

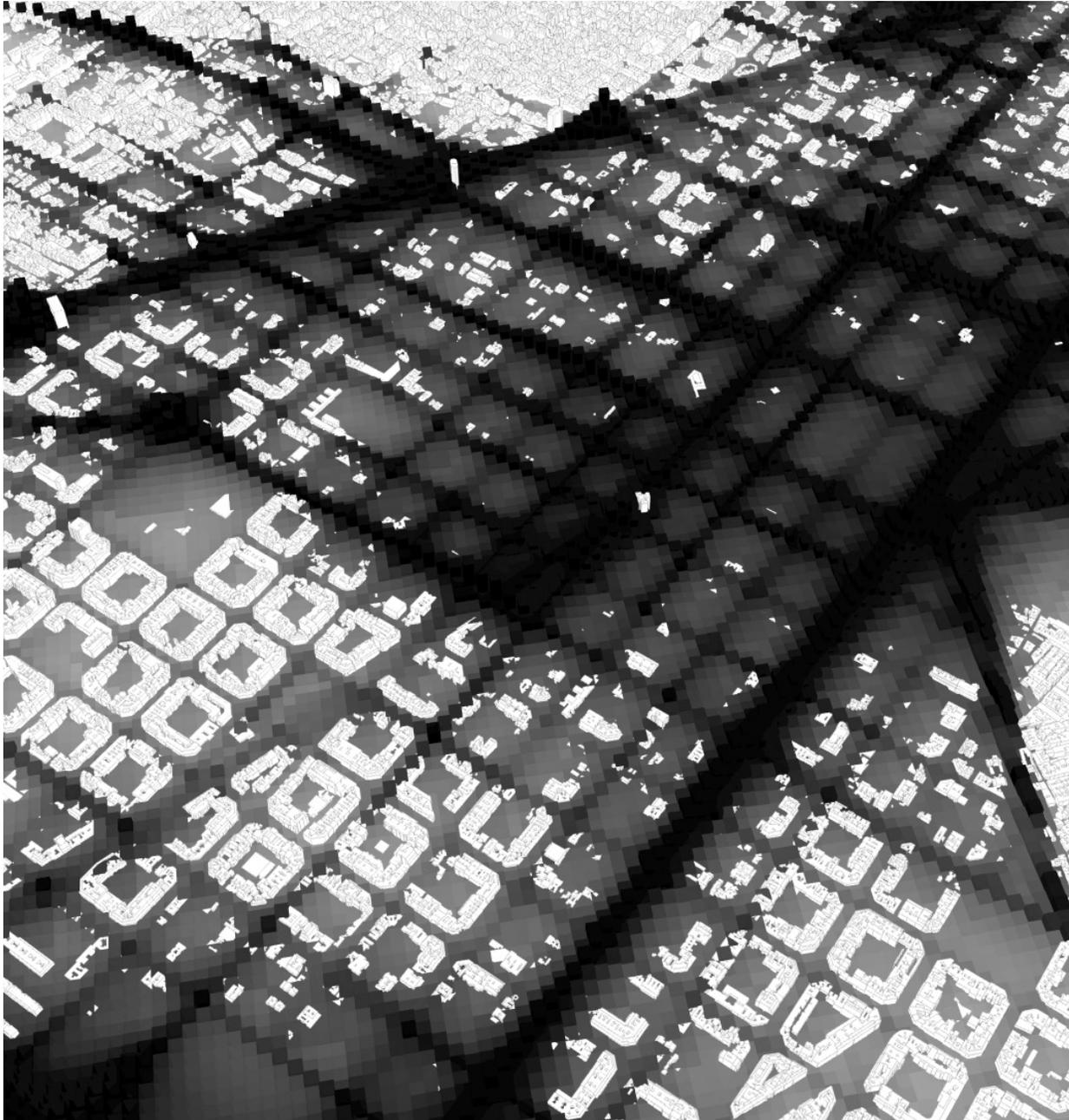


Building futures with cities

EPFL-ENAC

Visiting Studio Spring 2022

Prof. Mar Santamaria + Pablo Martínez



Brief

It is urgent to approach the planning of cities under a radical vision of the future, that faces the short and long-term transformations needed to preserve the habitability of our planet. We must look at cities as survival strategies putting together collective interests and needs. Cities are not the problem but the solution.

The concentration of population and the consumption of energy, goods and food in urban areas means that cities are the places where the challenge of collective survival can be addressed - while configuring the resulting social order governing our lives.

Contemporary socio-economic disruptions arising from the digital transformation have dissolved the hierarchies imposed by space, challenging us to understand how they invalidate previous urban regulations and their implicit social pacts.

Again, we must look at cities and redraw them in order to understand the origin and effects of these profound transformations. We need to expand the field of action of urban planning under the perspective of health, well-being, urban quality, prosperity, climate change and governance.

During the studio, we will explore several scenarios of urban transformation based on a **vocabulary of futures to rethink cities along with the disciplines and tools that ultimately shape them.**



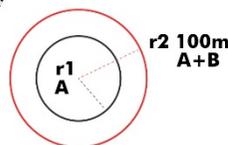
Single Zone

The district has a single regulation zone, except la Rambla and the harbour area.



Double radii

Density of activities calculated in a double radii:
Radio 1: same typology
Radio 2: nocturnal activities



Vulnerability

In areas with extreme residential vulnerability a building quality certificate is required.



Width of street

Restriction of auditoriums and supermarkets < 7m.



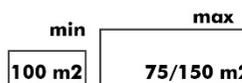
Day/Night

- Auditoriums and concert halls
- Music venues
- Bar and restaurants
- Gambling activities
- Audiovisual
- Food specialists
- Small supermarkets
- Meublés

- Theaters / cinemas
- Sports
- Cultural and social
- Local products
- Supermarkets
- Personal mobility vehicles
- Travel services

Min/max floor area

Limitation bars and restauración, food retailers and personal vehicles.



An informed planning

Today, a new information ecosystem is available (open data from public bodies and big data generated by the use of information technologies) to generate complex diagnoses and inform urban planning. Furthermore, quantitative data must be complemented with qualitative visions of the city co-produced and supervised by citizens.

A new urban infrastructure

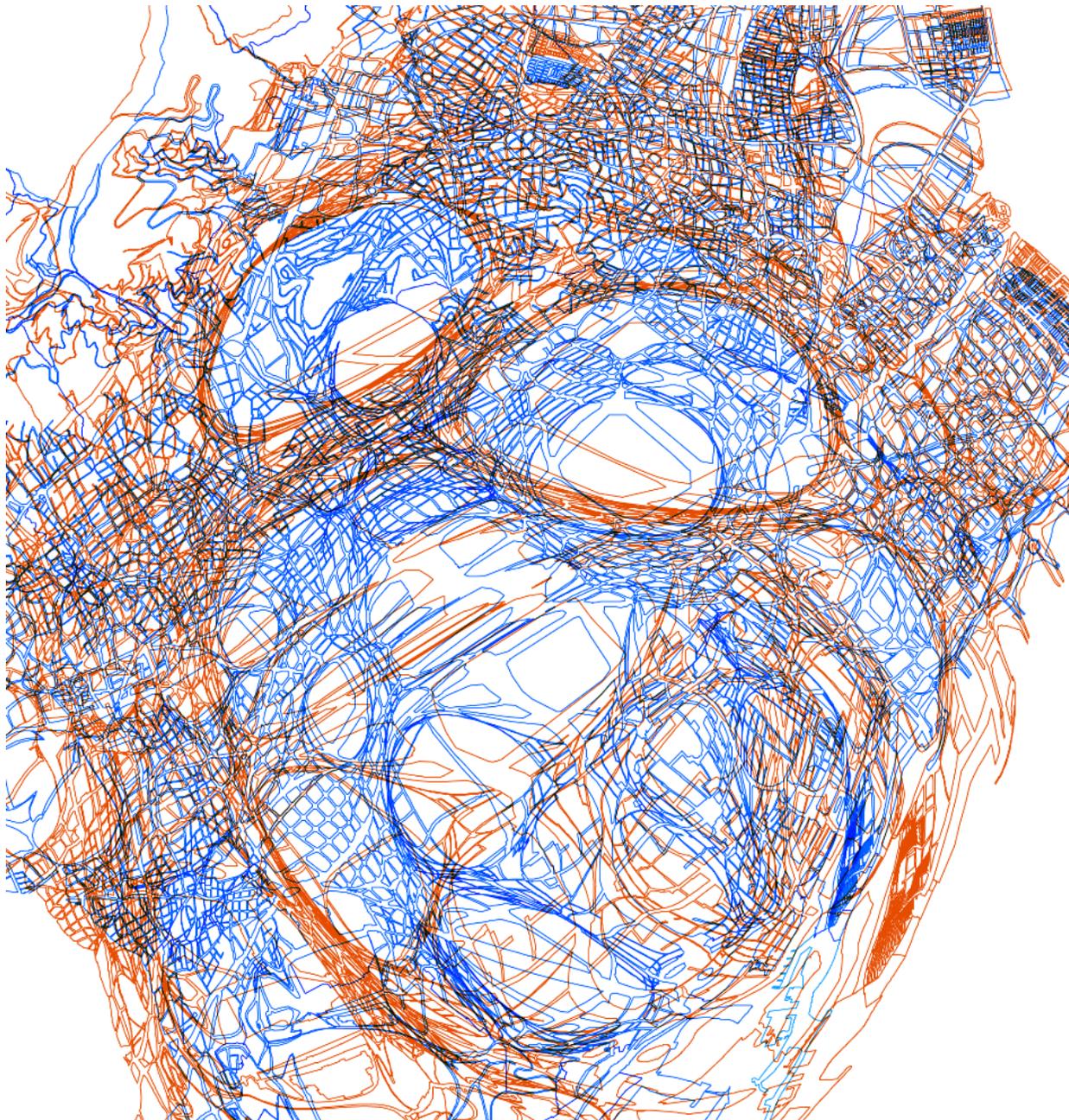
Public leadership ensures that urban planning is based on transparency and digital sovereignty. We must avoid the creation of information gaps (as many urban issues have yet to be digitized) while ensuring that data infrastructures remain public and they are not dominated by big tech corporations operating in cities.

Co-producing the city

Urban visions must be built upon external disruptions (cultural, environmental and technological) while, at the same time, they should include the perspective of inhabitants. They can contribute in the different steps of the planning process (from diagnosis to the final proposal), developing and making future visions alive.

Scales and modes of intervention

We propose complex ways of intervening in the city: from diagnosis and planning to other strategies (including management and evaluation of results). We need to find novel tools (from the public policy to the app) to measure, analyze, design and readjust.



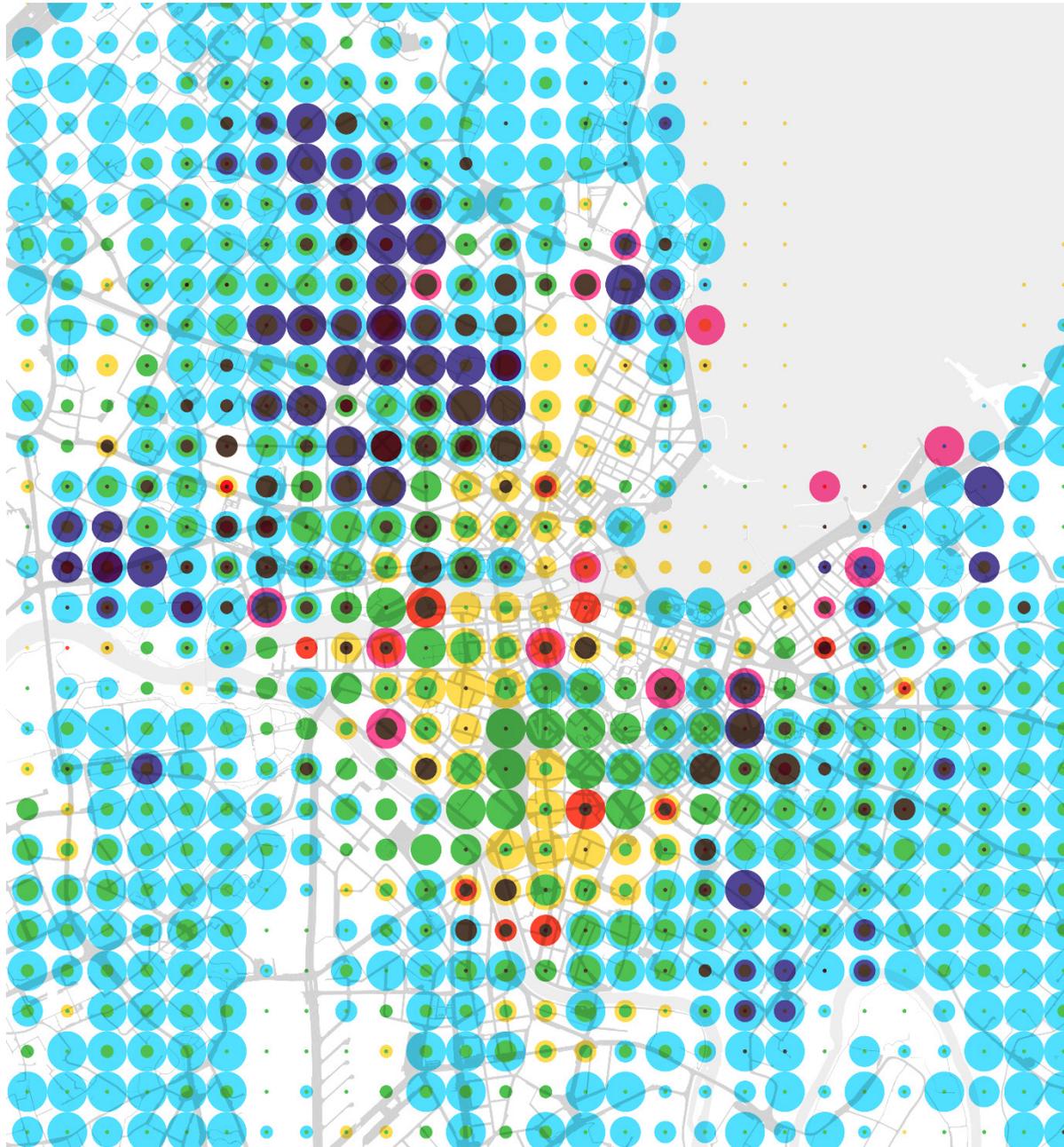
The 2 cities

The **built city** is slowly erected and transformed. Today, many European cities have reached a permanent urban form, far from the unstoppable expansion of the last decades. However, streets, squares, parks and built space are also the background of another city, the **lived city**, a synthesis of a collective way of living that constantly changes.

If over the centuries the existing technologies have focused on the physical transformation of the environment (through the construction of buildings, roads, aqueducts, etc.), today the so-called digital technologies of computation, sensorization and communication act directly on the lived city.

They disregard the direct morphological transformation of the environment and disrupt the tools and infrastructures that strengthen relationships, agreements and economic forces.

The studio will explore how these same technologies - that produce the city- generate major changes in the physical organization of uses, housing, mobility, labour and governance.



Method

The students will work learn how to analyze and extract meaningful information from large amounts of urban data. We will address the process of capturing and interpreting information spatially to develop a research and a project that responds to the identified societal challenges.

Concepts:

- City observation trough transversal points of view
- Digital data acquisition
- Working and analyzing with databases (SQL)
- Cartographical representation (using QGIS)
- On-site verification and reinterpretation
- Quantification of scenarios
- Drafting of data-driven urban projects and strategies

Outputs:

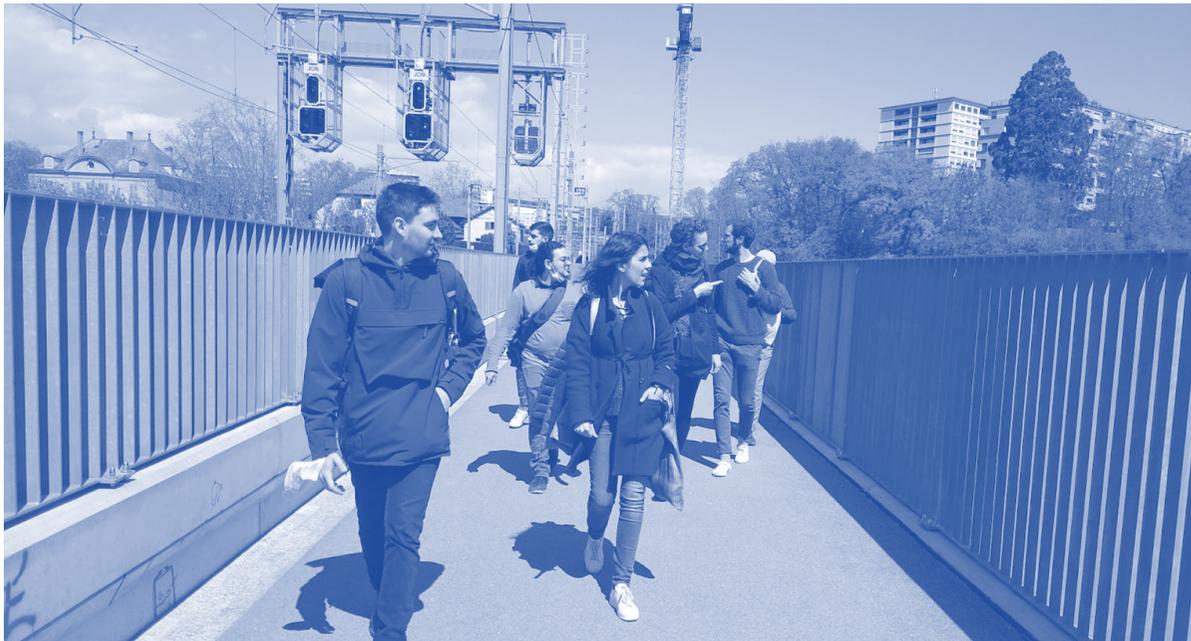
- Research on a selected topic
- Cartographic series
- Multiple scale and format proposal (urban project, urban planning, building, management system, public policy, urban technology, etc.)

Site:

The unit will be deployed in Genève as a case study.

Recommended courses:

Cartography unit



Structure of the seminar

Schedule

12 weeks
2 days x week

Formats

Reviews:

- group debates
- group reviews
- individual reviews

Tutorials:

- technical aspects (coding and GIS tools)
- public policies and urban planning case studies

Field trip to Genève

Guest lectures

Lectures

Jury

Mid-term review

End of semester review

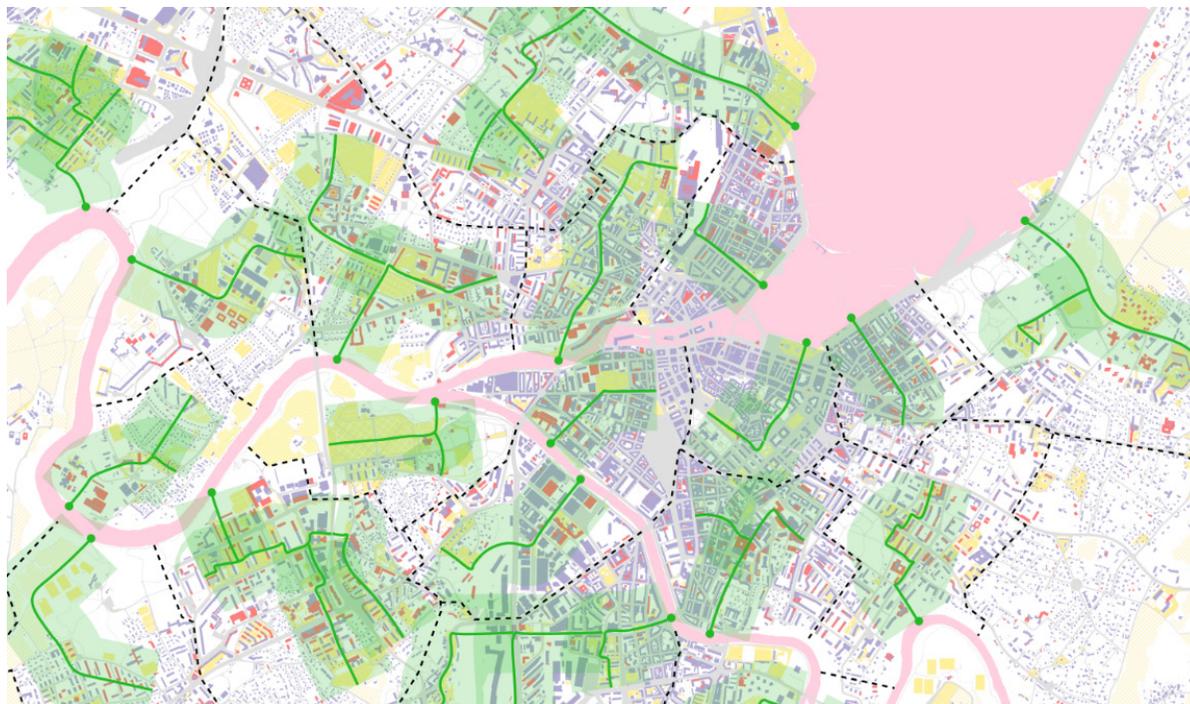
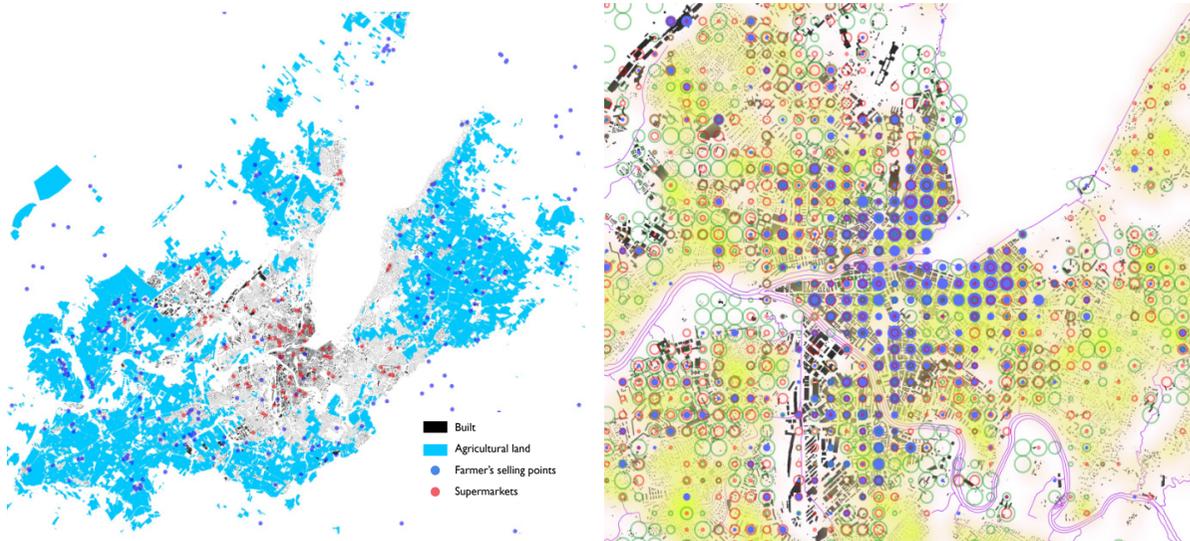
Examples of students work

Miro board 2020-2021

https://miro.com/app/board/o9J_IFb61RY=



Vocabulary of futures



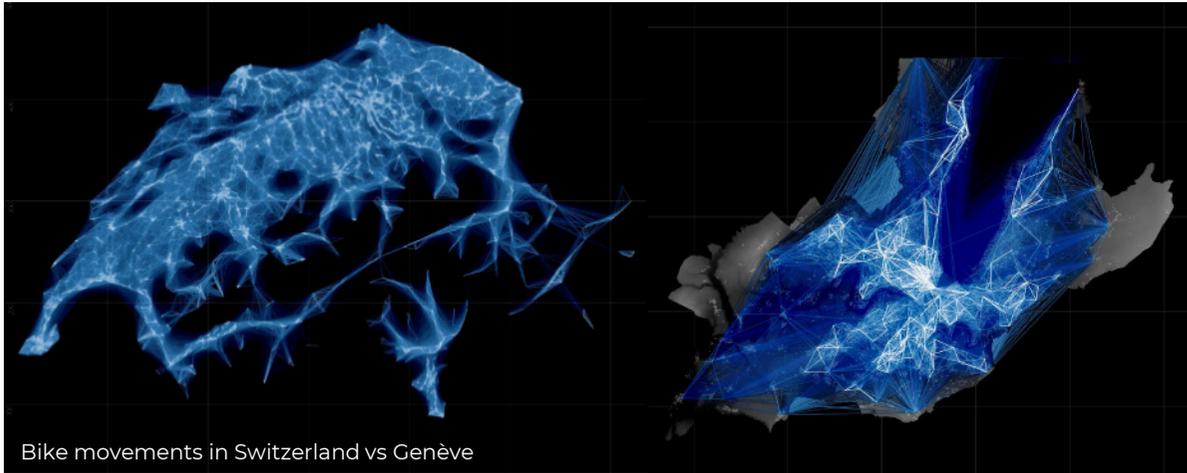
Food infrastructure in Genève region and city (top) and strategy (bottom). Research and project by Sébastien Weber (2020-21)

The hungry city

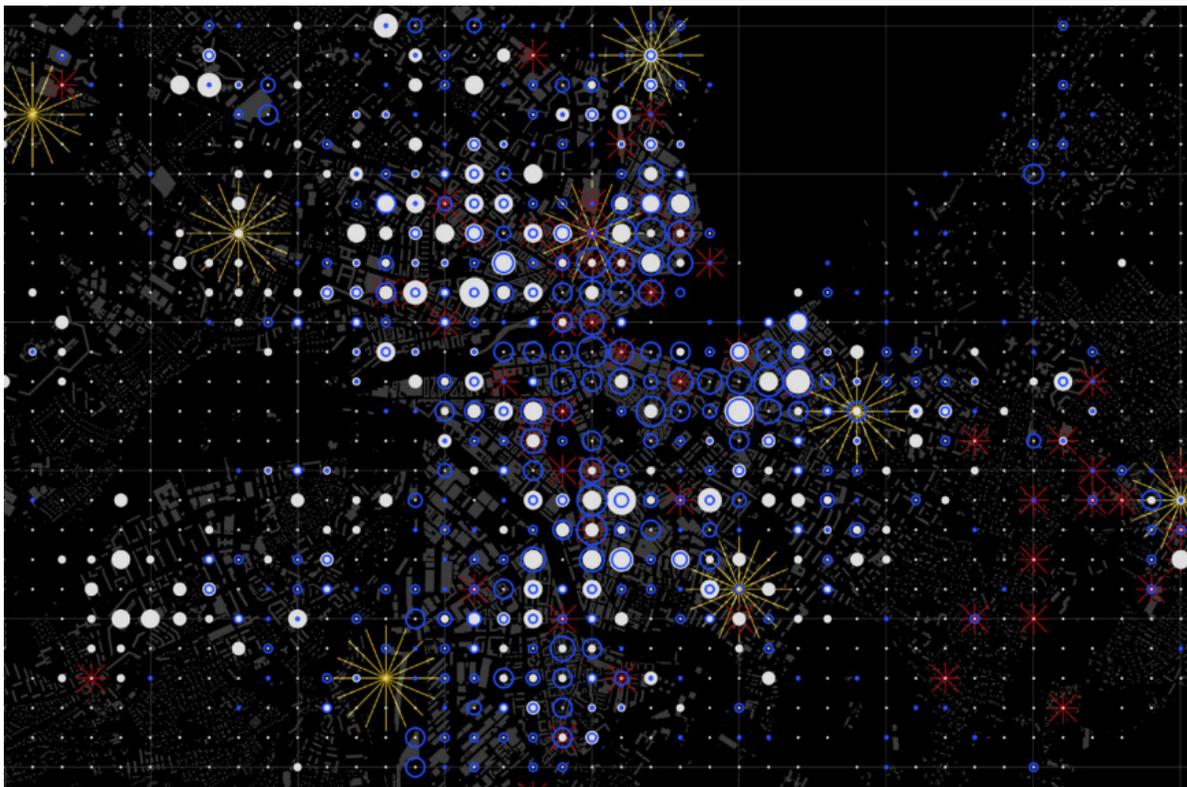
We are not yet able to understand the consequences of urbanization. We are in a globalized world, governed by resource-extracting cities that generate migrations and epidemics and are the centers of inhuman poverty and obscene wealth.

In a context of visible consequences of climate change, feeding a city with enough food creates a very high demand and pressure on land, water, air and workforce –that often amplifies from a local to a global scales. Moreover, current dietary models (more calories and meat-based) and new forms of consumption related to takeaway (digital) revolution are challenging the supply chain.

Which is the real impact of feeding a city? Can the cities be self-sufficient and resilient in terms of food production, consumption and distribution? At which cost?



Bike movements in Switzerland vs Genève



Research and project by Victor Müller (2020-2021)

The carless city

The mobility generated by work and housing needs to be approached with a future-minded approach. Today, we are entering a crucial transitional phase. The disappearance of the private vehicle (as a result of mobility as a service options) linked to the improvement of the public transport (network, frequency and intermodality) will lead us to reduce the spaces currently used for traffic and individual parking (transforming them into other uses of added value for the city) in favour of new spaces for intermodality and sharing systems.



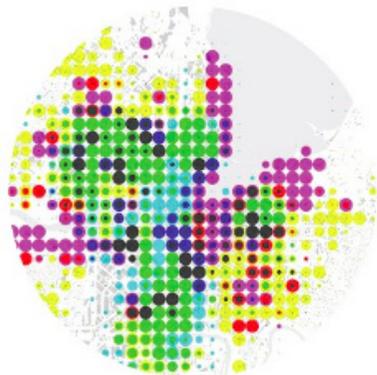
Noise, nollution, heat



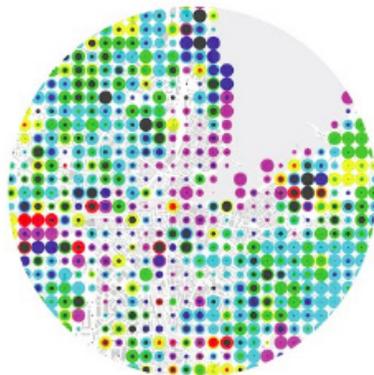
The youth



The professionals



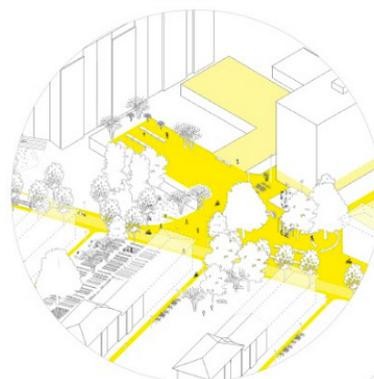
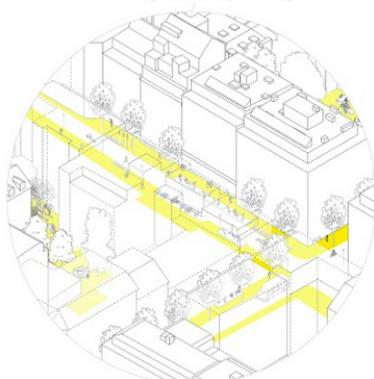
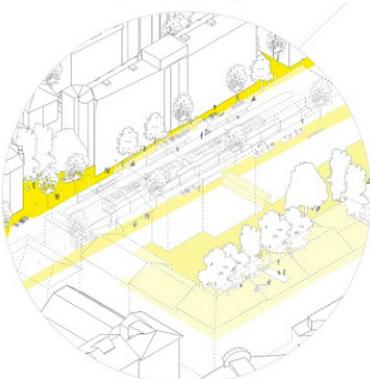
The elderly



Public space quality



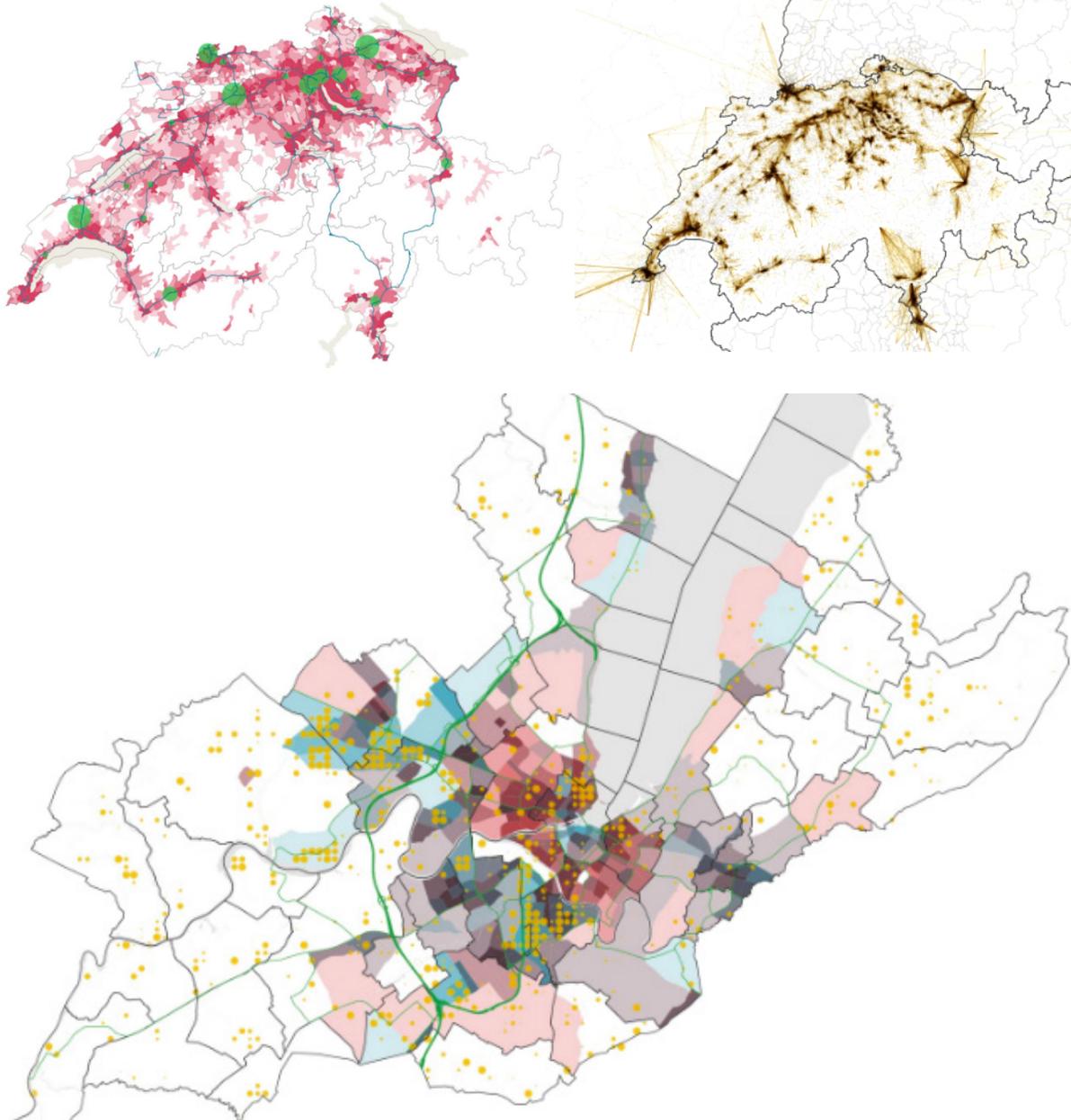
Health



The healthy city

We have an opportunity to create environments where the low dependence on the private vehicle generates a strategic advantage -fostering the transition towards the total reduction of fossil fuels. Urban planning must forge conscious links with mobility strategies by providing access to the basic social functions of a city and promoting proximity as the key for a vital environment. As a result of this novel paradigm, the city becomes an infrastructure that promotes healthy lifestyle habits and generates collective well-being.

Indeed, The climate crisis on a global scale is now a public health crisis on a local level. Our health, as we have sadly learned with the outbreak of recent pandemics -but also with great contemporary chronic illnesses such as air pollution, noise caused by excessive activity or sedentary lifestyle- will depend on the quality of our close urban environment. We must build cities to become organizations for collective health, overcoming individual approaches to habitability.



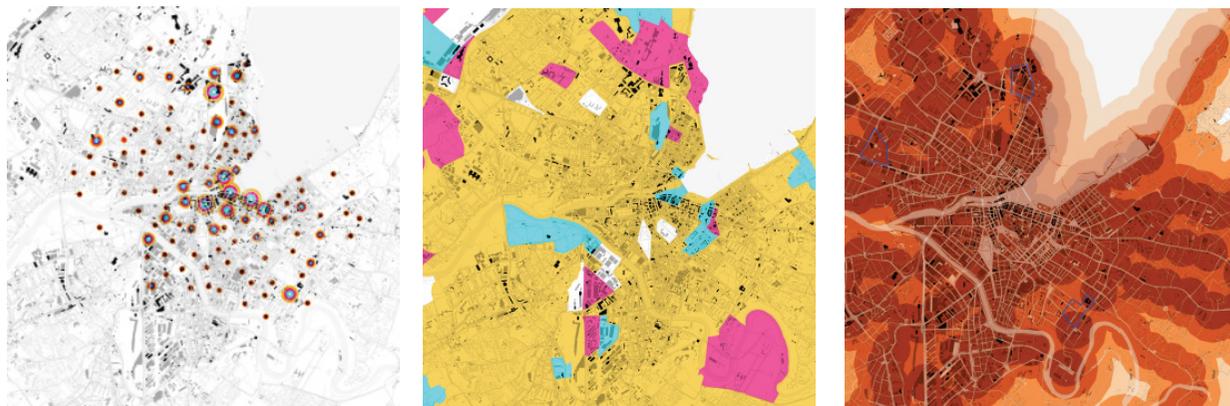
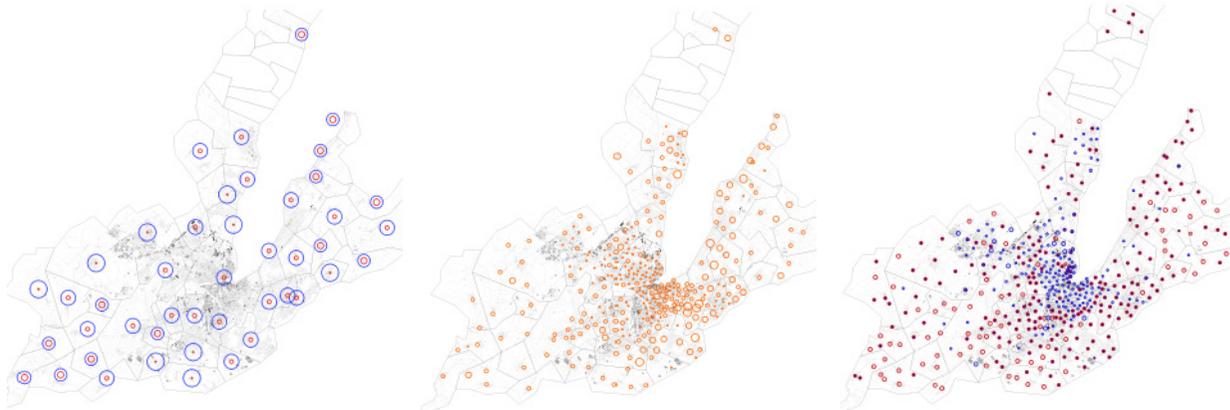
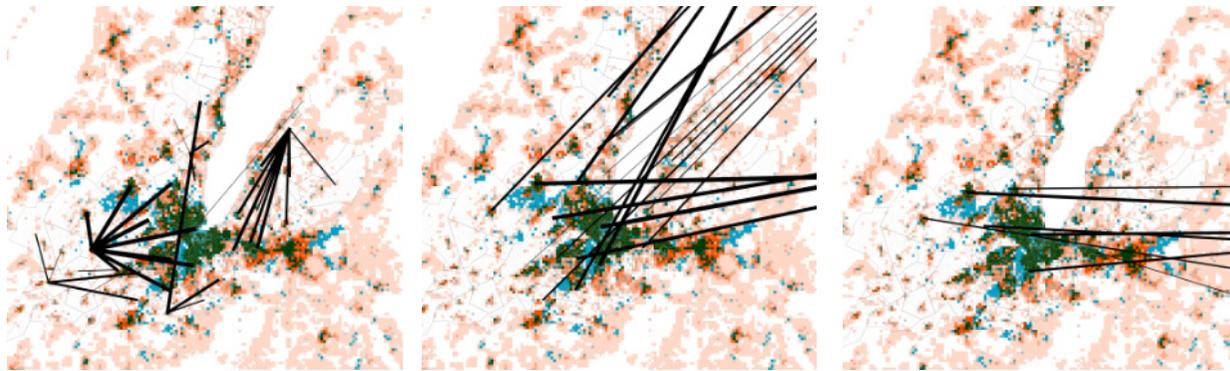
The shopless city

Commercial plays a fundamental role in shaping the urban image, ensuring walkability and providing a social control of the public space. It provides residents and visitors with goods and services, while providing jobs for a significant portion of the working population. They also end up becoming a driving force for development (generating benefits at an individual and collective level) and they create a feeling of belonging among residents in many urban areas.

The transition from product trade to service acquisition, along with the emergence of e-commerce and the visitor economy, is transforming the ground floor of many cities and challenging an urban model based on diversity and proximity.

The logistic city

Mobility is changing from transporting people to moving goods. The progressive delocalisation of production and storage has generated intense internal logistics flows, amplified with the irruption of e-commerce. Urban freight logistics needs to be rethought. So far, last-mile delivery was a characteristic challenge of productive areas (commerce and offices). Today, residential fabrics must provide the necessary spaces for freight consolidation centers that generate a positive reduction of traffic and emissions.



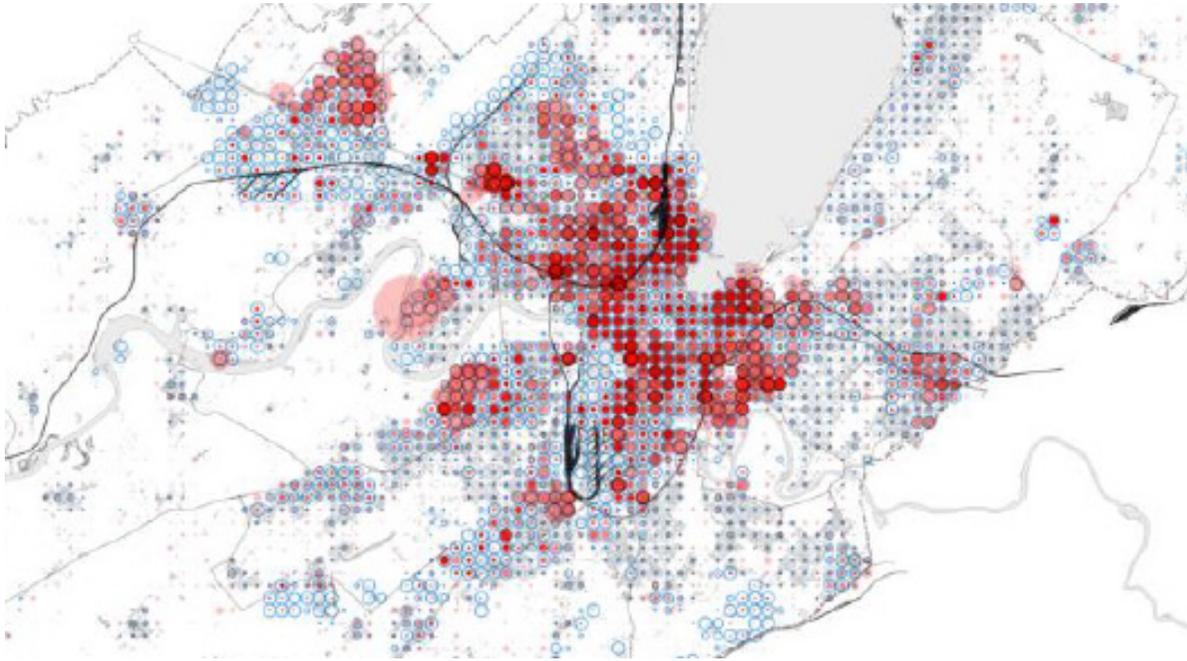
Commuters from different villages around Genève (top). Inequality in telework by time schedule, incomes and nationality (middle). Strategies to relocate work facilities (bottom). Research and project by Malak Nasreldin (2020-2021)

The teleworkable city

With the penetration of digitization in the production, we are consolidating the already announced decentralization of the workplace, but also its diversification in multiple nodes. The labour ecosystem looks for central areas to locate the headquarters and representative offices as well as shared work spaces to include both remote workers and foster business and companies in their early stages of growth. Working from home has also become a pressing reality.

The decentralised city

In a context of crisis of the idea of density (the concentration of activity generates higher mobility and environmental pollution), it is necessary to create new centers of interest distributed throughout the territory especially in those sectors that provide added value, work quality and urban transfer.



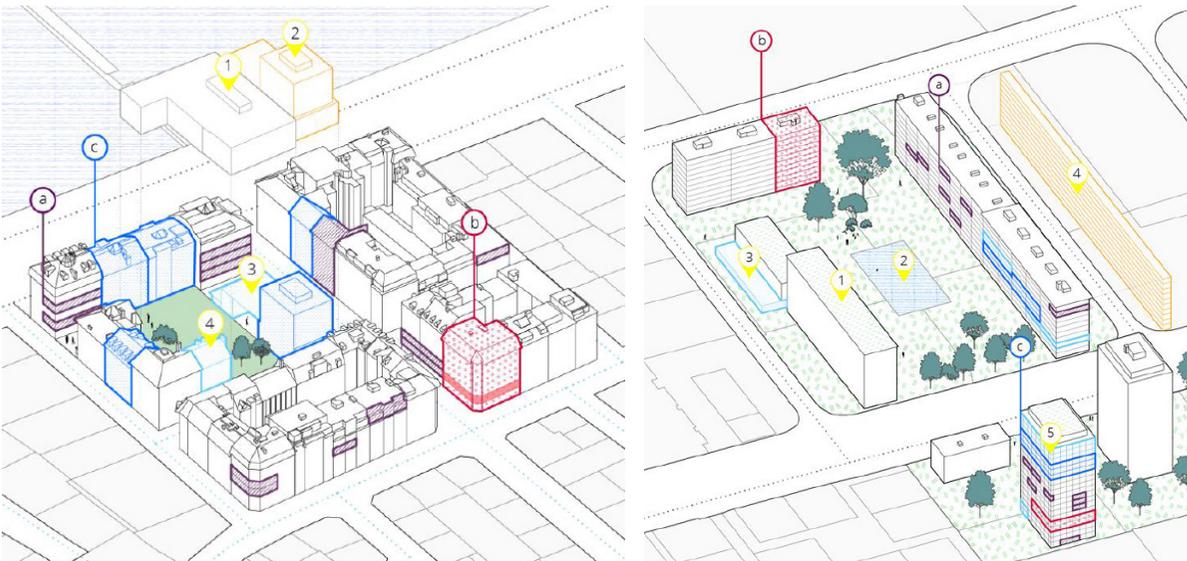
The non-land consuming city

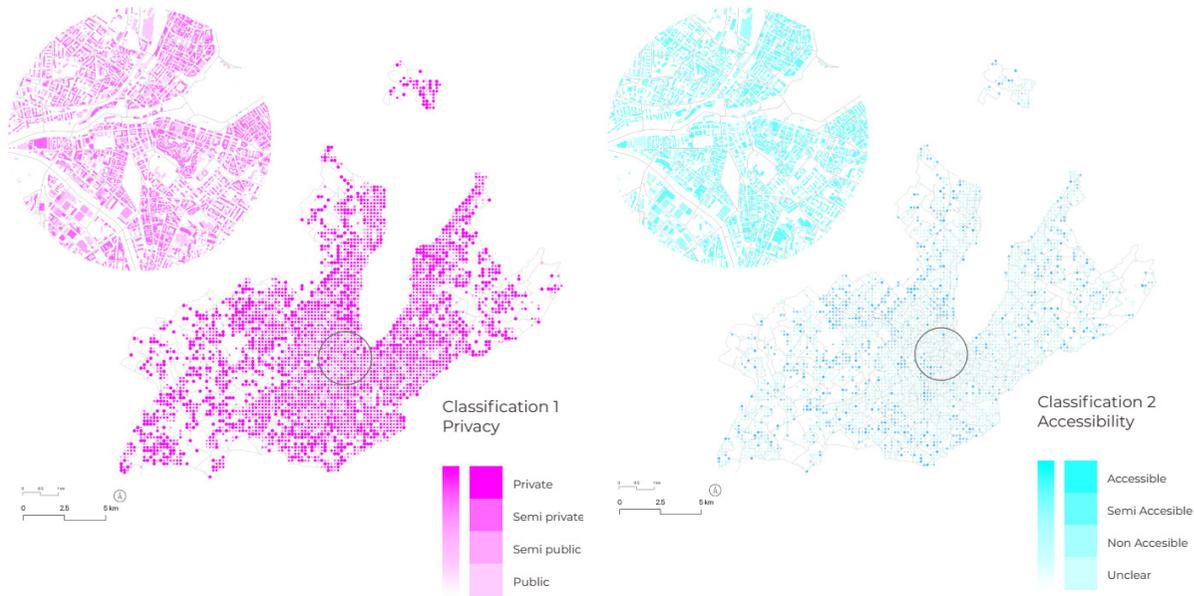
For years, we have tried to anticipate urban population growth by adding extra city to the existing one. The existing city is expanded, both in the vertical and the horizontal dimension. It is a city creation scenario based on the idea of growth.

Today, there is a need of a change of focus from a city growth strategy to upgrading the existing city. This new perspective operates within a wider cultural shift currently targeting the forms of home sharing and living together as a strategy to create compact and sustainable communities.

The co-living city

It is also necessary to provide adequate forms of housing for the diversity of family units (and their evolution along time) and the new collective habitat models. Can we operate from the typology (rethinking how we connect/share with each other, what is the relation between work and housing) to the neighborhood (rethinking how buildings interrelate to one another) and to a global approach regarding transformation of the whole city?





The shared city

In the lived city, different populations live together overlapping in time. Cities rely on a critical mass of residents that grows on a daily basis balanced by workers (commuting from the outskirts) and visitors. Specially, tourists and business travelers can exceed the number of inhabitants despite living anonymously in the city for short periods of time.

The way the different populations share the urban spaces is challenging the social pacts between the public, the private and the collective.

In between spaces



Functional & unintentionally functional



People taking over

