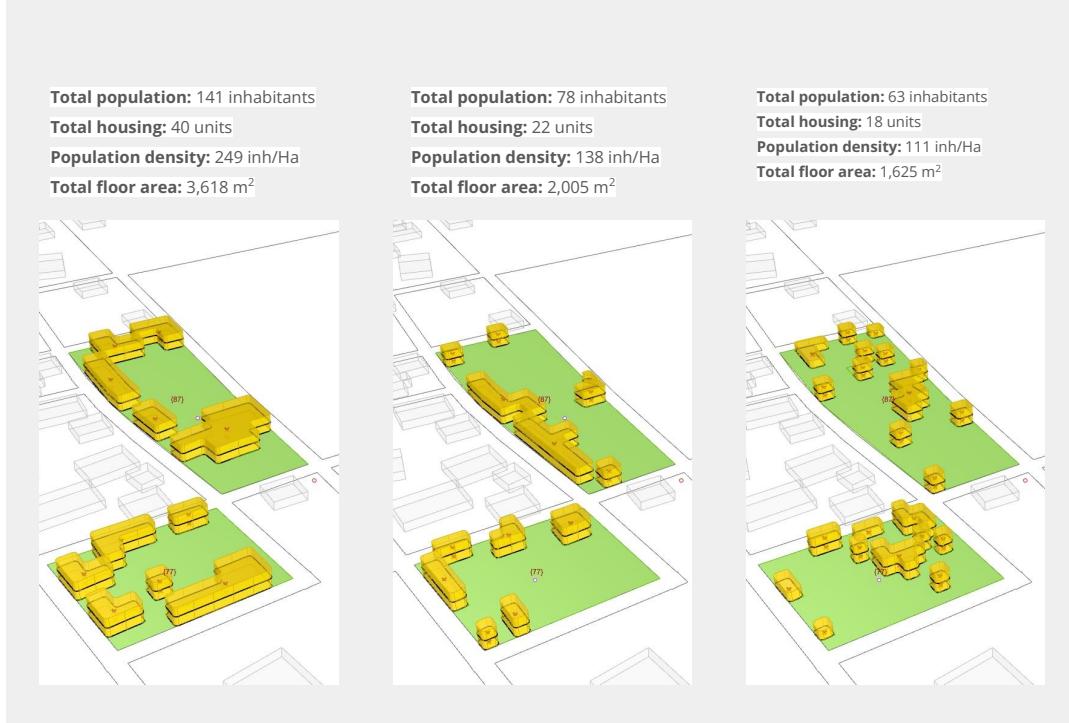


Portfolio

Urban planning

Bardo Salgado



Five distinct variations were generated and compared, analyzing factors like population density, total housing units, and floor area. The script facilitates the generation of urban design options based on local typologies for further exploration and analysis.

Fuvahmulah Urban Development Plan

Parametric urban design and analysis

Location: Fuvahmulah, Maldives

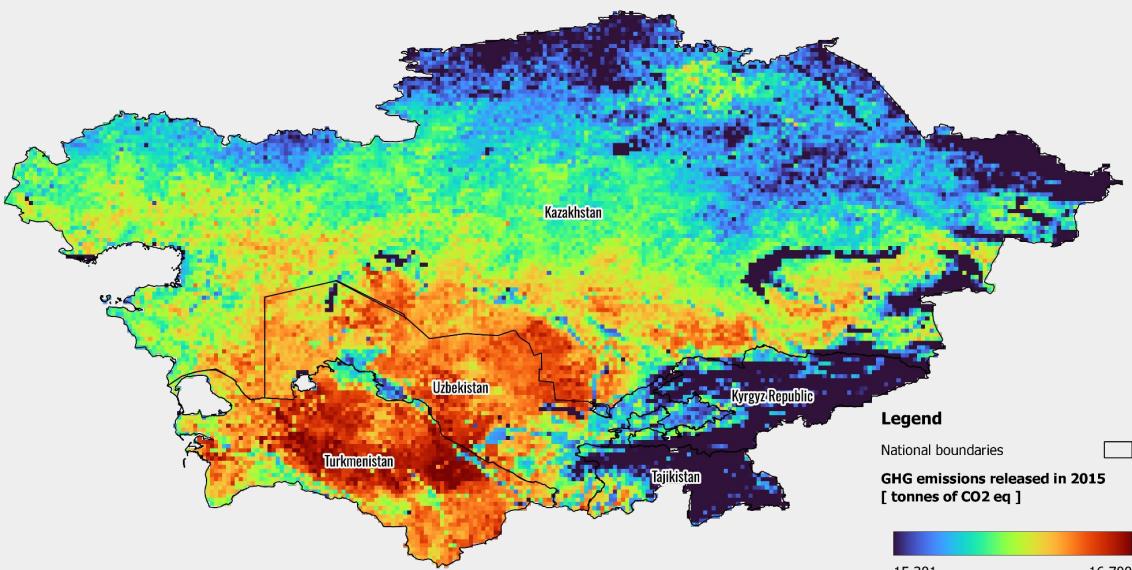
Scale: Local

Project type: Team

Description

The project supported the Government of Maldives in developing metrics that provide socio-spatial economic assessment to evaluate possible pathways Greater Malé (the capital) and Fuvahmulah can take for energy-efficient and resilient affordable housing. The main objective was to elaborate **data-driven recommendations to inform land-use and housing policies to guide the urban development plan formulation.**

The work provided input for more efficient and effective financing of housing in Greater Malé and foundations to update the urban development plan of Fuvahmulah City.



Turkmenistan and Kazakhstan exhibited the highest carbon intensity within the region. Data analysis for 2015 revealed that Turkmenistan and Kazakhstan emitted around 35.2 MtCO₂e and 14.6 MtCO₂e per capita, respectively. Uzbekistan, the Kyrgyz Republic, and Tajikistan showed a lower carbon intensity below the regional average of 11.8 MtCO₂e estimated at 5 MtCO₂e, 2.6 MtCO₂e, and 1.4 MtCO₂e, respectively.

Central Asia Resilient and Low Carbon (CARL) Cities

Sustainable urban development

Location: Central Asia

Scale: Regional

Project type: Team

Description

The project aims to enhance understanding of sub-national challenges and pinpoint actionable solutions in 48 Central Asian cities, fostering the development of low-carbon, climate-resilient cities and regions.

This project included the **development of country-level diagnostics and evaluation of policy options for urban areas**. The project identified the **policy recommendations, strategies, and actions to achieve low-carbon climate and resilient urban development**.

My main responsibilities in this project included schedule of tasks, policies and document review, data analysis and development of calculation memories of baseline indicators.

Merketal II Stadtquartier

Low-carbon urban development

Location: Weimar, Thuringia

Scale: Local

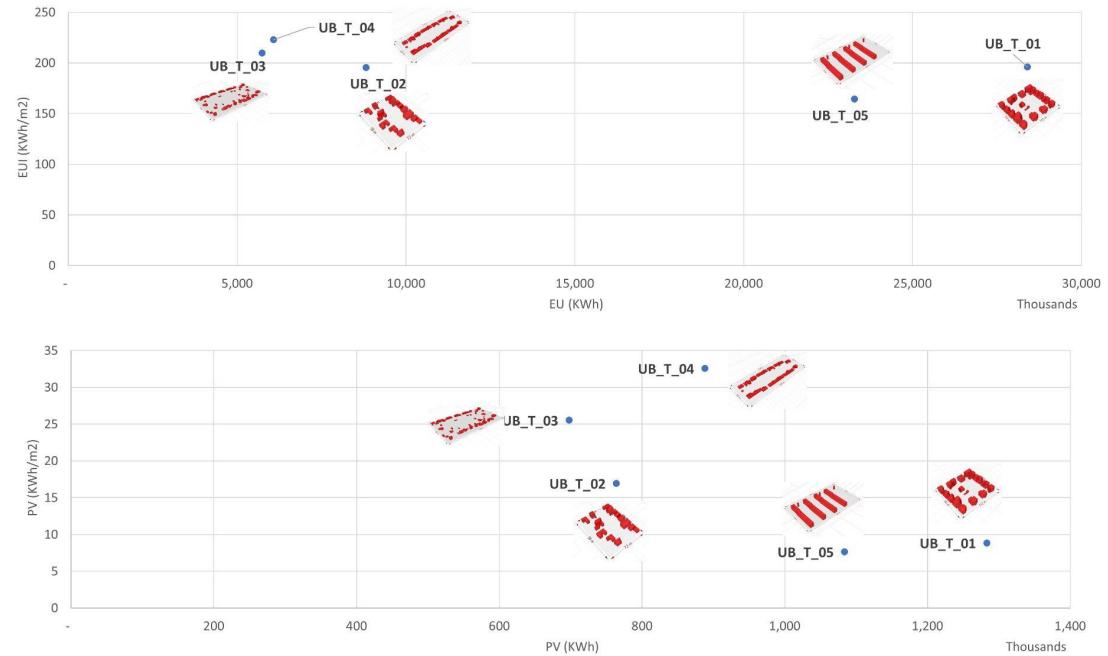
Project type: Individual

Description

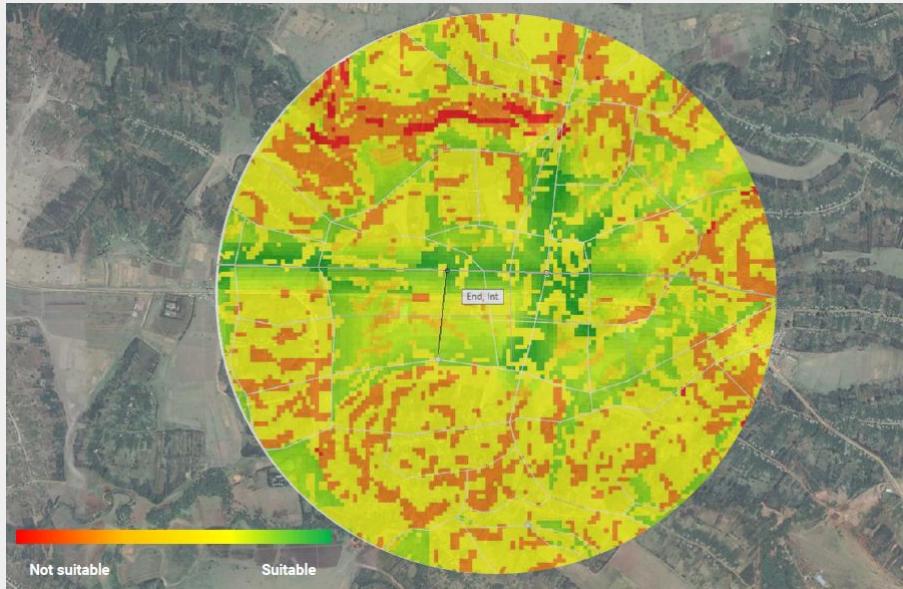
The shape of the spatial development and urban form has a great potential in reducing demands and increasing efficiency.

The above mentioned concern is brought up into the city of Weimar, that announced the development of a new urban quarter in the area of Merketal. The objectives of this neighborhood are the meaningful reduction of energy use, strengthening renewable energy sources, and increasing life quality.

Therefore, the objective of this work was to **estimate the impact and assess the energy performance of different possible urban development scenarios for Merketal II.**



Five alternative urban development scenarios were analyzed in terms of solar harvesting potential and building energy use. The results showed significant variations in energy use intensity and photovoltaic energy. **Disperse urban development composed of detached houses consumes 36% more energy than a compact multifamily buildings.**



The final result of this project described a **road map with several steps to achieve such consolidation, including the identification of suitable areas for further urban development.**

Wurer

Parametric urban design and analysis

Location: Wurer, Ethiopia

Scale: Local

Project type: Team

Description

The objective of this studio project was to create models for the development of small cities in Ethiopia.

As part of the "Growth and Transformation Plan II", the Ethiopian government stands for the development of a large number of small cities in order to foster economic growth without compromising the liveability of the settlements.

The project focused in **the consolidation of rural-urban centers, infrastructure, social facilities and connectivity.** The urbanization process poses new challenges to ensure the provision of water, food, energy as well as social and basic infrastructure.

Weimar Nord

Parametric urban design and analysis

Location: Weimar, Thuringia

Scale: Local

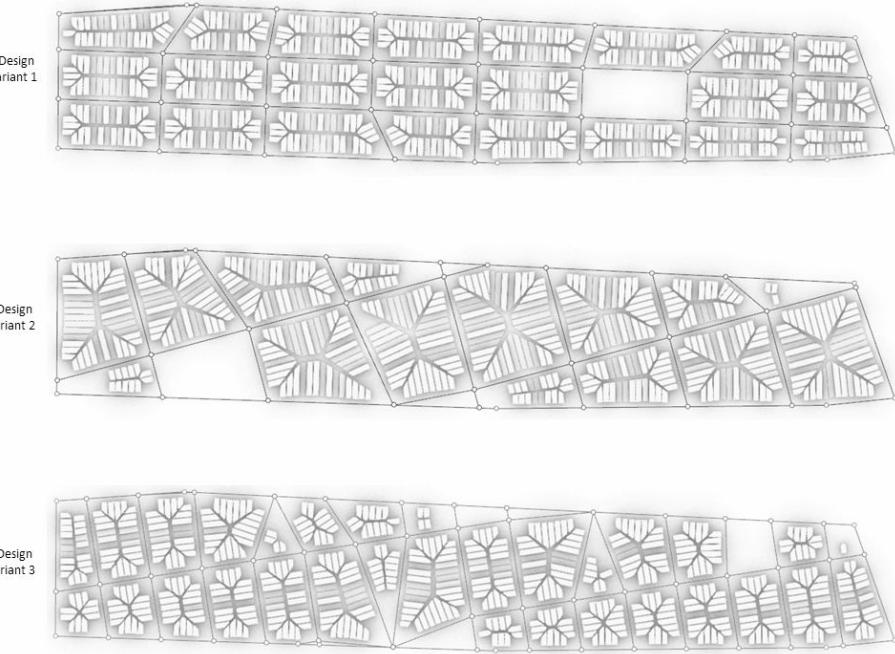
Project type: Individual

Description

This project explored the **application of parametric urban design and analysis methods for the development of a land plot in Weimar.**

Using Rhino and Grasshopper, I generated and evaluated various design solutions by adjusting parameters related to street networks, plots, and buildings. The initial phase involved creating a flexible street network that could adapt and integrate to the existing urban fabric.

After that, the plots and parcels were generated, taking into account frontage width and depth. Finally, building footprints were strategically placed based on occupancy projections and development potential.



Three **distinct variations were generated and compared, analyzing factors like plot size, population density, street network accessibility, and building footprint.** This adaptable script facilitates the generation of diverse urban design options for further exploration and analysis.

Walterhausen

Parametric urban design and analysis

Location: Walterhausen, Thuringia

Scale: Local

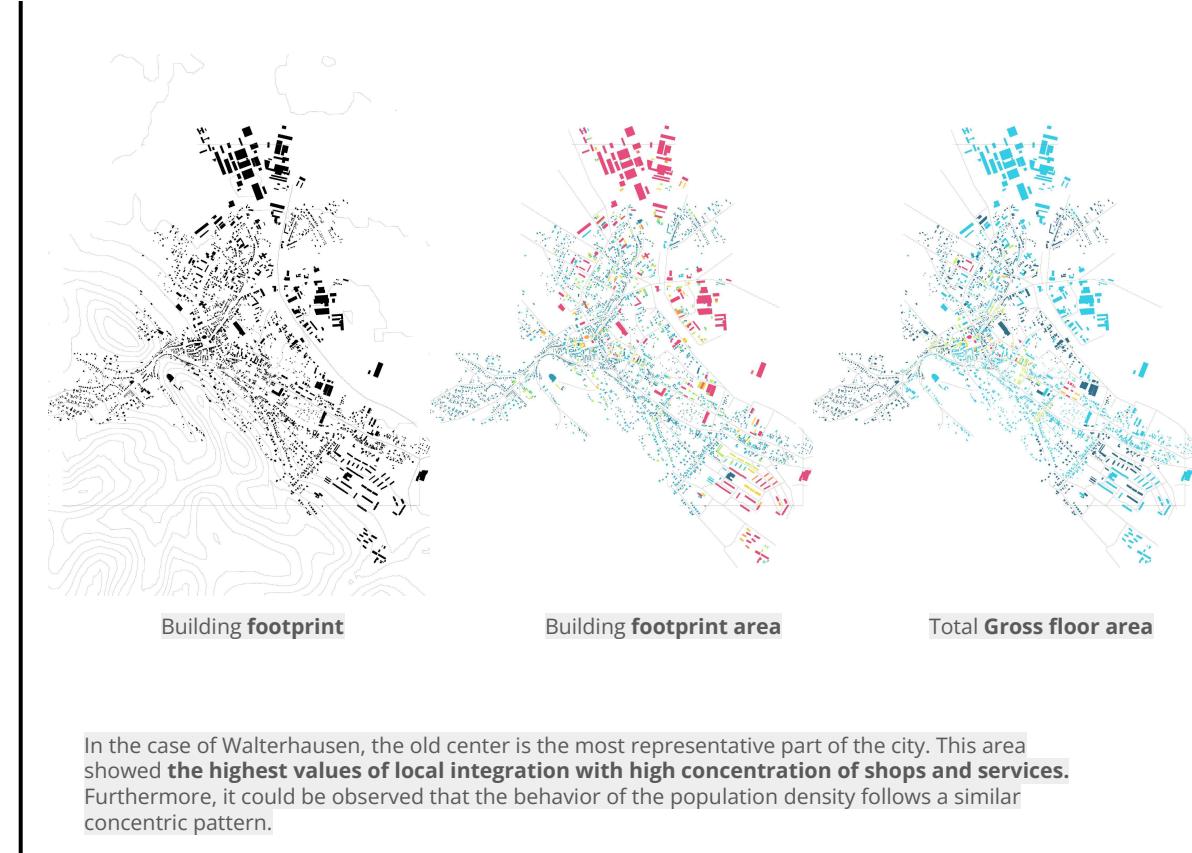
Project type: Individual

Description

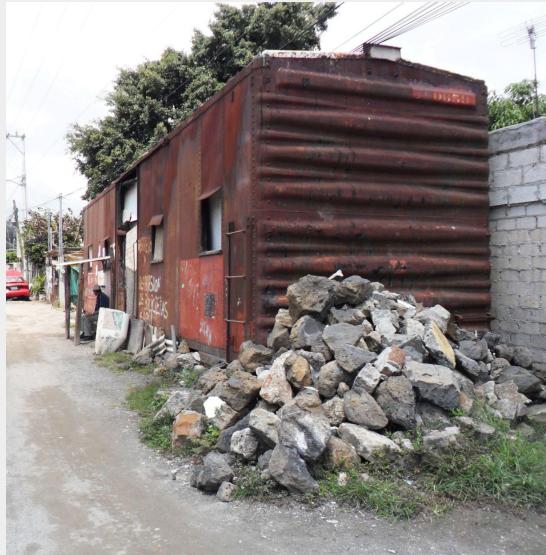
Space and territory are important objects in disciplines as architecture, urban design and landscape architecture. However, the premises about how to design a space often are vague and unclear. Sometimes it seems there is no relation between building environment and human behavior.

This work shows a **quantitative and qualitative methodology to analyze and design urban spaces** based on a human behavioral theory.

The objectives of this project was to understand the importance of quantitative analysis to develop better designs by investigating the correlations between urban form and city's functions.



Patios de la Estación



Facilitation techniques and methods applied with the senior local community.



Due to informal origin of the settlement **many residents were significantly worried about land tenure and real estate taxes**. Nevertheless, some interesting findings revealed **problems related with flooding, accessibility, drinking water, sewage and provision of public spaces**.

Placemaking

Location: Cuernavaca, Mexico

Scale: Local

Project type: Team

Description

The intervention was framed within the Interuniversity Sustainable Workshop 2014: For a better urban future (TIS2014) supported by UN Habitat Mexico , INMUJERES and UNAM's chair of urban planning .

Patios de la Estación is a neighborhood settled in the previous railyard of Cuernavaca main train station. The railyard turned into a vacant land and a couple years later became an informal settlement hosting families and workers from the train company.

The overarching objective with this intervention was the application of a gender approach methodology. This served to collect testimonies and experiences of the local community, particularly seniors.

Placemaking at Zschochernplatz

Placemaking

Location: Gera, Thuringia

Scale: Local

Project type: Team

Description

The objective of this project was **to propose a design concept through Placemaking for Zschochernplatz, a public square located in the city of Gera.** After the reunification in 1990, the retail and business streets have been diminished and inactive. The previous became a matter of concern for the local authorities since many of its public spaces lack of social interaction and cohesion.

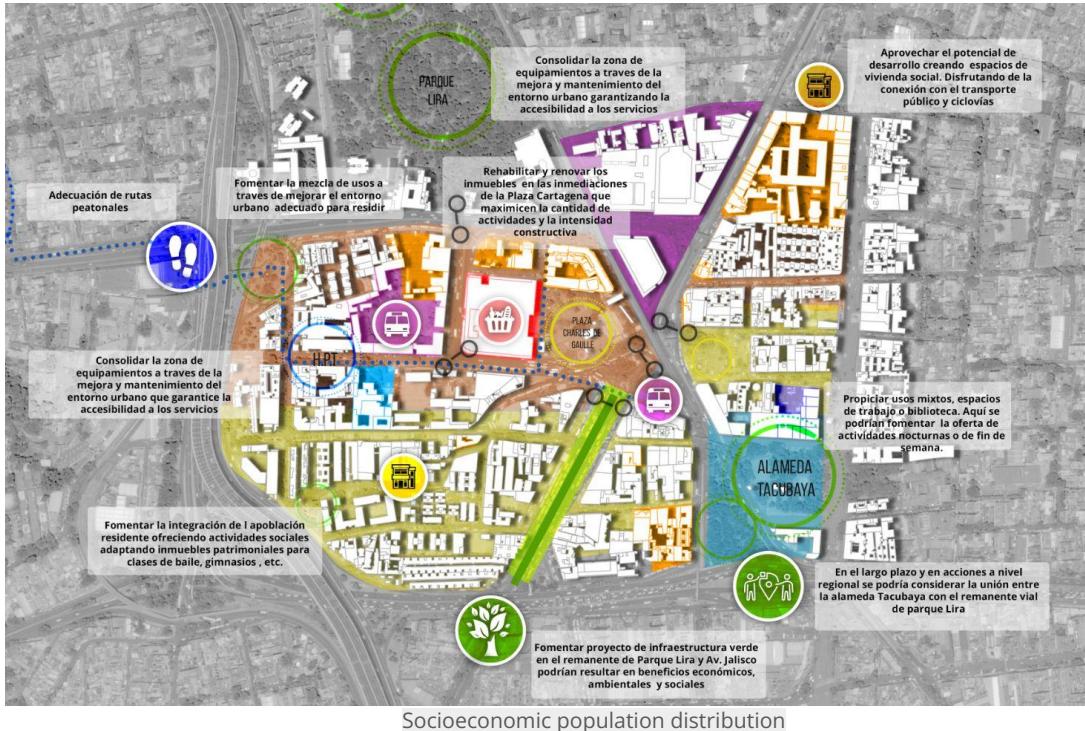
Since the public square is embedded in the city center the surroundings has the potential to provide a pedestrian friendly environment.

The identified problems were the lack of clear boundaries in shared spaces and calm traffic areas; not proper pavement materials and transitions from one square to another.



Facilitation techniques and methods were applied in situ. Some of the main finding were that the use of **the bike as a mode of transport is not encouraged since there is no cycling infrastructure;** There is also an **unclear way-finding navigation** from main City's destinations to the Zschochernplatz.

Tacubaya



In general, the **proposed interventions in Tacubaya consider the strengthen of the neighborhood in terms of mobility and connectivity, cultural heritage and economic activity.** For that, a detailed project was developed in the center of the neighborhood.

Urban redevelopment

Location: Mexico City, Mexico

Scale: Local

Project type: Individual

Description

This project aimed to identify the **causes of urban decay in Tacubaya and develop a comprehensive urban renewal strategy to address these issues.**

Tacubaya is an old inner-city neighborhood that presents a condition of decay and obsolescence. Tacubaya faces different conflicts between urban activities in the public space.

The regional activities have had serious drawbacks for the local environment where public transportation and commercial activities take the control of the urban space.

Agriculture Meets Manufacturing

Urban Development Plan

Location: Fellbach, Baden-Württemberg

Scale: Local

Project type: Team

Description

The manufacturing sector of Stuttgart metropolitan region is demanding more space to develop new businesses. This brings great competition and conflicts in terms of resource consumption and usage of urban space where agricultural fields are seen as land for further urban and manufacturing development

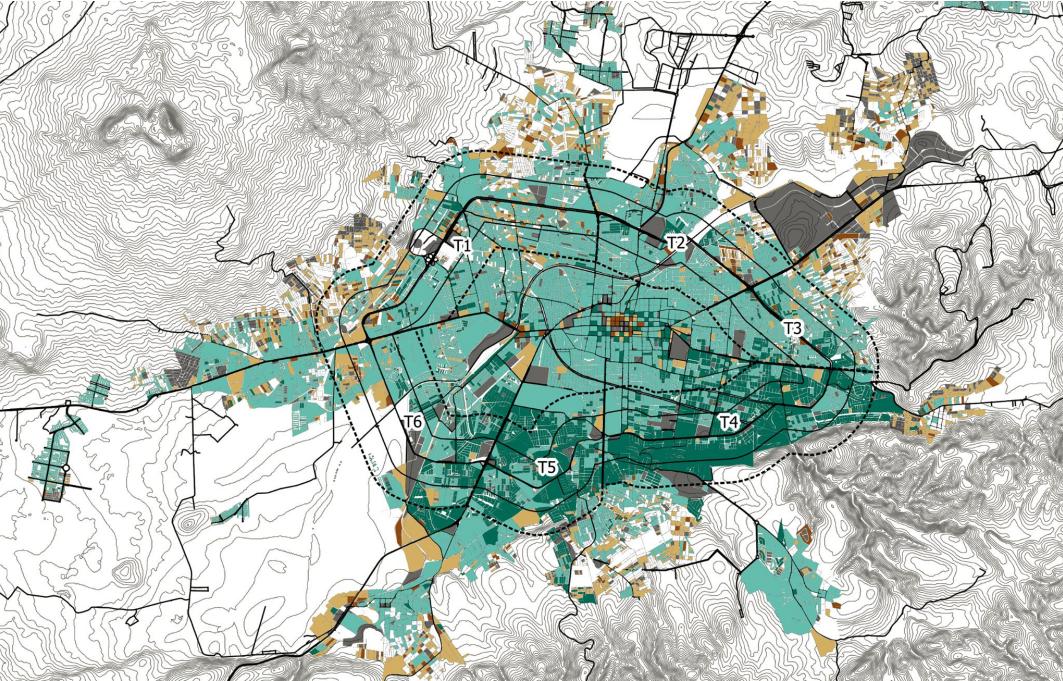
The IBA project "AGRICULTURE meets MANUFACTURING" (AmM) intends to **formulate a development vision for 110 hectares of manufacturing land in the west part of the city.**

The AmM calls for experimental interventions and activities at the neighborhood level regarding densification and mix uses, urban production and agriculture, as well as closing the loops of material flow and energy cycles.



Visual concept of synergies between manufacturing and agriculture

I collaborated in **enabling the ideas and finding potential partners that contribute to the development concept.** I acquired organizational and collaborative skills, realized the critical topics in the making and planning of the city as well as the important considerations of the public administration.



I contributed with **urban analysis, developing indicators, creating maps and designing proposals at three scales: city center, periphery and regional context.** The city center is by far the most dynamic area in the city. However , there could be observed problems such as traffic jams, housing decline and lack of accessibility.

SUMP Morelia

Urban Mobility

Location: Morelia, Mexico

Scale: Local

Project type: Team

Description

This project makes a general analysis of the urban mobility in Morelia.

The city's downtown was declared a World Heritage Site by UNESCO in 1991 because of the well preserved architecture and urban design. Being aware of this recognition, the state government of Michoacan and an important sector of the private initiative are trying to consolidate a competitive urban metropolis.

In order to achieve that, the objective of this project was to **develop a long term plan have considered implementing a metropolitan passenger train , the expansion of the airport and a complete BRT system.**

Line A Extension

Public Transportation Plan

Location: Mexico City, Mexico

Scale: Local

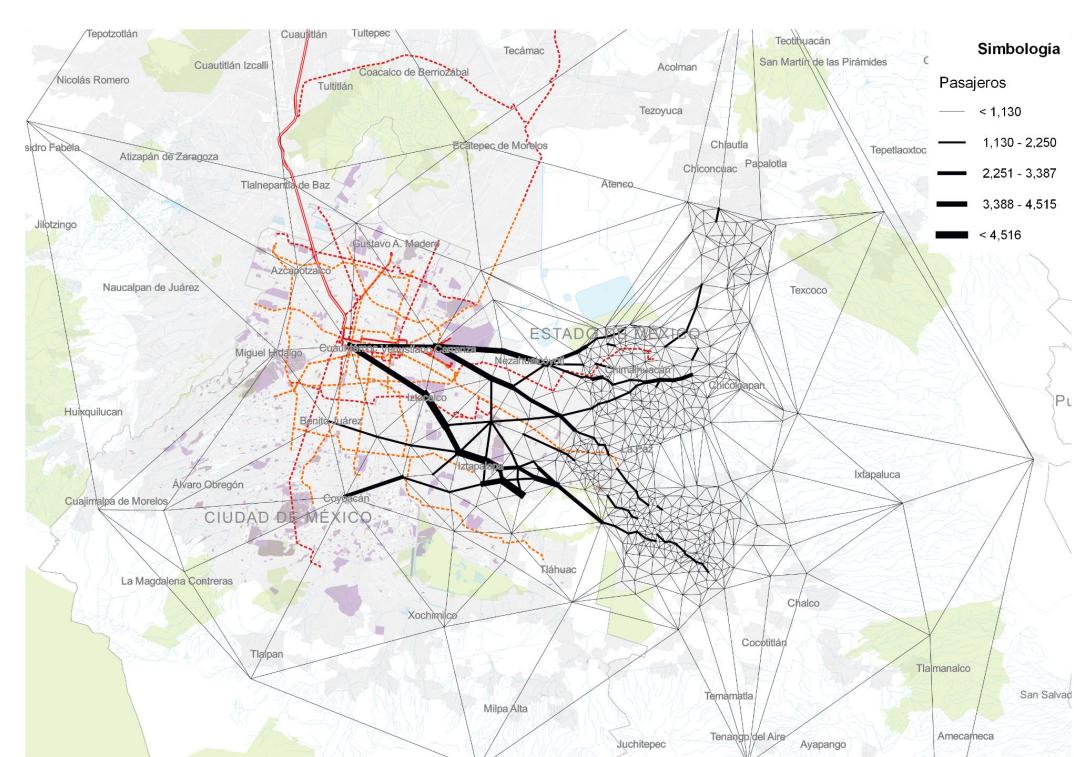
Project type: Team

Description

The objective of this project was to develop a demand analysis for the extension of subway system line "A" in the east of Mexico City.

The subway line "A" runs from Pantitlán to La Paz and is the first line developed in the Metropolitan Area , it was opened to public in 1991, has a length of 17.19 km and 10 stations, connecting municipalities of Chalco, Valle de Chalco, Ixtapalua, La Paz, Chimalhuacán and Chicoapan to Mexico city.

In recent years, there has been a growth in service,commercial and manufacturing activity having an impact in the general transit and mobility of the area. In order to solve those problems, an extension of the current line "A" was proposed



In this project, I explored and analyzed origin-destination database from field work survey in order to remark a demand behavior, as well as an analysis of the urban context and current condition of the infrastructure.