Combining the two would allow to accurately analyse trends but also to observe what ar… people perform in public space.

The advantages of combining both approaches.

PERMANENCE

Method

ACTIVITY

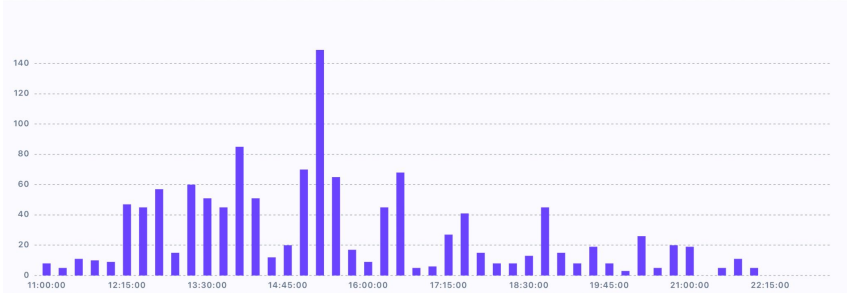
PERMANENCE

The number of people that are dwelling in a specific area in a time interval.

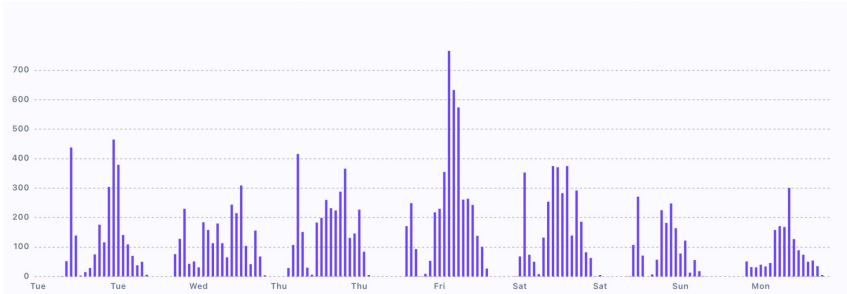
FEATURES

This is measured by counting how many people are stationary in the area in a given time interval.

Useful to determine when interventions increased both the attractivity and the comfort of the space.



A typical data collection output for this metric (hourly)



A typical data collection output for this metric (daily)

PERMANENCE

Deployment

Digital

EXPERTISE
WORKLOAD
REQUIREMENTS

Install AI-enabled tracking cameras (eg. FYMA) to count the number of people in the area in intervals of 15 minutes or 1 hour. Collect data for at least 4 weeks.

REQUIREMENTS

- A stable electricity connection for each mobile camera. The number of cameras depends on the size of the public space to cover.
- Also existing IoT surveillance cameras can be used.
- Software to visualize the data is recommended (eg. Tableau)

On Site

EXPERTISE
WORKLOAD
REQUIREMENTS

TYPE 1 Survey permanence in an area for intervals of 15 mins. Carry out site observations at least during the morning and evening peak hours. Repeat during weekdays and weekends.

TYPE 2 Survey the permanence in a given area for intervals of 15mins and record what type of activities people are performing. Later it will be possible to determine the most permanent activities in the area.

REQUIREMENTS

- A customized worksheet to count people.
- At least one surveyor per area.
- At least one survey during the day, nighttime, weekdays, and weekends.

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DIGITAL

Permanence is best measured with digital means because it allows gathering data 24/7 and acquiring detailed hourly trends across times of the day and days of the week.

ON SITE

On Site analysis is beneficial in the case there is interest to collective qualitative behavioural data.

HYBRID

Combining the two would allow to accurately analyse trends but also to observe what are the type of activities that people perform in public space.

Case: Ylä-Malmi

About the case

From April to August in 2022 there has been a placemaking experiment in Helsinki in Ylä-Malmi square.

In the experiment consisted of an installation of modular furniture including wild flowers, which have been cared for by the local kindergarten.

Our team joined the experiment in June and conducted data analysis using Hypercell and conducted digital anthropological research on Foursquare and Instagram platforms.

15 metrics deployed

Within the scope of this project, we selected those metrics that were most feasible.

Selection criteria

1. The metric can be used to monitor at least one of Helsinki's strategy goals.
2. The metric was simple enough to be potentially be measured during the summer
3. The selection of metrics would lean towards publicly available users' generated data.

About the metrics

Space, Activity and Culture were analysed in and around the square.

The analysis of urban space is limited to 1 metric due to the small size of the experiment.

Activity metrics are focused on assessing changes in the users base of the area.

Metrics about the culture were selected with the intent to analyse the potential impact of the experiment on the intangible image of the area.

15 METRICS TESTED IN YLÄ-MALMI

SPACE

BIODIVERSITY

Diversity of natural species

ACTIVITIES

PERMANENCE

Number of people staying in the area

FOOTFALL

Number of people passing by

BIOPHILIA

Use of green areas

TRANSIT STOPS RELEVANCE

Popularity of public transit

DWELL TIME

Time spent by people in public space

RICHNESS

Density of amenities and services

CULTURE

RELEVANCE

The scale of the relevance of public spaces

SOCIALITY

Social dynamics in public space

POSITIVE DEVIANCE

Unexpected and unintended uses

POPULARITY

How crowded is the space

AGE GROUPS

Diversity of the age of visitors

EMOTIONAL APPEAL

Positive and Negative emotions in public space

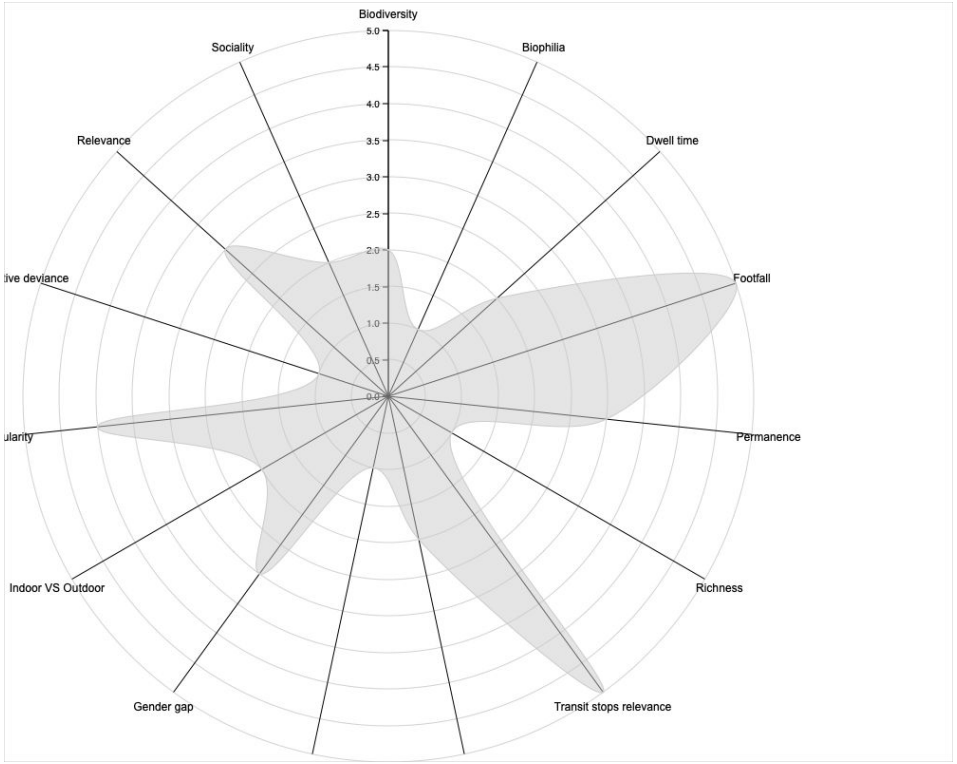
INDOOR VS OUTDOOR

Preference of outdoor or outdoor space

GENDER GAP

Diversity of gender of visitors

15 METRICS TESTED IN YLÄ-MALMI



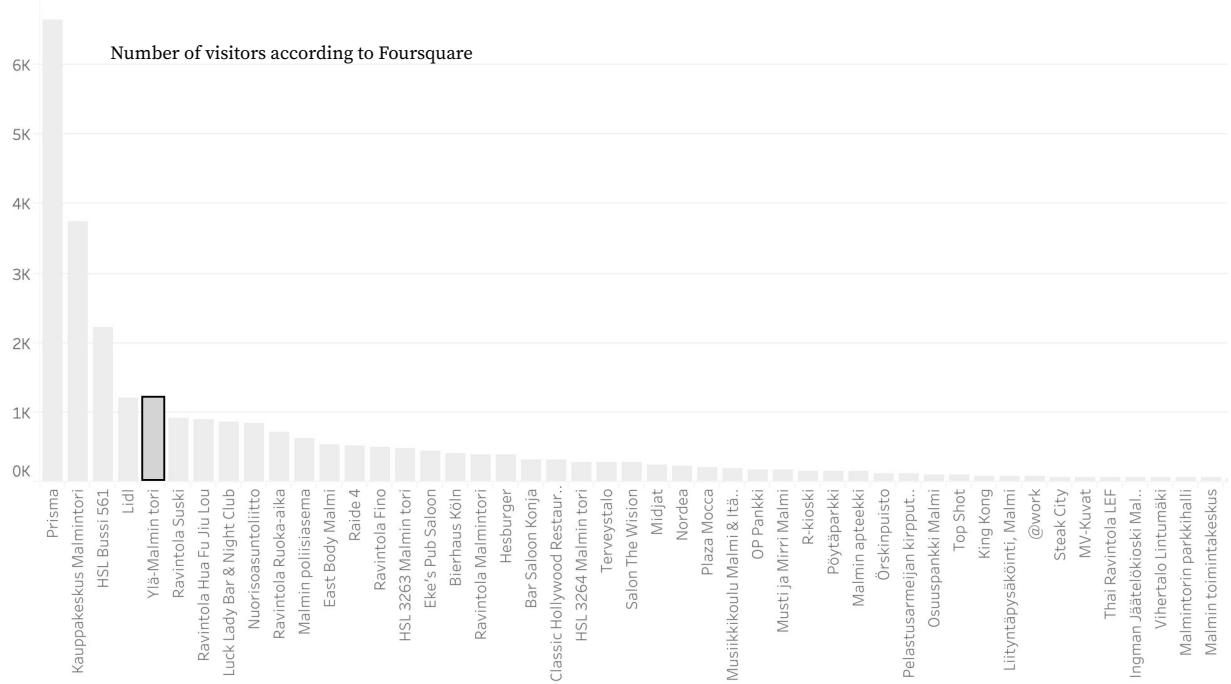
RELEVANCE

Culture

Ylä-Malmi is a local landmark

Yla-Malmin tori is the 5th most visited place in a 500 meters radiu (5min walk), with 1 192 visits. This positions Ylä-Malmin tori as a local landmark and the first of the public spaces. The square has a similar level of relevance in the collective imaginary as the Prisma or Lidl supermarkets, which are part of people's routine and an active part in the construction of their identities.

When observing its position in the city of Helsinki ranking, we find Ylä-Malmin tori at the cluster of local impact, in contrast with large urban-scale impact locations such as the airport (576.675 visits) or Kauppakeskus Kamppi (254 823vists).



POSITIVE DEVIANCE

Culture

1 in 100 moments were self-organized

In the case of Ylä-Malmin tori on Instagram, only five pictures from a sample of 250 pictures over one year depicted positive deviance attitudes. We have observed elements of appropriation of public space mostly through art and spontaneous activities. Despite being a large square with a relatively flat surface, only a limited number of skaters and street-sports were observed. Temporary uses and self-organised events or gatherings were also not present in the digital footprint of the square as they usually are in other squares in Helsinki.











AGE GROUPS

Culture

Publicness fosters diversity

To perform this analysis, we selected all pictures in Ylä-Malmin tori that show more than one person, and we classified the people according to a (subjective) perception of their age. Later, pictures were classified according to the number of age groups present in the image, considering “Child”, “Adolescent”, “Young adult”, “Adult”, and “Senior”.

Only 5% of the pictures were found with the five age groups (maximum integration), while the great majority of pictures were portraying only one age group.

Images with a more age groups together were mainly found in public spaces.



1 age group
71%



2 age groups
24%



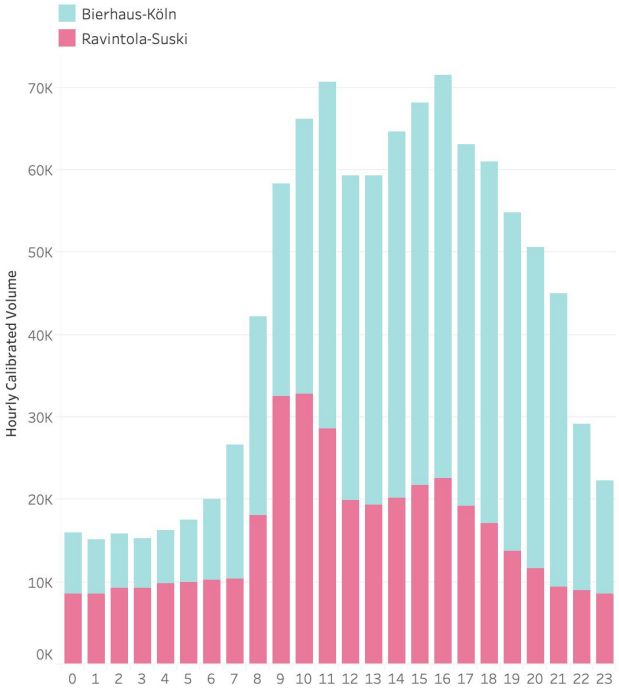
5 age groups
5%

FOOTFALL

Activities

Morning rush

Hypercell data allow the analysis of general trends and it is not ideal to map pedestrian volumes. However we can observe that increased pedestrian volumes occur in the morning between 9 and 11.





SUMMARY

BIODIVERSITY

Number of different species in the place

Is the main element in (some) pictures

Biodiversity is present in few spots in the square but not enough to have an impact.

FOOTFALL

Number of people passing by

Morning rush

The highest estimated volume of pedestrian traffic is between 9 and 11

RICHNESS

Number of amenities and services

Few activities

The square is not offering a rich variety of activities or amenities, losing visitors that instead lead to the mall even in good weather conditions.

PERMANENCE

Number of people staying in the area

Popular after-work

The are more people staying in Malmi in a given time during the afternoon (14:00 to 16:00)

BIOFILIA

Use of green areas

Not so popular

The nearest park (Örskinpuisto) had a relatively low number of visits.

SOCIALITY

Social dynamics among people

9% social

Both in public space and in the mall, only 9 in 100 pictures portrayed social activities.

TRANSIT STOPS RELEVANCE

Access points to the place by PT

Popular transit

Public transit stops are among the most popular posts around the square.

DWELL TIME

Time spent by people staying in the area

Morning dwells longer

During the morning (9 to 11) people stay longer in the area. LIkely influences by longer stay of lunch breaks.

POSITIVE DEVIANCE

Unexpected and unintended uses

1 in 100 moments are self-organized

A lack of spontaneous activities and sports despite the open design of the square.

SUMMARY

EMOTIONAL APPEAL

Positive and Negative emotions in the place

Neutral sentiments

Lack of a clear character but at the same time no strong negative feelings.

AGE GROUPS

Diversity of the age of visitors

Publicness fosters diversity

All age groups together were found only in 5% of the sample, however those were in public space.

POPULARITY

Online presence of the place

Steady number of visitors

The presence of the living lab experiment didn't increase the popularity of the square.

OUTDOOR VS INDOOR

The preference for outdoor space

80% prefer indoor

The shopping mall offers more activities and opportunities that are worth taking pictures of.

GENDER GAP

Diversity of gender of visitors

Inclusive across the board

Both indoor and outdoor spaces are open and inclusive.

RELEVANCE

Scale of the relevance of the place for the city

Ylä-Malmi is a local landmark.

Yla-Malmin tori is the 5th most visited place in a 500 meters radiu




SPIN UNIT
miltton
FORUM VIRIUM HELSINKI
NORDIC SMART CITY NETWORK
Nordic Innovation
HELSINKI INNOVATION DISTRICTS