

BACK TO THE FUTURE

TORINO EDITION

Rethinking the Experimental Phase of Street Transformations in Turin's San Salvario District

Rümeysa Öztürk

Politecnico di Torino

Politecnico di Torino

Master's Degree in Architecture Construction City
A.Y. 2026

MSc. Thesis

BACK TO THE FUTURE: TORINO EDITION

Rethinking the Experimental Phase of Street Transformations in Turin's San Salvario District

Supervisor
Luca Staricco

Candidate
Rümeysa Öztürk
s328729

ABSTRACT.

EN

Streets, which historically existed in various forms and served diverse purposes, largely gave way to car-oriented development under the modernist planning approaches of the 20th century. Yet, starting in the late 1990s, the human-centric urbanism paradigm gained momentum and triggered transformations that reclaim the street as a livable public space.

Recently, analyses of street transformations reveal that permanent urban interventions are costly and time-consuming, and their success is uncertain. It is also evident that street users may resist such transformations because the changes occurring in their surroundings disrupt their routines. In this context, street experiments have emerged as a flexible means of reclaiming public space and testing strategies before going into the permanent phase. However, existing studies on the experimental phase often remain largely theoretical and lack a structured methodology, failing to offer an approach whose results can be seen in practice. This study focuses precisely on this gap and intends to use it as input in the decision-making process. Accordingly, it aims to provide a guide on how to structure and conduct the experimental process, incorporating a practical approach.

To better understand the gap between literature and practice, the pedestrianization project, TML (Torino Mobility Lab), in Turin's San Salvario district was selected. This project has undergone an experimental phase before pedestrianization in 2020; however, its transformative success remained questionable.

The project process was examined in every aspect from the beginning to the present; Jan Gehl's methodology is applied to understand the current situation. The monitoring findings were compared with those from 2020 and 2021. These comparisons provided data on long-term assessments of street transformations and showed how the promises initially presented by the project have evolved, diminished, or changed over a 5-year period. Based on a comprehensive review of the successes, failures, and challenges of the experimental phase, this research develops a guideline based on findings. While unfolding every step of the experimental phase in the studied streets of the TML project, it also provides a systematic methodology for adapting the process to other urban contexts.

Keywords: Street Transformation, Experimental Phase, Pedestrianization, Public Space, Jan Gehl's Methodology, Monitoring, Long-Term Evaluation.

IT

Le strade, che storicamente esistevano in varie forme e assolvevano a diverse funzioni, hanno lasciato in gran parte il posto a uno sviluppo incentrato sull'automobile sotto l'influenza degli approcci urbanistici modernisti del XX secolo. Tuttavia, a partire dalla fine degli anni '90, il paradigma dell'urbanistica a misura d'uomo ha preso piede, innescando trasformazioni volte a restituire alla strada il ruolo di spazio pubblico vivibile.

Di recente, le analisi sulle trasformazioni stradali hanno evidenziato come gli interventi urbani permanenti siano costosi, richiedano tempi lunghi e presentino esiti incerti. È inoltre emerso che gli utenti della strada possono opporre resistenza a tali trasformazioni, poiché i cambiamenti nel contesto circostante alterano le loro abitudini quotidiane. In questo scenario, la sperimentazione stradale si è affermata come strumento flessibile per riappropriarsi dello spazio pubblico e testare strategie prima di passare alla fase definitiva. Tuttavia, gli studi esistenti sulla fase sperimentale rimangono spesso prevalentemente teorici e privi di una metodologia strutturata, non riuscendo a proporre un approccio i cui risultati siano tangibili nella pratica. Il presente studio si concentra proprio su questa lacuna, con l'obiettivo di fornire elementi utili al processo decisionale. Di conseguenza, intende offrire una guida su come strutturare e condurre il processo sperimentale, adottando un approccio pratico.

Per comprendere meglio il divario tra letteratura e pratica, è stato preso in esame il progetto di pedonalizzazione TML (Torino Mobility Lab) nel quartiere San Salvario di Torino. Tale progetto ha previsto una fase sperimentale antecedente alla pedonalizzazione del 2020; tuttavia, l'efficacia della trasformazione è rimasta oggetto di dibattito.

L'iter progettuale è stato analizzato in ogni suo aspetto, dalle origini a oggi; per comprendere la situazione attuale è stata applicata la metodologia di Jan Gehl. I risultati del monitoraggio sono stati confrontati con quelli del 2020 e del 2021. Tali confronti hanno fornito dati per valutare a lungo termine le trasformazioni stradali, mostrando come le aspettative iniziali del progetto si siano evolute, ridimensionate o modificate nell'arco di cinque anni. Sulla base di un'analisi approfondita di successi, insuccessi e criticità della fase sperimentale, la ricerca elabora linee guida fondate sui risultati ottenuti. Oltre a illustrare nel dettaglio ogni fase della sperimentazione condotta nell'ambito del progetto TML, lo studio propone una metodologia sistematica per adattare il processo ad altri contesti urbani.

Acknowledgements

I would like to express my sincere gratitude to my supervisor, Professor Luca Staricco, for introducing me to a new perspective on streets and guiding me in shaping my thesis with his invaluable expertise.

My dear family, who have always stood behind me and supported me in every step of my life: I am deeply grateful for your continuous presence and support. Especially to my dear father: I could not have made it this far without you.

There is also someone else I would like to specially thank. My dear grandmother, you made one of the greatest contributions to this thesis process with the homemade food you packed for me on every flight back from Türkiye.

The journey of writing this thesis was long, intense, and sometimes exhausting. During this process, the support of those who stand by you is incredibly important. Whether it meant sharing tears, having long conversations, or just taking a quick coffee break, I am very fortunate to have special friends with whom I have shared all these moments. I thank each and every one of you for being in my life.

CONTENT.

Abstract 4-5

Acknowledgements 7

01. Introduction 13-19

a. Background & Problem Statement 15
b. Research Aim & Question 16
c. Methodology 16-17
d. How to read this research? 18-19

02. Literature Review 21-93

a. The Historical Evolution of the Street 23-51

a.1 Once Upon a Time
a.2 The Railway Enters The City
a.3 How did European Cities React to Those Perspectives?

b. Street Transformations in Urban Planning 53-63

b.1 What is street transformation and why does it matter?
b.2 But... Why is transformation so challenging?
b.3 How about.. If Transformation Uses Experiment?
b.4 The Journey from Temporary to Permanent

c. Learning from Experiments I Case Studies on Pedestrianization 65-93

c.1 Partial Transformations 68-73

c.1.1 Re-thinking Street Elements
- Parklets
- Intersection Repairs

c.1.2 Re-thinking Circulation Schemes
- Pop-up Cycle Lanes

c.2 Systemic Transformations 74-91

c.2.1 Temporal Transformations
- Ghent I Play Streets
- Bogota I Ciclovia
- Paris I Plages

c.2.2 Permanent Transformations
- Barcelona I Superblock
- Milano I Piazza Aperte

c.3 Comparative Framework for Case Studies 92-93

03. Research Aim and Methodology 95-109

a. Data Collection Tools 96-103

a.1 What to observe?
a.2 How to observe?

b. The Methodological Role of Case Studies 104-107

c. Challenges of Monitoring 108-109

04. The Case Study 111-167

a. Pedestrianization Project in Turin 112-121

b. Conflicts in the Project 122-125

c. Long-Term Evaluation of Pedestrianized Streets 126-163

c.1 Via Principe Tommaso

c.1.1 Moving People Count
c.1.2 Stationary Activities Count
c.1.3 Urban Diary
c.1.4 Looking for Traces

c.2 Corso Marconi

c.2.1 Moving People Count
c.2.2 Stationary Activities Count
c.2.3 Urban Diary
c.2.4 Looking for Traces

c.3 Via Lombroso

c.3.1 Moving People Count
c.3.2 Stationary Activities Count
c.3.3 Urban Diary
c.3.4 Looking for Traces

d. Comparative Framework of Monitorings 164-165

e. Outcomes of the Monitoring Phase 166-167

05. The Guideline 169-225

a. Phase 0 I Unpacking the Street 172-173

a.1 Challenges
a.2 Characteristics & Impacts

b. Phase 1 I Shaping the Framework 174-183

b.1 Actor Involvement
b.2 Research & Documentation
b.3 Key Findings

c. Phase 2 I Let's Make Some Plans 184-191

c.1 Vision & Goals
c.2 Action Plan
c.3 Engage

d. Phase 3 I Hands-On, We Are on Site! 192-220

d.1 Strategy
d.2 Material
d.3 Implementation
d.4 Design Aspect
d.5 Communication
d.6 Monitor & Evaluate

e. Phase 4 I Nothing is Finished, We Are Just Starting 221-225

e.1 Maintenance & Management
e.2 Long-Term Strategies

06. Discussion and Conclusion 227-231

a. Insights 229-230

b. Limits and Challenges 231

c. Future Directions 231

Bibliography 232-238

01

INTRODUCTION

Background & Problem Statement

The street, which constitutes a significant part of the urban fabric, emerges as a product of urban life, cultural interaction, and collective memory. That is why this research grounds its initial point in a historical reading of streets that spans from early settlements to the present days. Upon examination, it becomes evident that the phenomenon of the street has been shaped by the needs of the era and geographical conditions throughout history. However, in the 20th century, these indicators were reduced to a single factor: Motorized vehicles.

Modernism, which radically transformed the nature of the street by centering on the automobile, aimed to transform the street into a connecting axis. As a result, it weakened the relationship between the individual and the street. In resistance to this approach, human-centric transformations emerged to reclaim public spaces. However, urban design practice encountered various challenges at this juncture.

What is the underlying reason for the challenges involved in street transformations?

Permanent interventions in street transformations bring irreversible results. In order to begin a transformation, existing infrastructure must be replaced, but this process requires a high budget. If theoretical part prior to an intervention do not translate into any practical effect in the field, they have no impact. This indicates that the transformation may exhibit unpredictable dynamics without practical observation, and if it fails, it may lead to undesirable results. When transformations are considered from a sociological perspective, in today's car-centric cities, pedestrianization initiatives are often perceived by users as a risk against their habits. The important reason behind this conflict is that transformations are frequently implemented via a top-down approach. When people who are the main actors of the street are not involved or engaged in this process, their interaction with the street weakens.

How can we envision the potential and challenges before implementing permanent interventions?

The presence of an "experimental" phase in street transformations is a recent approach that has increased following the COVID-19 pandemic. It has emerged as a flexible transitional method to test urban space and adapt users for transformation, in contrast to the rigid and top-down interventions associated with street transformations. The multi-dimensional structure of the experimental phase is based on an iterative design principle rather than a linear planning process. This principle rejects treating the street as a static and finalized product. It emphasizes that it is a process of continuous development and transformation based on empirical data. Therefore, each intervention forms a hypothesis for the next phase, leading to a sustainable transformation.

Research Aim & Question

Most of the existing studies regarding the experimental phase are defined within a theoretical framework on the short-term impacts of the intervention. However, when evaluated on a broader scale, the experimental phase serves as a tool for observing potential errors during the transition. Consequently, to determine whether an experiment is successful, it is necessary to measure parameters at various time steps rather than monitor only in the short term. Addressing this methodological gap, this thesis aims to re-evaluate the structure of the experimental phase through long-term evaluation.

The main objective of the research is to create a strategic guideline that connects theory and practice, based on the Torino Mobility Lab (TML) project and its long-term-based evaluation. While doing so, it seeks to answer the question: **"If we were to go back in time, how would the experimental phase of the process be structured to prevent errors?"**

Methodology

This thesis consists of both **qualitative and quantitative assessment methods**. It involves a literature review, case study analyses, public life monitoring, a comparative framework for observations, and restructuring of the experimental phase along with the guideline.

The literature review will help determine the role of street in urban planning, and its transition to the permanent phase through the experimental phase. Therefore, it will examine several types of street-transformative cases and their various aspects. The examined cases can serve as the initial indicators displaying what is successful and what can be considered critical during the experimental phase.

Studying a specific case to address both the theoretical and practical aspects is essential. TML project in Turin's San Salvario district is selected to focus on these aspects. It originated from a call initiated by the Italian Ministry of Environment in 2016 and evolved to its final form. The process has resulted in three pedestrianized streets: Via Principe Tommaso, Via Lombroso, and Corso Marconi. The main reason this project is significant is that it has monitoring results from 2020 and 2021, which facilitates applying the same methodology for long-term evaluation.

Rethinking how the experimental phase can be structured through the guideline will address the problems and challenges encountered during the project implementation phase. While doing so, the process will be divided into different phases to study them individually. Even though the phases will be examined individually, the general common goal is the same: to provide comprehensive knowledge for street experiments starting from scratch. The guideline, built upon this structure, aims not to remain a scenario specific to San Salvario; instead, it seeks to be a toolkit that can be adapted to different urban contexts.

To accurately grasp the dimensions of urban transformation, this thesis will adopt a two-structured methodological approach. The first methodology is to measure evolution over a 5-year period and to provide a comparison framework. The second methodology is to discuss how the experimental phase would be structured so that, after 5 years of transformation, current failures would be prevented.

JAN GEHL'S METHODOLOGY

The first step of the methodological structure is unfolding the current situation of the TML project and comparing it with past data. To ensure the results are comparable, the process must be conducted using similar methods. If there are indicators between the methods that could affect the outcome, these must be specified for each process. Such factors might range from weather conditions to an event taking place on the street. The monitoring phase for each street is planned to be conducted three times a day on three days of the week: one weekday, one Friday/Saturday, and one Sunday (27 monitoring sessions in total). To ensure consistency in indicators and achieve more accurate results, the schedule is selected based on the last monitoring carried out in 2021. The observation methods include Stationary Activities Counting, Moving People Counting, Looking for Traces and Urban Diary.

Why is this method preferred?

The observation method to be applied was specified when the TML project's schedule was shared, even though it was not applied as scheduled. Again, the streets were observed using the same methodology by Aleksandra Stankulova in 2021. Consequently, Jan Gehl's methodology was selected as the approach to yield comparable data. The most significant factor here is the method's multi-layered nature; it offers a comprehensive framework for measuring the interaction between physical space and human behavior in both quantitative and qualitative terms. Public life observations, findings, and results will form the basis of the in-depth guideline in the next step. The applied methodology does not merely assess the current situation; it also presents a long-term analysis of the case study, accompanied by reports, as one of the most effective ways to reveal the specific aspect of the project under examination, grounded in concrete data. This enables the observation of how the project's initial objectives have evolved over time.

TIME-MACHINE APPROACH

The time-machine concept brings together the traditional street of the past, the experimental phase, and the permanent phase of the pedestrianization project into a single analytical plane. The guideline, divided into different phases, will be examined individually using a time machine to understand what happened during project implementation and over a 5-year period. After addressing the problems, the next step is to identify the ideal scenario for each phase and shape the guideline accordingly.

Why is this method preferred?

The phases in the guideline influence each other directly and irreversibly. That is why each phase will be examined individually using time-machine logic, according to the conditions of its own time. An analysis of each phase enables the identification of the reasons for successes and failures, as well as the methodology to apply within each phase. Proceeding by choosing a pedestrianization project with a controversial outcome helps shed light on potential future issues. It establishes its methodology by identifying critical situations and determining the appropriate solutions for each. In doing so, it offers a guide that integrates theory and practice and can be adapted to diverse urban contexts.

How to Read This Research?

Theoretical Framework

Literature Review

This section addresses the historical evolution of the street. It establishes a fundamental understanding of how streets have functioned as public spaces throughout different eras.

Subsequently, it focuses on a paradigm shift from vehicle-oriented streets to people-oriented streets and explains how urban space is physically and socially reproduced through street transformations.

When examining street transformations, the requirements for achieving successful outcomes are considered; this is where street experiments come into play. Instead of accepting risks, experiments focus on 'learning by doing' while revealing the potential of the street.

Case Study Examples

Global case studies regarding street transformations, and consequently, experimental temporary phases are analysed.

Examining approaches at various scales, helps to establish a database for the design strategy to be developed in subsequent sections.

Methodology

The methodology used is described. Data collection tools are listed to facilitate an understanding of why this method is required, how the process can be done in an accurate way and how the results are obtained.

Data Collection Methods according to Jan Gehl's methodology:

-Counting
-Mapping
-Tracking
-Looking for Traces
-Photographing
-Keeping a Diary
-Test Walks

Analysis

The Case Study

The Case studied within the scope of this thesis is introduced: TML project in San Salvario district of Turin.

The project is addressed in all its aspects. The aim of this process is to discuss the weaknesses, potentials, and conflicts observed in relation to the approach in question.

To understand the current situation, the previously described Jan Gehl methodology is applied in the field.

Key Findings

The Guideline

The final section representing the output of the research and synthesizes all the theoretical and practical findings obtained.

This section should be read not as a static text, but as an interactive guideline featuring timelines and phases.

For each, we go back in time, using a time machine, and ask, "What happened in the process?" and identify the questioned approaches taken during that period. Then, we seek an answer to the question, "What should the ideal scenario have been in this phase?", and, as a result, display the guideline.

Looking Ahead

Discussion and Conclusion

Before proceeding to the conclusion, the theoretical and practical limitations are critically evaluated in the discussion section.

The study addresses specific questions aimed at paving the way for future research directions.

02

LITERATURE REVIEW

The Historical Evolution of the Street

Homo sapiens has been constantly producing culture since its existence, and this does not stop or wait; it continually changes and transforms. For instance, believing a tree is sacred, turning a stone into a monument, and transforming a square into a ceremonial space are all examples of cultural production. As culture evolved, so did human space.

When examining the concept of urban planning, it is important to note that it plays a comparatively small role in the long history of Homo sapiens. Before settling down, Homo sapiens learned to live in small groups as nomads and began developing language and symbols. This development brought about the capacity to create, marking the beginning of the phenomenon of spatialization. Spaces that once functioned solely as gathering places gradually evolved into settlements, and subsequently, settlements transformed into the complex structures we call cities. In other words, what we call a city is defined as a historically layered artifact. These interventions, spread over time, transform what came before, rather than completely erasing it; thus, the city acquires the character of a palimpsest, rewritten throughout history.[1] So the street is one of the reflections of it. However, it should not be considered solely as a physical path, but the outcome of this cultural residue, a form of organization that emerged as humans adopted a settled life.

1 Spiro Kostof, *The City Shaped: Urban Patterns and Meanings Through History* (Thames and Hudson, 1991).

Çatalhöyük, Anatolia
streetless settlement



Khirokitia, Cyprus
circular structures with streets forming between them



Uruk, Mesopotamia
monocentric approach is visible



Mohenjo-Daro, Indus Valley
early example of the grid-based concept



Fig. 2.1. Settlement patterns in the earliest cities. Sources: Top left: Mellaart, *Çatal Hüyük*; top right: Le Brun and Daune-Le Brun, *Le Néolithique de Chypre*; bottom left: DAI Orient-Abteilung; bottom right: Marshall, *Mohenjo-daro*.

Once upon a time...

While early settlements had structures, access to them was not always street based.

Çatalhöyük, Anatolia (7th-6th millennium BC) was a streetless settlement. Houses were built in a staggered, adjacent row, with access through the roofs.[2] In Khirokitia, Cyprus (6th millennium BC), while a clear linear street ran through the middle, there were also circular structures with streets forming between them. These two settlements, which coincide with similar periods, demonstrate that different geographies developed social orders according to their own conditions, and that the street was a deliberately determined institution within this order, not a naturally occurring phenomenon. These Neolithic settlements are notable because they demonstrate that the concept of the city had not yet been defined. Moving forward in time, the emergence of the city becomes apparent in places like Uruk in Mesopotamia, often considered the world's earliest city. Uruk, like earlier forms of organization, established a space centered around the temple for worship, but also began to shape the city itself around this center. Here, a monocentric approach is visible, with radial and linear streets extending from the settlements to the center.

2 "Neolithic Site of Çatalhöyük," UNESCO World Heritage Convention, accessed January 5, 2026, https://whc.unesco.org/en/list/1405/; Spiro Kostof with Greg Castillo, *The City Assembled: The Elements of Urban Form Through History*, illus. Richard Tobias (Thames and Hudson, 1992).

Miletus, Anatolia
axial streets around the agora

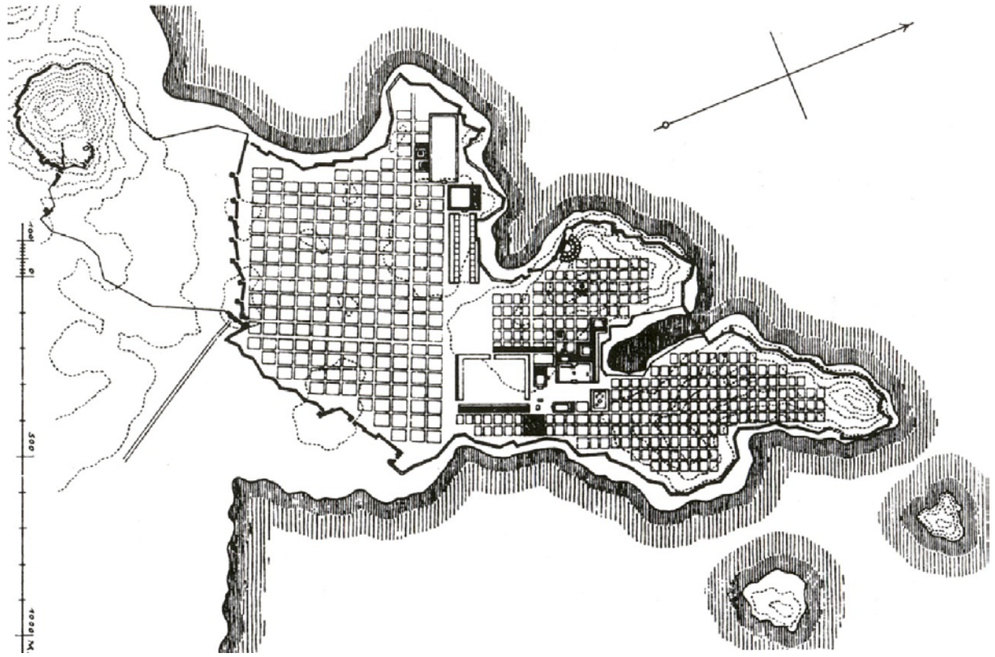


Fig. 2.2. City plan of the ancient city of Miletus, Anatolia, planned by Hippodamus. Source: Wikimedia Commons.

Additionally, the city features an organic plan made up of narrow paths that appear to have formed naturally between neighborhoods. These narrow streets served a practical purpose as well, maximizing shade and leveraging wind to cool the streets in Mesopotamia's high temperatures.[3]

Later, in the Indus Valley, we see that in Mohenjo-Daro and Harappa, the street morphology, with its planned orientation and width, along with the infrastructure, takes shape as a public network. This method, with its grid-like concept, despite the natural topography, is an early example of planning. Traces of the distinction between the citadel (administrative/religious center) and the lower town (residential area) are also visible here.[4] This planning is an early example of the grid-based concept, later systematized by Hippodamos.

Hippodamos, in Ancient Greece, proposes a kind of ideal city, theorizes it, and defends it both verbally and in writing. He designs axial streets around the agora and divides the city into three parts: public, private, and sacred space. In doing so, he limits the ideal population to 10,000 (mentioned in Aristotle's Politics), draws on the grid system, and in this way offers a proposal for how the city should grow.[5]

3 Kostof, *The City Shaped*.

4 "Who Were the Indus People and How Did They Live?," BBC Bitesize, accessed January 27, 2025, https://www.bbc.co.uk/bitesize/articles/z9mpsbk; Kostof, *The City Assembled*.

5 İlhan Tekeli, *Modernizm, Modernite ve Türkiye'nin Kent Planlama Tarihi* (Tarih Vakfı Yurt Yayınları, 2009).

This grid system continued in Ancient Rome, where the city was built around two main axes: the Cardo-Decumanus (north-south and east-west). These two axes intersect at the center, called the Forum. The Forum was the center of administrative, commercial, and religious life, while residential areas were located on its periphery. Streets, in turn, were divided into various types according to their functions: main axes (cardo-decumanus), secondary axes (vicus), and narrow passages (angiportus). Some streets even had sidewalks (crepidines), which suggests a separation between pedestrian and horse-drawn carriage traffic. While the main axes hosted ceremonies, processions, and public life, side streets provided access to residences and ateliers. Narrow passages served as interconnections and service lanes.[6]

In the city, buildings had direct connections to the street, but the form of this connection varied according to their functions. For instance, larger public spaces like baths were surrounded by wider streets, and shops were designed to maintain a close connection with the street. Houses, on the other hand, were built with a courtyard system; their relationship with the street was mostly limited to entrances through doors. If, as mentioned above, a shop was located on the ground level of the residences, the street wall would become a commercial facade. So, communication with the street depended on the needs of the housing typology, with light and ventilation, in particular, forming the foundation of the relationship with the street. Thus, while single-family domuses in ancient Rome faced the inner courtyard, the apartment blocks (insulae) opened onto the street with large windows and balconies, thus admitting light and expanding living spaces.[7] Consequently, in Ancient Greece and Rome, the street was a living interface that responded to the needs of the household instead of being merely a public passageway.

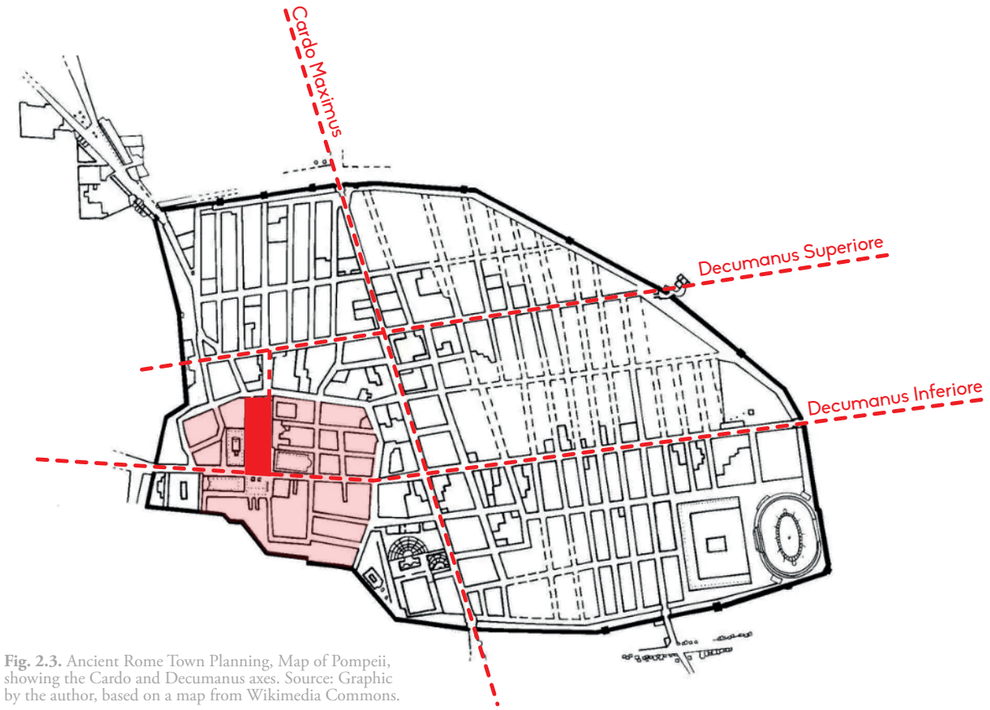


Fig. 2.3. Ancient Rome Town Planning, Map of Pompeii, showing the Cardo and Decumanus axes. Source: Graphic by the author, based on a map from Wikimedia Commons.

6 Kostof, *The City Assembled.*
7 Kostof, *The City Assembled.*



Fig. 2.4. Pompeii Street. Photograph by Jashan Gill.



Fig. 2.5. Pompeii Street. Photograph by Umberto Cesino.



Fig. 2.6. Pompeii Street. Source: Pompeii Sites, "Regio VII."

"The directions of the streets and alleys should be laid out not at right angles to the course of the wind, but obliquely, for thus the force of the winds will be broken and turned away from the houses and the streets."
(Vitruvius, De Architectura, Book I, Chapter XI)

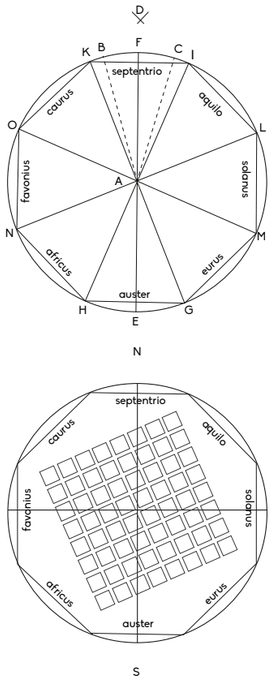


Fig. 2.7. Wind engineering according to Vitruvius. Top: reconstruction of the "scheme" of the major winds; Bottom: reconstruction of the orientation of the city's urban plan in relation to the blowing winds. Source: Curt Fensterbusch, *Vitruvius: De architectura* (1964), based on Vitruvius, book 1, chap. 6, sec. 12.

Vitruvius, an architect, engineer, and theorist who lived during the Roman Period in the 1st century BC, wrote a book titled "De Architectura" (The Ten Books on Architecture) during this period. In the book, Vitrivius brings a different perspective to urban planning and argues that it is not right to design the grid system alone without considering other environmental factors, and that elements such as hygiene, health, climate, and topography should also be taken into consideration when designing a city to increase the quality of life. Another basic planning principle Vitruvius mentioned is the compatibility of the grid system with the topography; the slope of the streets should be planned accordingly, and rainwater drainage systems should be designed with consideration. According to him, the street is a system in which many factors are optimized in harmony with the climate and infrastructure.[8]

This understanding was reshaped by the conditions of the following periods: the collapse of the Roman Rule caused the abandonment of cities in Europe, and the population to withdraw to the countryside. During this period, the city was used as a defensive unit or religious center. That is why Medieval towns were shaped around the castle and fortification system as an extension of the feudal structure. In this period, the grid system is replaced by an organic texture where planned blocks were carved in line with the "needs of the movement".[9]



Fig. 2.8. Map of the City of Siena, 1863. Source: ArcGIS.

In Medieval Towns, there were certain crafts or institutions that clustered around themselves, and the urban fabric was organically shaped around these clusters. Also, unlike today's modern cities, there was no urban structure based on vehicle traffic; the street was a space based on pedestrian movement and formed naturally between the buildings.

The streets of this period are not only narrow and irregular, but also have sharp turns and cul-de-sacs. However, it can be mentioned that this formation is not random. Narrow and winding streets create a microclimate by reducing the effect of strong wind and also prevent water and mud from accumulating on the surface. Therefore, this disorder is not an expression of lack of planning, but rather an expression of adaptation to environmental conditions.

Unlike modern cities that create wind tunnels with wide and linear avenues, the narrow streets of the medieval ages offered people milder, more livable outdoor conditions.[10]

During this period, storefronts were not common, so shops would set up their stalls directly on the street, rather than behind enclosed spaces. Therefore, daily activities took place largely outdoors, in public spaces. This way of life enabled the existence of narrow streets, porticoed facades, and open shops within a complementary system. Mumford (1961) interprets this triad, narrow street, porticoed facade, and open shop, as the spatial expression of climatic, social, and economic harmony. However, with the proliferation of affordable glass in the 17th century, commerce would move indoors, and the street would become an infrastructure for traffic and circulation.[11]

8 Vitruvius Pollio, *The Ten Books on Architecture: De Architectura* trans. Morris Hicky Morgan (Createspace Independent Publishing Platform, 2016).
9 Kostof, *The City Shaped*.
10 Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects* (Harcourt, Brace & World, 1961).
11 Mumford, *The City in History*.

Furthermore, in medieval cities, street paving evolved into an aesthetic art; that is, it served not only a functional purpose. The color and the arrangement of the stone are considered together with the infrastructure itself, generally with the responsibility of the private property owner. From the 15th century onward, in some cities, property owners were obligated to undertake the construction and maintenance of the pavement in front of their houses, as in the Northampton Pavement Act of 1431. Thus, while the purpose of the public service was communal, the physical implementation remained confined to individual property boundaries. According to Mumford (1961), this represents a trend that accelerated during the Renaissance: as technical advances were made, public awareness narrowed, and street maintenance became a private responsibility rather than a matter of social solidarity.[12]

While the street in the Middle Ages was an organic extension of social unity, in the Renaissance, this unity was reshaped by mathematical proportions: symmetry, perspective, and proportion.

A city was now defined by "how it was seen" as much as "how it was lived in". From this period's perspective, the city should create geometric integrity; it should be based on perfect forms such as the square, circle, or octagon. We are talking about an urban system that centers the square, positions public buildings around it, organizes them radially or in a grid from the center outward, and where street forms make this urban fabric legible. In this system, the street, while carrying visual unity, also serves as a strategic network. Main axes can be used to facilitate crowd flow when necessary; the radial system allows control over every point of the city. Meanwhile, straight and clear lines were seen as symbols of the geometric order created by the human mind in the Renaissance.[13]

In the background of this transformation, several figures of the period played a decisive role, including Leon Battista Alberti. While Alberti is generally known as a representative of the Renaissance urban approach, based on straight, wide, and perspective directions, he also positively addressed the meandering structure of medieval streets in his writings. While he recommended straight, wide avenues for powerful and noble cities, also recognized the aesthetic and functional superiority of narrow, winding streets in small-scale cities. Alberti argued that meandering streets possess a fluid beauty, enabling the discovery of new structures at every turn, thus creating a constantly changing visual experience within the city. In his view, such streets not only create a microclimate but also provide defensive advantages in emergencies. In this respect, Alberti serves as a bridge between the organic and human-scale street morphology of the Middle Ages and the rational planning ideal of the Renaissance. This quest for moderation, openness, and geometric clarity, which emerged in the Renaissance city, gradually gave way by the 17th century to an understanding that prioritized visual representation and the aesthetics of power.[14]

12 Mumford, *The City in History.*
13 Mumford, *The City in History.*
14 Mumford, *The City in History.*



Fig. 2.9. The Uffizi, 18th century. Source: Uffizi Gallery.



Fig. 2.10. Bernardo Bellotto, *The Piazza della Signoria in Florence,* 1740.

The Baroque period did not entirely reject the Renaissance's idea of rational order; however, it transformed this order into a symbolic spectacle, seeking to influence and direct people and space.

Thus, the principles of proportion and harmony in urban planning were replaced by movement and theatrical impact. Wide avenues, linear axes, and monumental squares became not only spatial organizing elements but also stages of power and authority. The street ceased to be a natural extension of everyday life and became a visual corridor directing the viewer's gaze. The city as a whole becomes a staged composition: every street serves as an axis, every square a stage, every building a background. The symmetry of the facades, rhythmic repetitions, and perspectives extending to the horizon represent both the aesthetics of movement and the order of authority. This spatial order facilitates military intervention and social surveillance, with narrow streets being demolished and replaced by boulevards. This language of Baroque planning detaches itself from the human scale. Thus, the street ceases to be a space of encounter and publicity, transforming into a geometric instrument of spectacle and control.[15]

From the 17th century onward, power shifted from the palace to the market, from kings to merchants. Mercantilist policies quickly paved the way for capitalist expansion; the demolition of the city walls became both a practical and symbolic manifestation of this transformation. Instead of protecting itself, the city opened up to trade routes, ports, and capital. Commercial cities like London, Amsterdam, and Antwerp were shaped by calculations of profitability and efficiency in every field, from production to architecture. This change represented the economic extension of the abstraction process that began in the Baroque city: the geometric discipline of space was now sustained by the logic of the market. Thus, by the end of the 18th century, the city was preparing for the Industrial Revolution, both socially and spatially.[16]

The city created by 19th century capitalism had ceased to be an organism that supported human life and had transformed into an economic machine. The urban plan was now reduced to an abstract schema composed of measurable, marketable units; land, like labor, had become a commodity, and urban growth was measured solely by the increase in land value. This growth drew rural populations into this new area, creating congestion and, in turn, creating poverty and new consumption habits.[17]

15 Mumford, *The City in History.*
16 Mumford, *The City in History.*
17 Mumford, *The City in History.*



Fig. 2.11. Friedrich Bernhard Werner, *Piazza San Carlo in Turin*, ca. 1730.



Fig. 2.12. Giovanni Battista Piranesi, *Bird's-eye view of St. Peter's Basilica and Piazza*, from the Vedute di Roma (Views of Rome) series, ca. 1760.



Fig. 2.13. Smoke rising from the chimneys of a cotton factory in Manchester, 1936.
Photograph by Fox Photos/Getty Images.

...And The Railway Enters The City

The introduction of the railway into the city of England during this period was one of the most significant factors in destroying the structural integrity of the city. When railways entered urban centers, they invaded public spaces, physically divided neighborhoods, created impassable boundaries, and fragmented social life. While commerce, religion, art, and entertainment coexisted in previous eras, in the industrial city, all life was reorganized around economic production. Factories, with their 12 to 14 hour work cycles, transformed humans into extensions of the machine. This transformation led to the streets being cut off from social life and reduced to mere commuting routes, thus replacing the human aspect of the city with a mechanical order. The street was no longer a space for people, but for market flow.[18]

The city, with its back-to-back housing, identical houses, narrow windows, dark interiors, and directionless streets, becomes a place of shelter, not habitability. However, the gray cleanliness of the more "respectable" neighborhoods is even more bleak than the disorder of the poorer neighborhoods, for in the former, life itself has vanished. Yet, in the poorer streets, the sounds of the market, games, and public interaction still linger. In other words, as spatial order increases, social life diminishes.[19]

18 Mumford, *The City in History.*
19 Mumford, *The City in History.*

Cities of this period were also dark, smoggy, and gloomy, creating an environment that threatened human health and brought on many diseases. For example, the idea that narrow streets contributed to the spread of epidemics such as cholera gained acceptance. These and similar views led to the rebirth of new planning styles under the guise of urban hygiene. Public Health Acts (1848, 1858, 1866) regulated street widths directly within the context of public health. While the street had been a place of accumulation for filth and waste until the mid-19th century, it was redefined with modern sewer systems, paving stones, and water networks, a system of infrastructure that could be controlled for the first time. Pipes, tunnels, and drains... The street became a conduit for health and cleanliness in this period. Concepts such as sunlight, wind, and water also played a crucial role in urban planning; the window became a "lighting device," the balcony a "ventilation shaft," and the street an "oxygen corridor".[20]

Bye-law streets, developed in this context, were a regulatory regime that imposed requirements such as minimum street width, drainage infrastructure, utility alleys, ventilation, and sunlight access within the dense urban fabric. These streets were hygienic, orderly, and safe, but they produced a monotonous, poor morphology.[21] The "death of street rhythm" that Jacobs would later criticize was embodied precisely in these residential streets.[22]

This "biological" transformation, also took place in France, the most dramatic example being Haussmann's reshaping of Paris (1853-1870). The wide boulevards he created, while facilitating the flow of air and light, aimed to prevent diseases such as cholera and typhoid, and also transformed the city into a militarily and economically manageable form. However, this new urban order was also a form of control. Haussmann's boulevards regulated not only air and light but also social movement. Narrow, winding medieval streets, havens of revolution and rebellion, were eliminated, replaced by linear axes suitable for military parades.[23] In other words, the 19th century ideal of hygiene, while simultaneously promoting health, cleanliness, and prosperity, transformed the city into a sterile, monitorable, and disciplined organism.

But Camillo Sitte's critique arises precisely from this point: as Haussmann's geometric precision obliterates human scale, the street is no longer a site of encounter, belonging, and aesthetic experience. The street is clean, but silent. The city is beautiful, but dead. This opposition has led to the division of the street's meaning between physical hygiene and spiritual vitality in the post-industrial era.[24]


Rue
Rue
Rue



Fig. 2.15. A narrow street showing pre-Haussmann conditions: *Rue des Anglais, from Boulevard Saint-Germain, Paris,* ca. 1858–1878 Source: Photograph by Charles Marville.



Fig. 2.16. *Rue Champlain, Paris,* 1877-78. Source: Photograph by Charles Marville.



Fig. 2.17. *Boulevard Henri-IV, Paris, France, 1813-1879.* Source: Photograph by Charles Marville.



Fig. 2.18. Satellite view of Paris, France. Image courtesy of Daily Overview and DigitalGlobe, Inc., 2016.

During this period, the redefinition of the street through hygiene, order, and control also paved the way for the emergence of suburbs. The middle class, seeking to escape the dirty, crowded, and dangerous streets of the industrial city, gravitated toward peripheral settlements that offered fresh air, nature, and privacy.

From the late 19th century onward, this spatial segregation transformed the city center into a hub for production and transportation, while the suburbs became a hub for living and recreation. Suburban streets, unlike the congested streets of the city center, have been shaped by a wide, low-density, often curvy, and picturesque aesthetic. In this process, the street has become a semi-private circulation space, an extension of the home, rather than a public space of encounter.[25]

At this point, Ebenezer Howard's Garden City Model (1898) emerged as a counter-proposal to the spatial and social disconnections created by suburbs. However, here, the concept of the picturesque is reconstituted not with isolation as in the suburbs, but with a planning logic that strengthens public life. Rather than abandoning the city entirely, Howard aims to reconcile its productive structure with the life cycle of nature. Thus, he surrenders neither to Haussmann's mechanistic and authoritarian order nor to the fragmented individuality of the suburbs. While restoring streets and public spaces to a human scale, he also makes green spaces an integral part of the urban fabric. Streets are structured in a way that reduces vehicular traffic, strengthens neighborhood centers, prioritizes the human scale, and is supported by green belts.[26]

Howard does not directly define street form, but the meandering streets, T-cul-de-sacs, superblock logic, and residential layouts developed by Unwin and Parker in Letchworth and Welwyn transformed organic form into an organic-looking yet planned aesthetic and functional strategy for the first time. This approach also marked a decisive turning point in the transformation of street morphology in Europe. Henri Sellier's Suresnes cité-jardin in France, Oostzaan in the Netherlands, an early application of the tuindorp model, and the Siedlung movement developed by pioneers such as Ernst May and Bruno Taut in Germany synthesize and reinterpret the Garden City's social reformist approach with modern functionality.[27] Here, pedestrian priority is increased, while the automobile remains a secondary element.

The planned organicism and anti-grid approach evident in these early modern European settlements were institutionalized in the New Towns Act in England after World War II and subsequently served as a model for urbanization programs across continental Europe.

From this period onward, meandering road systems, hierarchical circulation, pedestrian-vehicle separation, and low-density neighborhood units became the technical standard of modern European street morphology.[28] The street was redefined through traffic safety, residential privacy, and quality of life.

25 Mumford, *The City in History.*
26 Ebenezer Howard, *Garden Cities of To-Morrow* (Faber and Faber, 1965).
27 Kate Henderson, Katy Lock, and Hugh Ellis, *The Art of Building a Garden City* (RIBA Publishing, 2019), https://doi.org/10.4324/9780429346491; Kostof, *The City Shaped.*
28 Henderson, Lock, and Ellis, *The Art of Building a Garden City*; Kostof, *The City Shaped.*

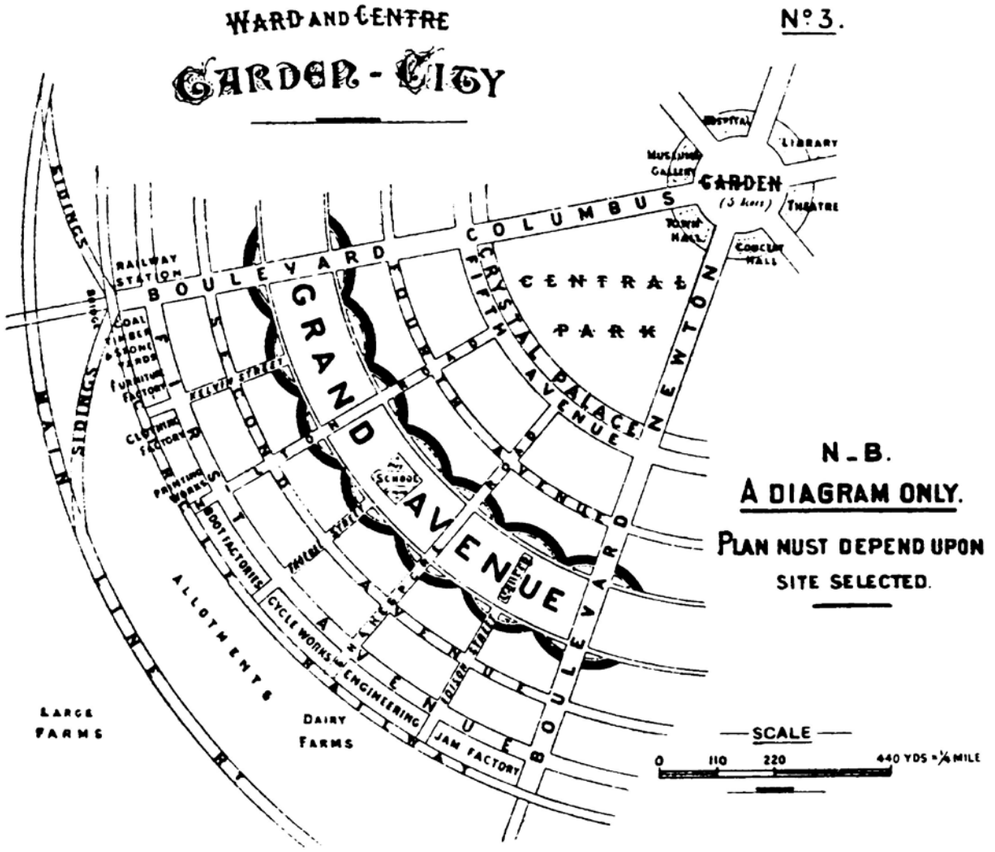


Fig. 2.19. Aerial view of Letchworth Garden City. Source: Letchworth Garden City Heritage Foundation.



Fig. 2.20. Neighborhood and center diagram of Garden City. Source: Ebenezer Howard, *Garden Cities of To-Morrow.*

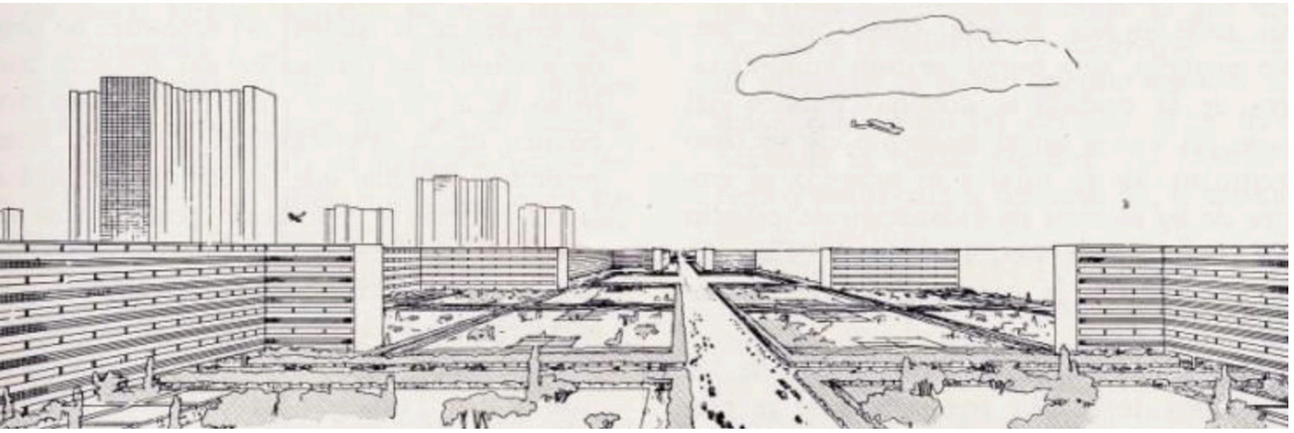


Fig. 2.21. Le Corbusier, *La Ville Radieuse* (The Radiant City), 1930.

"...Streets are an obsolete notion. There ought not to be such things as streets; we have to create something that will replace them."
(Le Corbusier (1933), 121)

Simultaneously with this approach, a radical approach emerged that sought to fundamentally transform the concept of the street: Le Corbusier's modernist vision of the city. Le Corbusier's pack-donkey's way metaphor and his rhetoric presenting linear walking as the natural orientation of the human mind form the basis of a comprehensive critique of organic street patterns in modernist urbanism.[29] This perspective rejects the idea that street form emerges from complex processes such as topography, historical continuity, or everyday pedestrian experience, arguing that urban form should be determined by rational, measurable, and abstract principles.

This approach, which reinforces the priority of the automobile on streets, gives rise to the concept of the functional city. According to the functional city approach, the city should be shaped by the triad of living, working, and resting, and circulation, as the fourth function, should connect them. In other words, streets are now axes that facilitate the flow of motorized traffic and the house must get away from the street, according to him, the concepts of the 'street' and the 'backyard' should disappear.[30] Peter Hall defines this as "a profoundly anti-urban ideology that rejects the fabric of the street".[31]

29 Le Corbusier, *The City of Tomorrow and Its Planning*, trans. Frederick Etchells (Courier Corporation, 2013); Kostof, *The City Shaped*.
30 Angelika Psenner and Susanne Tobisch, "On Streets: Streets as an Element of Urban Fabric," *Wydawnictwo Politechniki Łódzkiej* (2024), https://doi.org/10.34658/9788367934039.105.
31 Hall, *Cities of Tomorrow*.

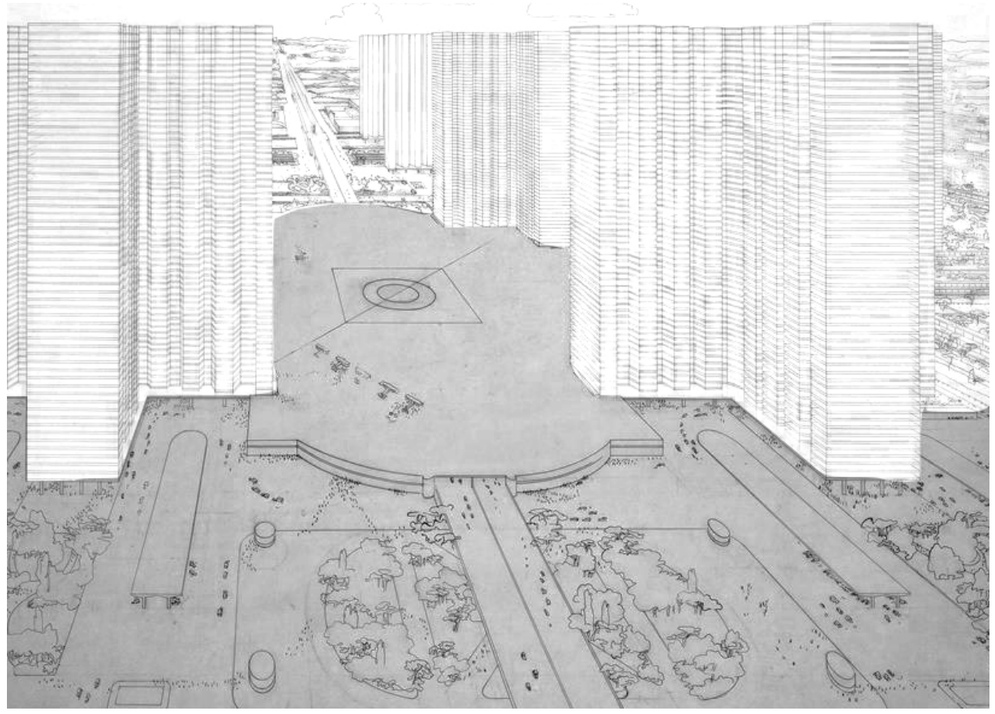


Fig. 2.22. Le Corbusier's scheme for a "Contemporary City" for three million inhabitants, 1922.
Source: Le Corbusier, *The City of Tomorrow and Its Planning.*

Corbusier's *La Ville Radieuse (1933)* project also questions the very existence of the street, because, in his view, the street is now dirty, unhealthy, and chaotic. Similarly, with the 7V Traffic Hierarchy, he developed fragments the integrity of the street by dividing the city into a system of roads with varying speeds and functions; it lifts residential blocks from the ground, creating a green ground plane; and completely separates pedestrian and vehicular movement. Unité d'Habitation's rue intérieure (inner street) system, on the other hand, aims to separate the street from the ground and recreate it in a controlled manner at different levels, thus creating a vertical social plane.[32] The street is no longer the backbone of public life, but a traffic tube focused solely on speed and circulation.

32 Le Corbusier, *The Radiant City: Elements of a Doctrine of Urbanism to Be Used as the Basis of Our Machine-Age Civilization* (Orion Press, 1967); Hall, *Cities of Tomorrow.*



Fig. 2.23. "The Death of CIAM" at the last CIAM meeting in Otterlo, Netherlands, 1959. Source: CIAM Archive.

However, from the 1950s onward, the functionally separated, car-oriented city was seriously questioned at both cultural and social levels.

The first criticism came from the CIAM group, where the foundations of modernism were laid, and from the Team X community. Led by Alison and Peter Smithson, this group argued that urban form should be evolutionary and process-oriented, not based on "predetermined abstract schemes." While these approaches theoretically appear to emphasize the importance of the street, the resulting elevated streets (the "streets-in-the-air" projects of Golden Lane, Park Hill, and Toulouse-Le Mirail) create windy, empty, unsafe, and disorienting spaces. Most importantly, people eventually return to the idea that the historical and cultural urban experience is grounded. All the systems that Modernism attempted to replace the street failed because they failed to provide the social, spatial, and perceptual integrity of the street. Therefore, while Team-X revived the concept of organic matter as a powerful discourse, its impact on street morphology remained limited. [33]

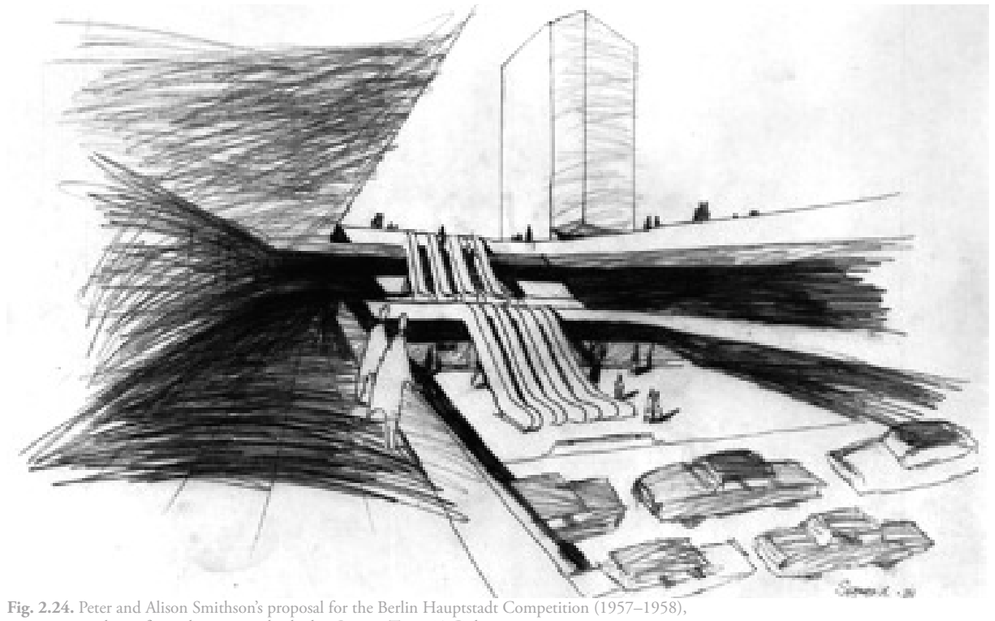


Fig. 2.24. Peter and Alison Smithson's proposal for the Berlin Hauptstadt Competition (1957–1958), suggesting a scheme for pedestrians and vehicles. Source: Team 10 Online.

33 Kostof, *The City Shaped*; Kostof, *The City Assembled.*

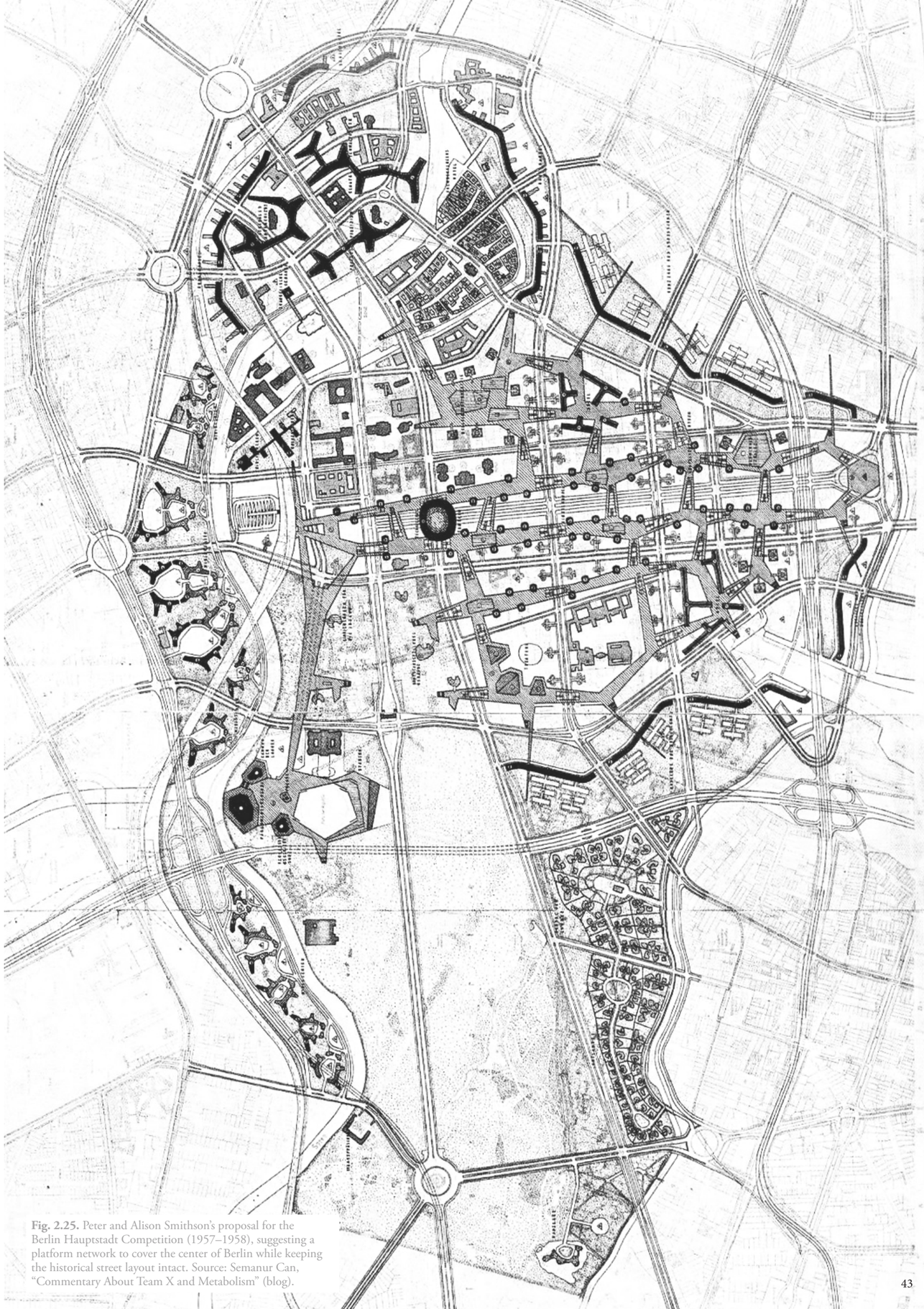


Fig. 2.25. Peter and Alison Smithson's proposal for the Berlin Hauptstadt Competition (1957–1958), suggesting a platform network to cover the center of Berlin while keeping the historical street layout intact. Source: Semanur Can, "Commentary About Team X and Metabolism" (blog).

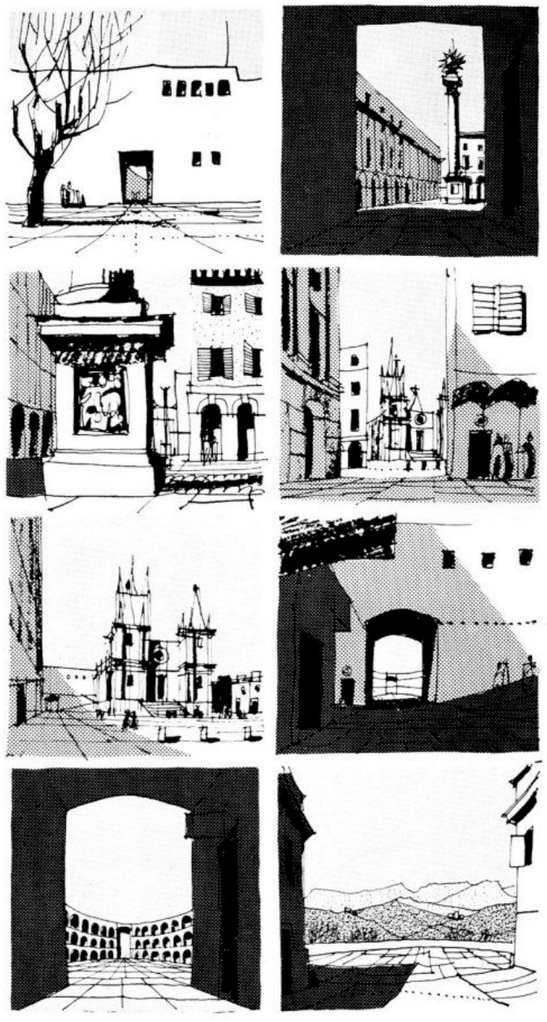


Fig. 2.26 Serial Vision. Source: Cullen, *Townscape*, 17.

"...The pedestrian walks through the town at a uniform speed, the scenery of towns is often revealed in a series of jerks or revelations. This we call SERIAL VISION."
(Cullen (1961),11)

Another critical approach is Cullen's Townscape movement, which developed a theory in opposition to the abstract geometry of modernism. By analyzing the organic streetscape with concepts such as serial vision, spatial continuity, scale, and atmosphere, Cullen recentered the street experience in urban design.[34] This movement not only preserved the historical fabric but also fostered a visionary perspective on the street in the design of new urban spaces.

34 Gordon Cullen, *Townscape* (The Architectural Press, 1961).

While Cullen redefined the street as a visual and spatial construct, Jane Jacobs created the spatial framework in his book *The Death and Life of Great American Cities* by redefining street life in terms of social life and security in the same years.

"...There must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street."
(Jacobs (1989), 35)

According to Jacobs, the sole function of streets and sidewalks is not to facilitate the flow of vehicles or people; they must be considered in conjunction with their surrounding elements, as these spaces provide public spaces where social contact occurs and diverse groups can be seen together. In a sense, they are the fundamental units of the city. This social ecosystem also provides security, but the concept of security discussed here is not protection from traffic, as in modernist approaches, but rather urban peace. To achieve this, Jacobs advocates for "fullness and vitality" in the city against the "voids" produced by modernism. He establishes a concept of "eyes on the street" that includes people in the city and defines a self-regulatory mechanism, such as the constant density of people on sidewalks and the street-facing windows of buildings.[35]

From the 1970s onward, Colin Rowe and Rob Krier took the concept of the street to a different axis and reconstituted it at the level of urban morphology. Rowe's *Collage City* approach argues that the fundamental structure ensuring the continuity of the city is a pluralistic approach where different periods, typologies, and street segments are articulated on top of each other; Krier describes the street as an "urban room" and argues that form, proportions, and the relationship between closure and opening determine the nature of public space.[36]

Alongside these postmodernist approaches, cities defined post-war reconstruction processes through the lens of the automobile, largely surrendering them to the logic of traffic engineering. However, this approach was re-questioned by Colin Buchanan's *Traffic in Towns*, a report prepared in England. This report acknowledged that the benefits of the automobile society contradicted its impact on the quality of urban life, arguing that motorized transportation was simultaneously indispensable and destructive to the city. Buchanan's concept of "environmental capacity" argued that a street should be defined not only by its vehicle capacity but also by environmental thresholds such as noise, hazard, air quality, visual stress, and pedestrian safety. The report emphasized that the problem lies not with the vehicles themselves, but with the vehicle-oriented planning ideology.[37]

35 Jacobs, *The Death and Life of Great American Cities.*
36 Colin Rowe and Fred Koetter, *Collage City* (MIT Press, 1984).
37 Colin Buchanan, *Traffic in Towns: A Study of the Long Term Problems of Traffic in Urban Areas* (HMSO, 1963).

These approaches, which advocate for and attempt to address similar concerns, differ in their approach to the street. For example, Buchanan's proposals advocate for a traffic-oriented rationalization as a more technical version of the modernist logic of separation, while Jacobs, Townscape, and Krier's perspectives link to the pedestrian-centered socio-spatial critique.[38] The 1960's thus became a multilayered period in which the concept of the street was redefined: the hegemonic power of the automobile became a subject of debate in both technical planning and social theory.

Donald Appleyard's *The Livable Streets (1981)* explores the effects of varying traffic speeds and densities on neighborhood life through field studies. This study presents how social life can be positively impacted when conditions are favorable and not hindered by traffic.[39]

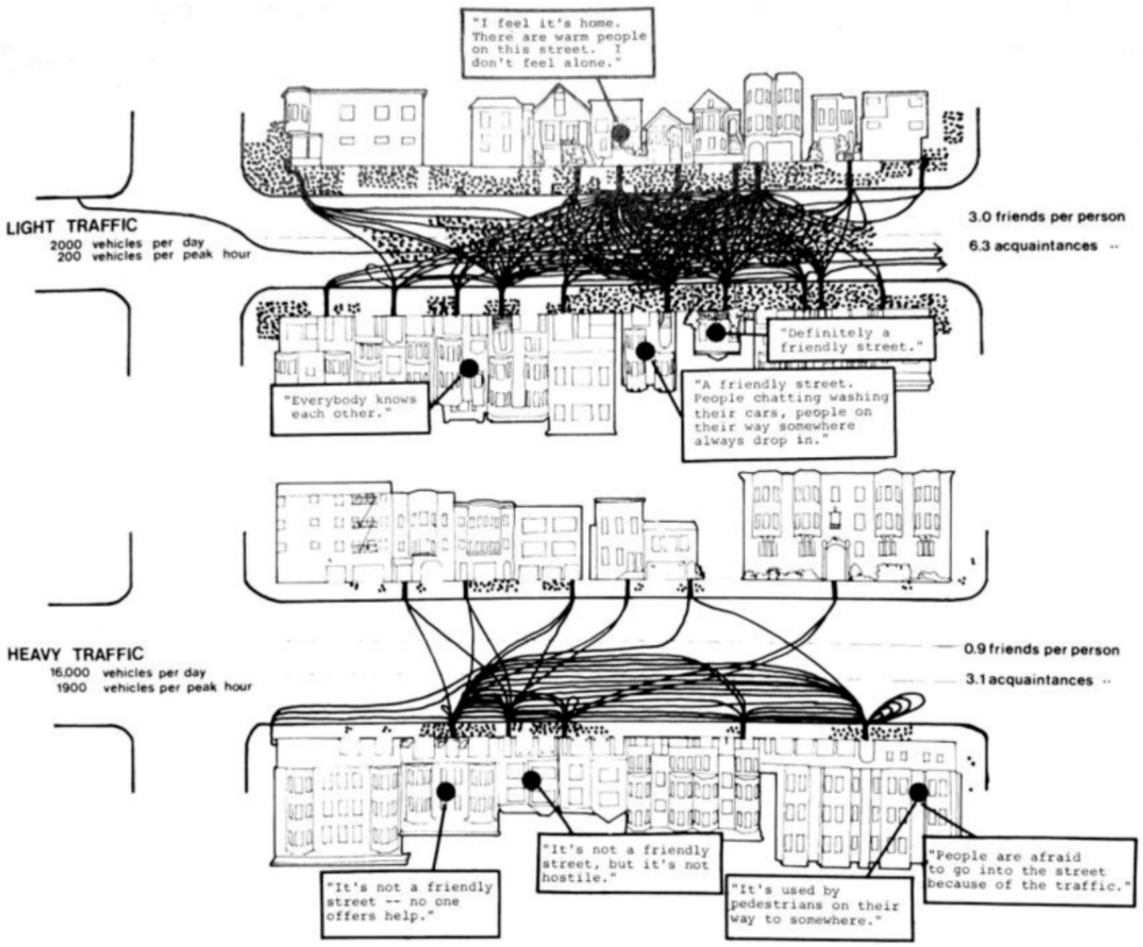


Fig. 2.27. Comparison of social interactions and perception of the streets by residents in a light traffic and a heavy traffic street. Source: Appleyard, *Livable Streets*, 21.

38 Hall, *Cities of Tomorrow.*
39 Donald Appleyard, *Livable Streets* (University of California Press, 1981).

Along with Appleyard, Allan Jacobs also criticized CIAM and the Garden City Movement for ignoring the social significance of the street. In this context, in his book *Great Streets (1993)*, he observed the streets of many cities and analyzed the inter-scale relationships of the urban fabric and the impact of street patterns on public life. In doing so, Jacobs considered not only the common characteristics of successful streets but also the reasons why unsuccessful or declining streets decline. According to him, complex and messy street patterns with numerous intersections encourage walking behavior, while overly organized and one-way street systems weaken pedestrian movement. However, Jacobs did not consider these concepts as the sole factors affecting the street; he argued that density, use, and the environment were also fundamental variables. He liberated street design from engineering-based standards and redefined it as a set of quality criteria based on urban experience.[40] In his view, a good street:

Provides shade in summer and sun in winter; has a defined edge with rows of trees or continuous facades; has proportions appropriate to the pedestrian scale; contains diversity in facades and details that keep people interested; is stable in terms of maintenance, cleanliness and continuity of function; supports a wide range of short-term activities (standing, looking, sitting, chatting).[41]

"...When outdoor areas are of poor quality, only strictly necessary activities occur. When outdoor areas are of high quality, necessary activities take place with approximately the same frequency though they clearly tend to take a longer time, because the physical conditions are better. In addition, however, a wide range of optional activities will also occur because the place and situation now invite people to stop, sit, eat, play, and so on. In streets and city spaces of poor quality, only the bare minimum of activity takes place. People hurry home. In a good environment, a completely different, broad spectrum of human activities is possible."

(Gehl (2011), 11)

Following Jacobs, Jan Gehl, in his studies, *Life Between Buildings* and *Cities for People*, developed an empirical approach to street transformations by analyzing pedestrian experiences, sitting and standing behaviors, encounter patterns, and microactivity densities such as street behavioral observations and density of life, using systematic measurement techniques. Gehl's approach has enabled evidence-based street transformation design processes in many cities, particularly Copenhagen.[42]

40 Allan B. Jacobs, *Great Streets* (MIT Press, 1995).
41 Jacobs, *Great Streets.*
42 Jan Gehl and Birgitte Svarre, *How to Study Public Life* (Island Press, 2013).



Fig. 2.28. Reclaim the Streets protest, Camden High Street, London, May 14, 1995. Photograph by Nick Cobbing.

So... How did European cities react to those perspectives?

During this period, Europe, particularly Germany, the Netherlands, and Denmark, developed a pedestrianization policy based on ground-level and vehicle-pedestrian separation. Unlike modernist efforts at vertical segregation, this new approach aimed to establish vehicle-free, uninterrupted public street networks in city centers. Copenhagen's Strøget (1962) project is emblematic as a powerful example of the complete pedestrianization of a major city center. Subsequently, the number of pedestrian zones in Germany, which had 60 in 1966, increased to 370 by 1977.[43] Similarly, early pedestrianization projects such as Rotterdam's Lijnbaan (1951-53), while initially considered innovative, eventually degenerated into single-use spaces lacking vital diversity due to material quality, uniformity, and artificiality.[44] This demonstrated once again that the vitality of a street is not solely related to its design but to its social history and continuity of use.

43 Carmen Hass-Klau, *The Pedestrian and City Traffic* (Belhaven Press, 1990).
44 Kostof, *The City Assembled*.

This transformations included pedestrians rather than simply centering the vehicle but its applicability was limited within the city. Meanwhile, De Boer (1963) influenced by Buchanan's theoretical ideas and tried to redesign the streets in the Netherlands and named this approach as woonerf which can be translated as living yard. Rather than prioritizing vehicles, De Boer's approach aimed to integrate play, walking, neighborhood, and slow traffic within the same street section. The design, with its speed bumps, impermeable street lines, landscape barriers, and fragmented parking arrangements, relegated the driver to the position of "guest". Afterwards, the woonerf concept established through guidelines and regulations in the Netherlands (1976), and then spread to many other countries.[45]

Shared space, pioneered by Hans Monderman, can be seen as a larger interpretation of the woonerf concept. While woonerf transforms streets at the neighborhood level and gives the priority to the pedestrians, shared space can be applied to larger urban centers, squares, and commercial axes with the principle of all road users should be integrated. In this model, hierarchical street markings, sharp lane distinctions, curbs and traffic signals are largely eliminated, transforming the street into a public space shared through collaborative negotiation by vehicles, pedestrians, and cyclists. Monderman's fundamental assumption is that overregulation automates behavior, whereas uncertainty fosters caution, politeness, and slowness among users.[46] Shared space, therefore, ties directly to Jacobs's assertion that "streets are places where encounters and behavior are generated".[47]

All the approaches mentioned formed the theoretical basis for the new street policies that emerged in European cities after 2000. In order to minimize the dominance of cars in cities, increase the presence of pedestrians and other modes of transportation, and ensure sustainability in urban areas, streets have been approached and transformed from different perspectives.[48] The main goals of these transformations include the idea that streets belong to everyone and that accessibility in cities should not be reduced to a single mode of transport for them to be livable. During this time, the street has been constantly tested, reprogrammed, and adapted to social expectations. And this process continues to evolve with different approaches.

45 Eran Ben-Joseph, "Changing the Residential Street Scene: Adapting the Shared Street (Woonerf) Concept to the Suburban Environment," *Journal of the American Planning Association* 61 (1995), https://doi.org/10.1080/01944369508975661.
46 Gary Toth, "Where the Sidewalk Does not End: What Shared Space Has to Share," Project for Public Spaces, 2009, https://www.pps.org/article/shared-space.
47 Jacobs, *The Death and Life of Great American Cities*.
48 Gehl and Svarre, *How to Study Public Life*.

Strøget Street, Copenhagen pedestrianization in 1962



Fig. 2.29. Strøget, Copenhagen, before and after pedestrianization. Top: view from the south, 1953. Bottom: same view, 2013. Source: Gehl, *How to Study Public Life, 150.*

What has changed on the pedestrianized street?

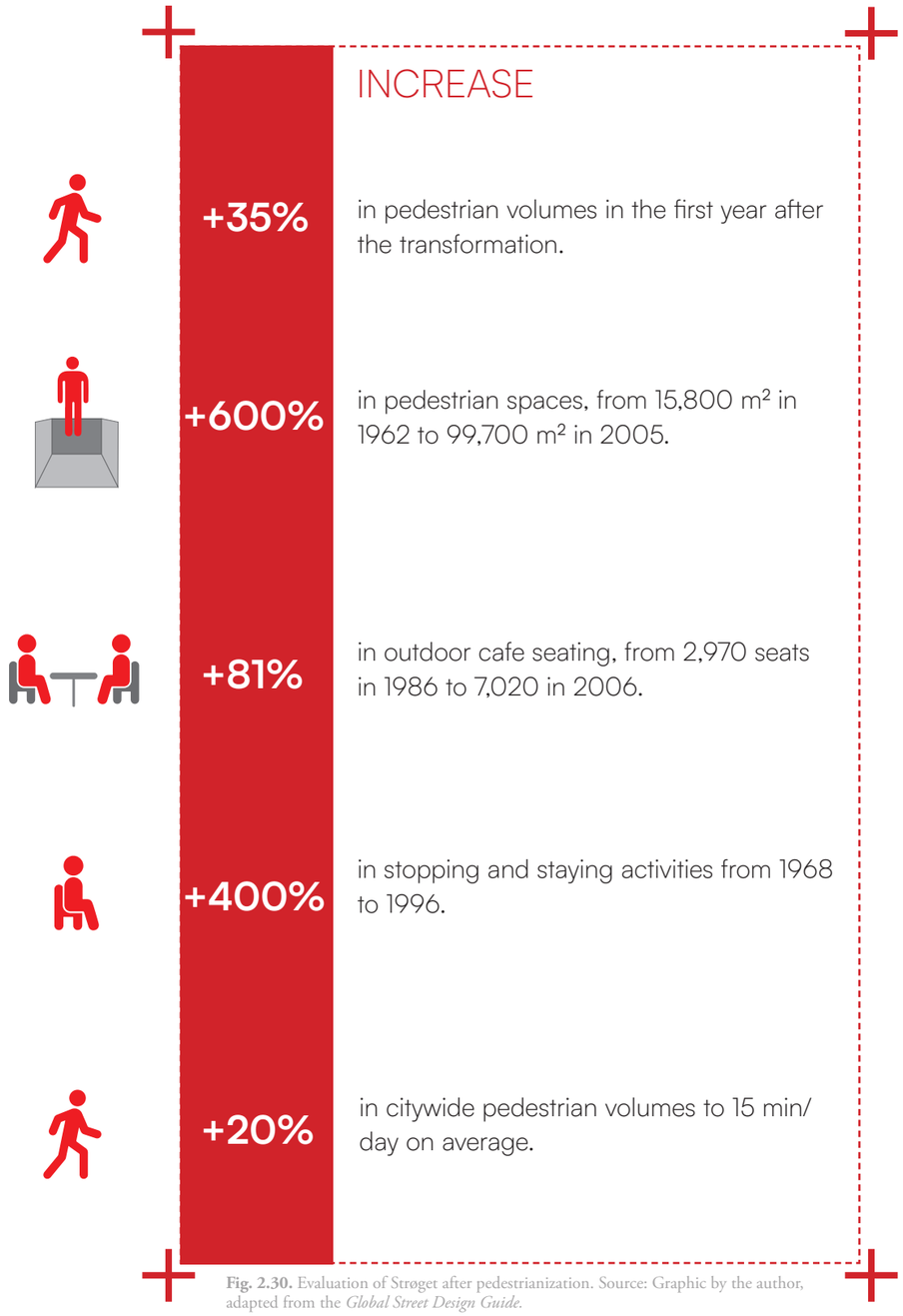


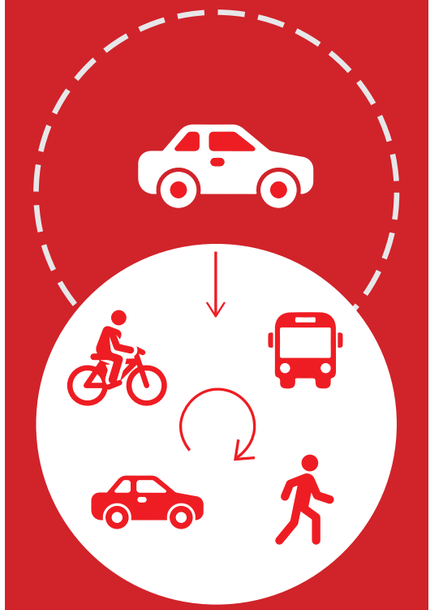
Fig. 2.30. Evaluation of Strøget after pedestrianization. Source: Graphic by the author, adapted from the *Global Street Design Guide.*

STREET SPACE ALLOCATION IN CITIES

80%
motorized vehicle traffic

20%
pedestrians, cyclists and social interactions

single choice



multiple choice

STREET TRANSFORMATIONS

In Urban Planning

What is street transformation and why does it matter?

Street is one of the most dominant morphological elements of the built environment and has historically encompassed multifaceted needs within both social and spatial contexts. These needs have become a fundamental determinant of urban transformation dynamics from the past to the present. However, despite the evolving perception of streets, the fact is that around 80% of street space in cities is still allocated to motorized vehicle traffic, leaving only the limited 20% for pedestrians, cyclists, and social interactions.[49] In short, the prioritization of car-centric logic in the design phase is much powerful in the built environment, while public life is still confined to what Camillo Sitte called "residual spaces",[50] this is a problematic approach that persists in recent planning practices.

In today's city, the street is a tense space at the center of conflicting functions. On the one hand, vital social functions such as pedestrian circulation, recreation, play, and commerce try to cling to the street; on the other hand, the dominance of motor vehicles physically and functionally controls the street.[51] This spatial constraint leads to a loss of physical space with the emergence of systemic failures in urban life. In this context, the necessity of transforming streets should not be overlooked as a technical improvement, but from a multi-dimensional perspective.[52] The primary objective lies in this process to analyze public space by breaking them down into spatial, environmental, social, and psychological layers, and to develop intervention methods appropriate to the unique dynamics of each street.[53]

49 Mike Lydon and Anthony Garcia, *Tactical Urbanism: Short-Term Action for Long-Term Change* (Island Press, 2015).
50 Camillo Sitte, *The Art of Building Cities: City Building According to Its Artistic Fundamentals,* trans. Charles T. Stewart (Hyperion Press, 1979).
51 Jan Gehl, *Cities for People* (Island Press, 2013).
52 Luca Bertolini, "From 'Streets for Traffic' to 'Streets for People': Can Street Experiments Transform Urban Mobility?," *Transport Reviews* 40, no. 6 (2020), https://doi.org/10.1080/01441647.2020.1761907.
53 Matthew Carmona et al., *Public Places, Urban Spaces: The Dimensions of Urban Design* (Routledge, 2010).

The dialogue between the individual and the city can be directly observed through the nature of public space; however, the street, as a public space, is under pressure from structural encroachments such as parking areas, lane widenings, and new road constructions. This encroachment weakens the bond of urban belonging by relegating the human factor to a secondary role. This inequality in the distribution of public space erodes not only the interaction between individuals and space, but also the interaction between individuals, which is the core of the social fabric.[54] In today's city, individuals become alienated from each other, organic bonds such as neighborhoods dissolve, and the street acquires the character of a non-place, devoid of identity, as defined by Marc Augé.[55]

However, this erosion goes beyond physical contraction and also involves political purging. In 2011, many of the places around the world faced demonstrations and public space played a leading role in making these things happen. Many of them were later replaced by traffic regulations.[56] Henri Lefebvre's concept of the "Right to the City"[57] clearly reveals how existential components of the street, such as protest and assembly, are spatially excluded at this point. The street's characteristic as a place for action has gradually disappeared due to the fragmentation and the sterilized urbanism approach brought about by car-oriented planning.[58]

Another critical dimension is the issue of safety and perception. The high volume of traffic and speed on the streets creates a constant state of alertness for vulnerable road users (VRUs). Since the current street layout sets itself on an omniscient perspective and/or driver viewpoint, it imposes insurmountable barriers on essential street stakeholders such as children, the elderly, and people with disabilities, rather than integrating with them. The fundamental problem here is not just the risk of traffic accidents; it's the individual's feeling of vulnerability in the space, the construction of mental boundaries when participating in public life, and the coding of the street as a risk zone. The lack of children's right to independent mobility, in particular, leads to the street being a tool for exploration into a threat zone.[59]

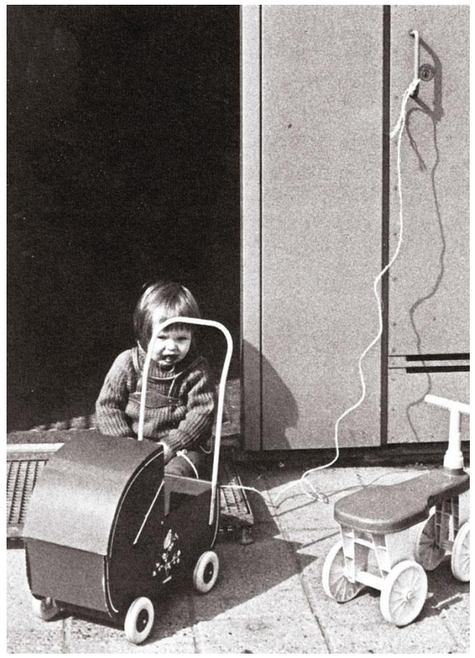


Fig. 2.31. A boy tied outside housing complex on the outskirts of Copenhagen in the 1970s. Source: Gehl, *Life Between Buildings*.

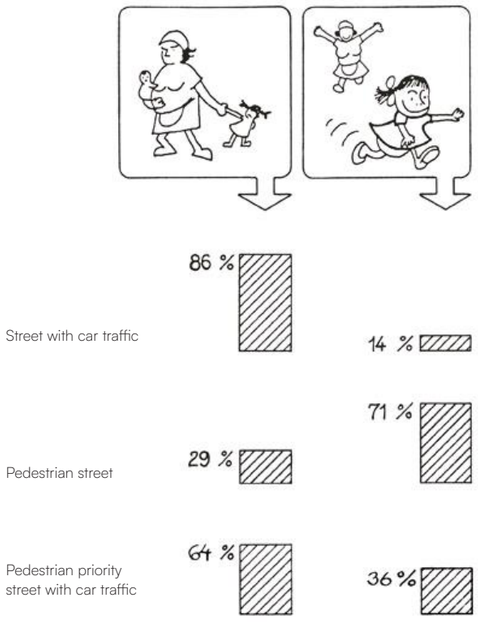


Fig. 2.32. Registration of 0-6 year-old children in Australian traffic and pedestrian streets. Almost no children are allowed to run freely on the sidewalks on traffic streets. Source: Gehl, *Life Between Buildings*.

54 Gehl, *Cities for People.*
55 Marc Augé, *Non-Places: Introduction to an Anthropology of Supermodernity*, trans. John Howe (Verso, 1995).
56 Gehl and Svarre, *How to Study Public Life.*
57 Henri Lefebvre, "The Right to the City," in *Writings on Cities,* trans. and ed. Eleonore Kofman and Elizabeth Lebas (Blackwell, 1996).

It should also be mentioned that there is no single cognitive mapping of the street. For a child, this is read at eye level, which is much lower than the normal human eye level; for an elderly person, it may be the distance between resting points, and for a person with a disability, it can be read through a kinesthetic experience rather than a visual image. Thus, the need for the transformation of the street arises precisely from the necessity of creating a democratic and inclusive ground that encompasses these multiple perceptual worlds.

The socio-spatial decline of the street brings with it directly measurable economic losses. Individuals tend to interact directly with the social networks offered by the built environment; however, vehicle-oriented, uniform planning undermines this relationship, leading to a micro-economic downturn that threatens the sustainability of local businesses. In this typology, the degradation of the pedestrian experience leads to the formation of urban voids and causes local businesses to lose their competitiveness in today's commercial setup.[60]

As highlighted in the research of authors such as Jan Gehl and Jane Jacobs, the volume of ground-floor commercial activity increases proportionally with footfall and dwell time in pedestrianized or traffic-reduced streets. On the other hand, when the physical capacity of the street is examined, allocating existing lanes solely to private vehicles and occupying the surrounding area with parking spaces represents a significant loss. However, when the same section is allocated to active modes of transportation such as public transport, walking, and cycling, the street's capacity to carry people per unit of time increases exponentially.[61]

The ecological and microclimatic layers that develop in parallel with these erosions constitute a fundamental area of systemic failure that threatens the physical sustainability of the street. Uncontrolled vehicle density, along with the pollution triggers, makes long-term presence on the street impossible for individuals. Improving environmental parameters such as air quality, noise, and thermal comfort are fundamental elements that directly and positively transform an individual's dwell time and the quality of their experience of the street.[62] Therefore, it demonstrates that the street needs to be redefined with its own texture, color, thermal capacity, and ecological functions.

When all these spatial, social, psychological, economic, and ecological layers are considered collectively, it becomes clear that the motivation for transforming the street is not merely a physical improvement. This process is the necessity of reconstructing the fragmented urban fabric with the holistic spatial perception[63] emphasized by Steven Holl. From this perspective, transformation is about re-establishing the street not just as a surface to walk on, but as an urban phenomenon that appeals to human senses with its texture, light, ecological rhythm, and social memory. Ultimately, the transformation of the street is the will to transform the city not just into a more functional machine, but into a more resilient and more human-scale living stage.[64]

58 Appleyard, *Livable Streets*; Luca Bertolini, "The Next 30 Years: Planning Cities Beyond Mobility?," *European Planning Studies* 31, no. 11 (2023): 2354–67 https://doi.org/*10.1080/09654313.2023.2217855.*
59 Appleyard, *Livable Streets*; Tim Gill, *Urban Playground: How Child-Friendly Planning and Design Can Save Cities* (Routledge, 2021).
60 Cullen, *Townscape*; Gehl, *Cities for People; Kevin Lynch, The Image of the City (MIT Press, 1960).*
61 Carmona et al., *Public Places, Urban Spaces;* Jacobs, *The Death and Life of Great American Cities.*
62 Gehl and Svarre, *How to Study Public Life;* Jacobs, *The Death and Life of Great American Cities.*
63 Argyris Stagias and Israa Mahmoud, "Post-Occupancy Evaluation for Tactical Urbanism Interventions Through Placemaking Model: Two Case Studies From the 'Piazze Aperte' Program in Milan," *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* (2024), https://doi.org/10.1080/17549175.2024.2381532; Carmona et al., *Public Places, Urban Spaces.*
64 Steven Holl, Juhani Pallasmaa, and Alberto Pérez-Gómez, *Questions of Perception: Phenomenology of Architecture* (William Stout Publishers, 2006).



Fig. 2.33. Dialogues addressing the critical attitudes of street users towards street transformations. Source: Author.

But... Why is transformation so challenging?

Although the necessity of street transformation is so clear at both theoretical and empirical levels, the resistance encountered during implementation underlines that the process is not merely a design problem.[65] The transformation of urban space often creates a perception of loss for users. Especially in cities planned around automobiles, the removal of parking spaces or the restriction of traffic are interpreted as an interference with property and acquired habits. In the literature, this situation is defined as "Status Quo Bias"[66] and explains the resistance that individuals naturally show to changes in their transportation habits. Another significant factor that complicates this approach is that the transformation is decided upon through top-down methods, without transparent consultation with and participation from street residents.[67]

Unfamiliar street layouts can evoke unease in individuals, shaping their perception of the street through comparisons. In this context, individuals tend to focus more on the disadvantages arising from the loss of the existing order rather than the potential advantages of the novelty. This is because transition fundamentally triggers emotions like trust, which can be easily shaken. Furthermore, the fact that positive effects of transformation, such as improved air quality, are often a slow process and initially appear abstract, makes it difficult for decision-makers and the public to believe in the benefits that transformation will bring.[68]

This distance from transformation is most concretely manifested in the loss of parking spaces. For a city dweller who has dedicated the area in front of their home to their vehicle throughout their life, the transfer of parking lanes to different functions is not an improvement but a direct assault on their comfort zone.[69] This reflex is, in fact, the most obvious evidence that a large part of public space has been allocated only to a specific group, namely, car owners.

On the economic front, shopkeepers perceive the transformation as a direct financial threat. The belief that reduced vehicle traffic will lead to a parallel decrease in commercial volume is a key factor triggering shopkeeper resistance.[70] There is a deeply ingrained belief that parking in front of the shop attracts customers, and that the absence of parking makes the business inaccessible. Although the literature contains strong evidence that footfall increases commercial efficiency[71], shopkeepers continue to view parking in front of their shop as a tangible and guaranteed commercial asset. Moreover, concerns that loading/unloading and delivery processes will be disrupted and operating costs will increase reinforce the perception that the intervention is not business-friendly. The shift in customer profile and the resulting socio-economic risks, such as gentrification, also increase the level of resistance.[72]

Local governments, meanwhile, are hesitant to take action, framing this public concern as a political risk. High-budget projects, long construction processes, and bureaucratic approval mechanisms pose significant obstacles as financial and technical constraints.[73] The fact that current zoning regulations and standards are designed according to a traditional hierarchy of tools leaves the real-world performance of innovative designs speculative. The passive stance of decision-makers in this process prevents radical steps from being taken; even possible transformations are doomed to become ineffective due to rigid technical barriers.[74]

At this point, it precisely demonstrates that a new methodology is required to overcome these multifaceted barriers to lasting transformation. This methodology is experimentation that aims to test the street first, rather than directly transforming it.[75]

65 Ayush Parajuli and Dorina Pojani, "Barriers to the Pedestrianization of City Centres: Perspectives From the Global North and the Global South," *Journal of Urban Design* 23, no. 1 (2017): 142-60, https://doi.org/10.1080/13574809.2017.1369875; Elisabetta Vitale Brovarone, Luca Staricco, and Ersilia Verlinghieri, "Whose Is This Street? Actors and Conflicts in the Governance of Pedestrianisation Processes," *Journal of Transport Geography* 107 (2023): 103528, https://doi.org/10.1016/j.jtrangeo.2022.103528.

66 William Samuelson and Richard Zeckhauser, "Status Quo Bias in Decision Making," *Journal of Risk and Uncertainty* 1, no. 1 (1988), https://doi.org/10.1007/BF00055564.

67 Ersilia Verlinghieri, Elisabetta Vitale Brovarone, and Luca Staricco, "The Conflictual Governance of Street Experiments, Between Austerity and Post-Politics," *Urban Studies* 61, no. 5 (2024): 878-99 https://doi.org/10.1177/00420980231193860.

68 Julia Kinigadner et al., "How to Transform Urban Spaces and Mobility: A Framework for Analysing Street Experiments," *Journal of Urban Design* 29, no. 5 (2024): 536-56 https://doi.org/10.1080/13574809.2024.2320918.

69 Kinigadner et al., "How to Transform Urban Spaces and Mobility."

70 James Evans, Andrew Karvonen, and Rob Raven, eds., *The Experimental City* (Routledge, 2016); Jordi Honey-Rosés, "A Review of Field Experiments in Planning and Urban Research," *Planning Practice and Research* 34, no. 5 (2019): 558-72, https://doi.org/10.1080/02697459.2019.1647394.

71 Kinigadner et al., "How to Transform Urban Spaces and Mobility."; Parajuli and Pojani, "Barriers to the Pedestrianization of City Centres."

72 Gehl and Svarre, *How to Study Public Life*.

73 Kinigadner et al., "How to Transform Urban Spaces and Mobility."

74 Federico Savini and Luca Bertolini, "Urban Experimentation as a Politics of Niches," *Environment and Planning A: Economy and Space* 51, no. 4 (2019): 831-48, https://doi.org/10.1177/0308518X19826085.

75 Katherine VanHoose et al., "From Temporary Arrangements to Permanent Change: Assessing the Transitional Capacity of City Street Experiments," *Journal of Urban Mobility* 2 (2022), https://doi.org/10.1016/j.urbmob.2022.100015.

How about.. If Transformation Uses Experiment?

It is a widely accepted fact in the literature that the transformation process of the street is not merely a physical shift; the political, social, and psychological resistance created by urban habits and the vehicle-oriented status quo constitute the main obstacles to this transformation. The experimental approach comes into play at this point, aiming to manage the social and spatial process. Instead of accepting risks, experiments focus on 'learning by doing' while revealing the potential of the street; in this process, the street functions as a living laboratory.[76]

Studies designed within this context construct a learning process that takes societal feedback into account and emphasizes consensus. The direction in which the process evolves is determined by considering the opportunities and limitations offered by transition.[77] Data obtained from areas such as flow, pedestrian density, economic activity, and stakeholder diversity feed the study, laying the groundwork for transformations.[78]

Today's cities face multifaceted dynamics such as the climate crisis, pandemics, and technological transformations (autonomous vehicles, micro-mobility, etc.). Traditional and rigid urban planning is failing to keep pace with this rapid change, while decision-makers often focus on immediate crisis management rather than proactive actions.[79] However, the COVID-19 pandemic has been the turning point[80], demonstrating the need for a radically different perspective on the street. Beyond physical distancing, the pandemic has highlighted the vital importance of movement and socializing in open spaces for urban health. Street experiments initiated to cope with this crisis, while initially an emergency response, have led to the discovery of the street's real potential.[81] These temporary interventions, which triggered a systemic change in mobility, have proven the effectiveness of the learning by doing process and demonstrated their integrability into long-term planning.[82]

76 Bertolini, "From 'Streets for Traffic'"; VanHoose et al., "From Temporary Arrangements to Permanent Change."

77 Bertolini, "From 'Streets for Traffic'."

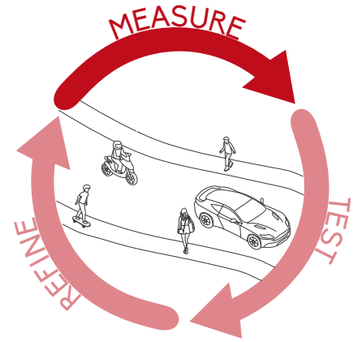
78 Gehl and Svarre, *How to Study Public Life.*

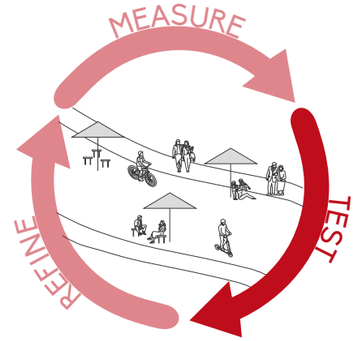
79 Savini and Bertolini, "Urban Experimentation as a Politics of Niches," 831-848.

80 Meredith Glaser and Kevin J. Krizek, "Can Street-Focused Emergency Response Measures Trigger a Transition to New Transport Systems? Exploring Evidence and Lessons From 55 US Cities," *Transport Policy* 103 (2021): 146-155 https://doi.org/10.1016/j.tranpol.2021.01.015; Stefano Capolongo et al., "COVID-19 and Cities: From Urban Health Strategies to the Pandemic Challenge. A Decalogue of Public Health Opportunities," *Acta BioMed* 91, no. 2 (2020): 13-22, https://doi.org/10.23750/abm.v91i2.9615.

81 Glaser and Krizek, "Can Street-Focused Emergency Response Measures Trigger a Transition"; Lennert Verhulst, Corneel Casier, and Frank Witlox, "Street Experiments and COVID-19: Challenges, Responses and Systemic Change," *Tijdschrift Voor Economische En Sociale Geografie* 114, no. 1 (2023): 43-57, https://doi.org/10.1111/tesg.12542.

82 Bertolini, "From 'Streets for Traffic'"; VanHoose et al., "From Temporary Arrangements to Permanent Change."

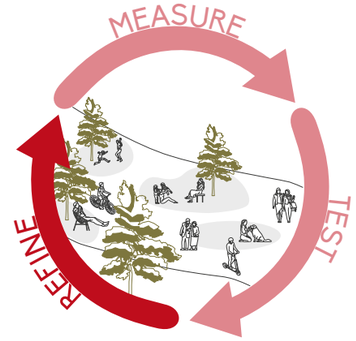




Temporary experimental phase approaches the transformation of the street with the principle of flexibility. During the pandemic, a street's ability to evolve from a socially distanced walkway to an open-air theater, from a playground to a gathering point, demonstrated the space's capacity to respond to changing needs.[83] This is possible because the transformation offers a constantly updated, flexible structure rather than a static approach. These experiments, which increased during the pandemic, demonstrate how the street fails to meet the individual's needs in daily life, while also highlighting the significance of developing new street scenarios in an inclusive and democratic way. It should be mentioned that the success of innovation in urban areas depends on how well the vast diversity of citizens' needs are considered and met.[84]

The data collection process, necessary for understanding these needs, is one of the most crucial steps of the study. This approach allows for real-time measurement of the behavior of active street users before the study becomes permanent.[85] At the same time, it focuses on areas of resistance, seeking ways to increase public acceptance. Individuals tend to resist permanent changes more than temporary ones because, in their eyes, it's nothing more than an attack by external factors affecting their lives, where they have no say. On the other hand, the experimental approach offers reversibility; it reduces tension between parties. It is known that all stakeholders in the street have a voice; the negative impacts of the project are not ignored and can be transformed. Thus, instead of resisting change, individuals prefer to observe the transformation as stakeholders.[86]

Furthermore, the uncertainty and costly investment risk associated with large-scale transformations are eliminated through the low-cost nature of the experiments. This allows for the early elimination of potentially dysfunctional approaches, preventing public losses and guaranteeing the efficiency of lasting investment.



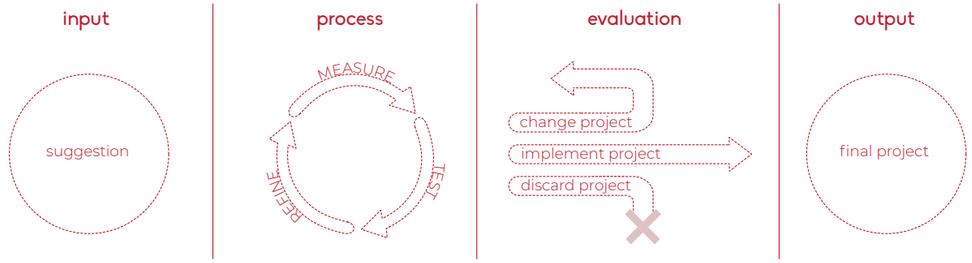
83 Jordi Honey-Rosés et al., "The Impact of COVID-19 on Public Space: A Review and Perspectives," *Cities & Health* 5, no. sup1 (2020): 192, https://doi.org/10.1080/23748834.2020.1780074; OECD, "Cities Policy Responses," *OECD Policy Responses to Coronavirus (COVID-19),* (2020).

84 Javier Argota Sánchez-Vaquerizo et al., "A Virtual Reality Experiment to Study Pedestrian Perception of Future Street Scenarios," *Scientific Reports* 14, no. 1 (2024): 4571, https://doi.org/10.1038/s41598-024-55073-x.

85 Gehl and Svarre, *How to Study Public Life.*

86 Emilia Smeds and Enrica Papa, "The Value of Street Experiments for Mobility and Public Life: Citizens' Perspectives from Three European Cities," *Journal of Urban Mobility 4* (2023), https://doi.org/10.1016/j.urbmob.2023.100055.

iterative design principle
rather than
linear planning process



The Journey from Temporary to Permanent

Street transformation encompasses a multi-layered process that unfolds over time with experimental phases, interventions shaped by public acceptance, and ultimately evolving into lasting changes. These interventions aim to enhance engagement with the street, incorporating numerous criteria in parallel with public acceptance.[87] Bertolini emphasize that "Relevant classification criteria may include the initiators of the process (citizen initiatives or local government decisions), the duration of the experiment (from one day to several weeks), the frequency of implementation (an annual event or regular weekend closures), and the geographical scope (partial, entire street section, or neighborhood scale)..."[88] This multi-dimensional structure of the experimental phase is based on an iterative design principle rather than a linear planning process. This principle rejects treating the street as a static and finished product, emphasizing instead that it is a process of continuous development and transformation based on empirical data; therefore, each intervention forms the hypothesis for the next phase.[89]

This journey of the street from temporary to permanent displays itself in the field of design at different time periods and strategic depths.[90] The first step of the process, the pop-up or demo phase (hourly/daily), aims to make the hidden potential of the street visible and usually begins with testing the idea within the significant time of the street, such as peak times or post-work hours. At this stage, the depth of strategic intervention encompasses re-marking processes implemented with low-cost, quickly applicable, and easily reversible tools such as chalk, flowerpots, bollards, and tape. Examples of this process include painting intersections with colorful paints to emphasize pedestrian priority, temporarily separating bicycle lanes with bollards and tape, or closing the street to vehicle traffic at certain times.[91]

87 Bertolini, "From 'Streets for Traffic'"; VanHoose et al., "From Temporary Arrangements to Permanent Change."
88 Bertolini, "From 'Streets for Traffic'.", 737.
89 Kinigadner et al., "How to Transform Urban Spaces and Mobility."
90 Kinigadner et al., "How to Transform Urban Spaces and Mobility."
91 "Tactical Urbanism Materials and Design Guide," Street Plans Collaborative, December 2026, https://tacticalurbanismguide.com/.

The evolution of the process to a timeline spanning months or years is the most critical threshold for the data collection step. During this phase, data such as user surveys and mobility density are solidified through real-time observations.[92] Temporary materials used in the short-time experimentations (hourly/daily) are replaced with more durable components and integrated into the street. This phase, characterized by tools such as modular furniture, fixable platforms, and epoxy paints, aims to redefine the function of a part, a section or an entire of the street, which is called re-purposing.[93] For example, transforming parking areas into parklets with wooden platforms or outdoor dining areas with the collaboration of a restaurant in front of it may help to test the functional depth of the street.

Following the interim phase, which optimizes the design and secures public support based on the results of the experimental process, the transition to the permanent transformation phase takes place. In this phase, the street is given a new identity, and reclaimed by transferring spatial ownership from motor vehicles to the public system.[94]

Although the timeline and strategic depth of experimental phases follow a linear hierarchy on paper, in practice, each street's adherence to this timeline and its needs vary. Street transformation is not a uniform process requiring every intervention to necessarily reach the most complex and permanent stage; rather, each street's own socio-spatial dynamics are the primary factor determining where the intervention should stop or deepen. In some cases, a simple re-marking process may be sufficient to solve the street's existing problems and improve user habits. If the street's needs are met with such localized interventions, a more advanced and costly structural reclaiming is not necessary.

On the other hand, the potential offered by the street or feedback from stakeholders may necessitate a much more complex and incremental approach to the process. At this point, the street provides the planning scholar with empirical data indicating the appropriate scale for intervention.[95] Therefore, instead of rigid plans with predetermined limits and depth, experimental processes should be managed with a contextual approach that is flexible according to the physical capacity of the street, user demands, and the maturity of the collected data.

92 Gehl and Svarre, *How to Study Public Life*.
93 Bertolini, "From 'Streets for Traffic'."
94 Olga L. Sarmiento et al., "Reclaiming the Streets for People: Insights From Ciclovías Recreativas in Latin America," *Preventive Medicine* 103 (2017): S34-40, https://doi.org/10.1016/j.ypmed.2016.07.028.
95 Kinigadner et al., "How to Transform Urban Spaces and Mobility."



Fig. 2.34. Superblock Project in the Eixample district in Barcelona, after pedestrianization.
Source: https://www.arquitecturacatalana.cat/en/photographers/joan-guillamat.

LEARNING FROM EXPERIMENTS

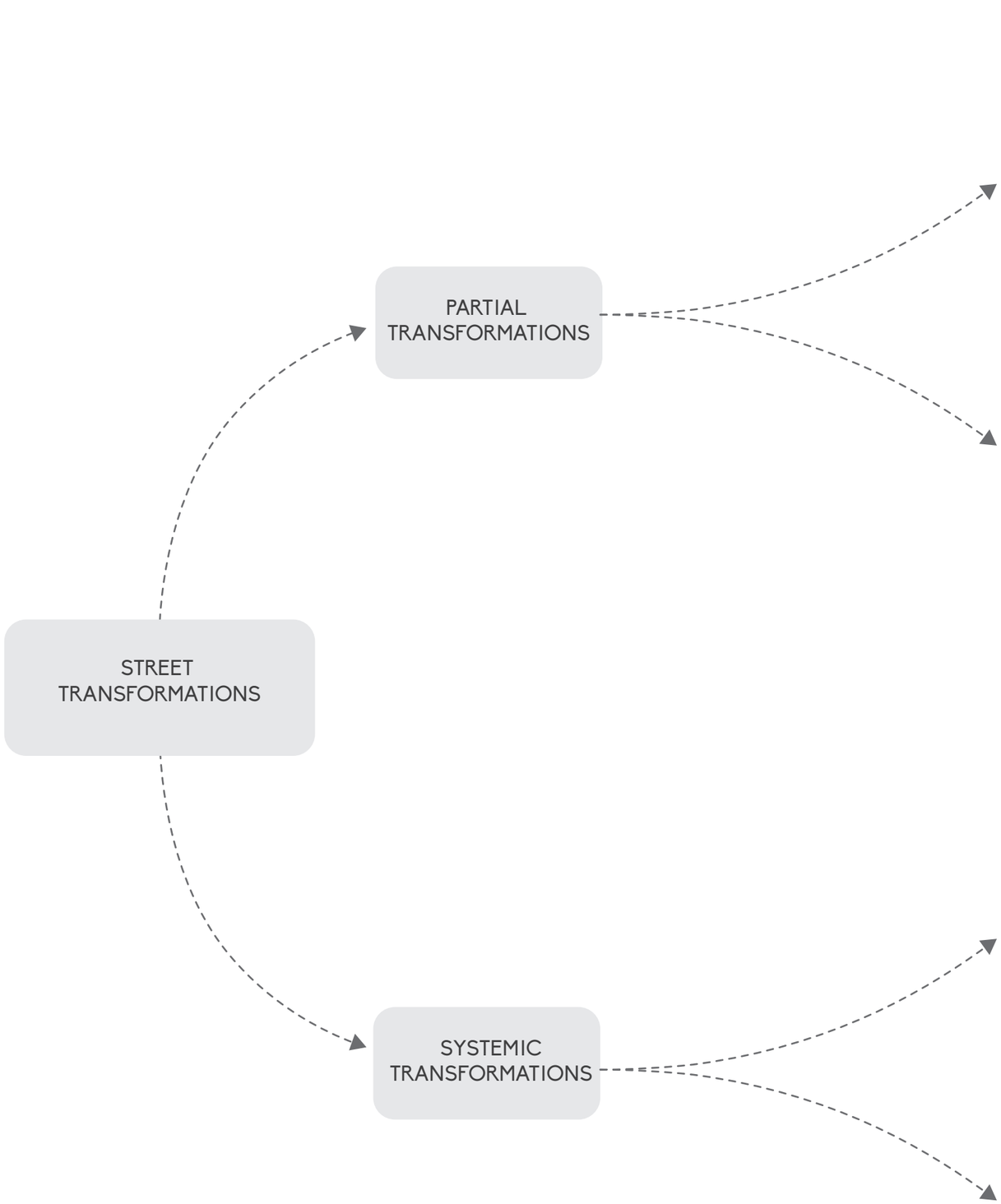
Case Studies in Pedestrianization

Although experimental urban intervention processes have gained momentum as an urgent need following the global Covid-19 pandemic, they are fundamentally based on a rational logic of change. Unlike traditional planning models, the experimental approach centers on the transformation of each component within the street fabric as the fundamental factor determining the holistic character of the street. These transformation processes, depending on the morphological structure and spatial requirements of the street, sometimes appear as a technical intervention optimizing traffic flow and regulation but also sometimes as a social laboratory enriching the experience of public space with different functions of the street.

The driving force behind these processes is often a reflex developed in response to the cumbersome nature of bureaucratic mechanisms.[96] The search for solutions by neighborhood residents, the spatial needs of children (the city's most vulnerable users), the advocacy activities of NGOs, or the economic concerns of shopkeepers all facilitate direct initiative rather than waiting for static decision-making processes. In this context, the street dynamically reconstructs its unique fabric by blending a 'trial-and-error' methodology with an urban research discipline. Therefore, the experimental phase should be defined not as a singular form of intervention, but rather as a strategic learning process that addresses urban space from a multi-layered and participatory perspective.

Street experiments offer a faster and cheaper alternative to permanent structural changes. In the following paragraphs, different approaches and processes will be examined by presenting examples of street experiment intervention types, the scope of impact, and types of street users. Some examples aim to co-regulate with motor vehicles rather than adopting a radical approach to eliminate them. In doing so, they emphasize the presence of pedestrians and their efforts to participate in the street. On the other hand, street regulations can also be rethought to highlight other vehicles and users besides motor vehicles, such as bicycles. More radically, experiments can show how the street can be completely separated from motor vehicles and how other users of the street can be prioritized. These experiments may have various characteristics depending on their approach.

96 Savini and Bertolini, "Urban Experimentation as a Politics of Niches," 831-848.



RE-THINKING STREET ELEMENTS

The primary aim of these experiments is to measure the potential of a street to be a destination for pedestrians. The discourse of accessible streets, which emerged with postmodern urbanism, materialized in various forms in the late 1990s. One of these trends is the attempt to publicize street components using guerrilla tactics.

PARKLETS

INTERSECTION REPAIRS

RE-THINKING CIRCULATION SCHEMES

The interventions that face one of the greatest resistance in street transformation processes are experiments that alter the circulation scheme and physical cross-section of the street. The main goal in these types of applications is the redistribution of areas allocated to vehicular traffic; in this way, traffic flow and safety are tested with a comprehensive approach that includes all users of the street.

POP-UP CYCLE LANES

TEMPORAL TRANSFORMATIONS

This approach reveals the flexibility of urban space by radically changing the function of the street at specific intervals (daily, weekly, monthly or seasonally). During this process, the strategy is presented by measuring the attitudes of all stakeholders involved in the street, such as drivers' adaptation to alternative routes and the involvement of neighborhood residents. In this way, the municipality has the flexibility to reverse mistakes without having costly investments.

GHENT I PLAY STREETS

BOGOTA I CICLOVIA

PARIS I PLAGES*

PERMANENT TRANSFORMATIONS

The changing urban dynamics of the 21st century reveal that the experimental approach provides strategic "process designs" that ensure risk management, political legitimacy, and social acceptance for large-scale infrastructure projects. In this section, two global models that use the experimental phase as a "tool" to achieve "systemic and lasting transformation" at the city scale will be analyzed along with their different dimensions.

BARCELONA I SUPERBLOCK

MILANO I PIAZZA APERTE

Table 2.1. Explanation of street transformations by categorizing them under headings. Source: Author.

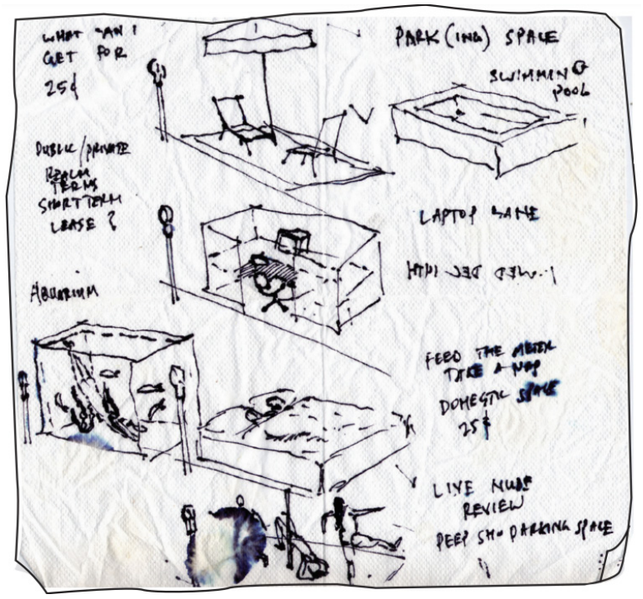


Fig. 2.35. Ideas for a parking lot, drawn by Rebar on a napkin in a Latin American bar, 2005. Source: Rebar.

Parklets initiative emerged as a project to transform roadside parking areas into public spaces. This initiative is an example of a street experiment that began in 2005 in San Francisco with the group called Rebar, where individuals paid a parking fee to the parking meter and then transformed the area into a public space.[97] This action, lasting only two hours, created a public discussion platform for alternative uses of these spaces. The methodology is simple: to increase the spatial quality and usability of the area using low-cost, modular, and easily assembled and disassembled elements such as benches, paving, and plants.[98]

What began as a civic initiative was adopted by the San Francisco Municipality and became an official city policy in 2009 under the name "Pavement to Parks" (now Groundplay SF).[99] This strategy seeks empirical answers to fundamental design questions: "How will pedestrians, whose only movement area is the sidewalk, react to an extension added to the edge of the sidewalk?", "Will the street's capacity for lingering increase?", and "Will this change contribute to the local economy and social interaction?".[100] The ultimate goal is to test whether these temporary additions can be transformed into permanent urban amenities.

Rebar's singular action has evolved into an annual event celebrated globally under the name "Park(ing) Day".[101] In the institutionalized parklet model, the municipality plays the decision-maker role, while funding is usually provided by nearby businesses (cafes) or non-profit organizations. However, regardless of who provides the funding, these spaces must legally retain their status as "public property open to all".[102]

97 "About Park(ing) Day," American Society of Landscape Architects (ASLA), accessed March 10, 2026, https://www.myparkingday.org/about; Mike Lydon and Anthony Garcia, *Tactical Urbanism: Short-Term Action for Long-Term Change* (Island Press, 2015).

98 Mariko Mura Davidson, "Tactical Urbanism, Public Policy Reform, and 'Innovation Spotting' by Government: From Park(ing) Day to San Francisco's Parklet Program" (master's thesis, Massachusetts Institute of Technology, 2013), http://hdl.handle.net/1721.1/81628.

99 ASLA, "About Park(ing) Day."

100 "A Look at the Human Impact of Parklets," Groundplay, accessed December 3, 2025, https://groundplaysf.org/wp-content/parklet-impact-study/.

101 ASLA, "About Park(ing) Day."

102 Groundplay, "A Look at the Human Impact of Parklets"; Jeremy Németh and Stephen Schmidt, "The Privatization of Public Space: Modeling and Measuring Publicness," *Environment and Planning B: Planning and Design* 38, no. 1 (2011): 5-23, https://doi.org/10.1068/b36057.

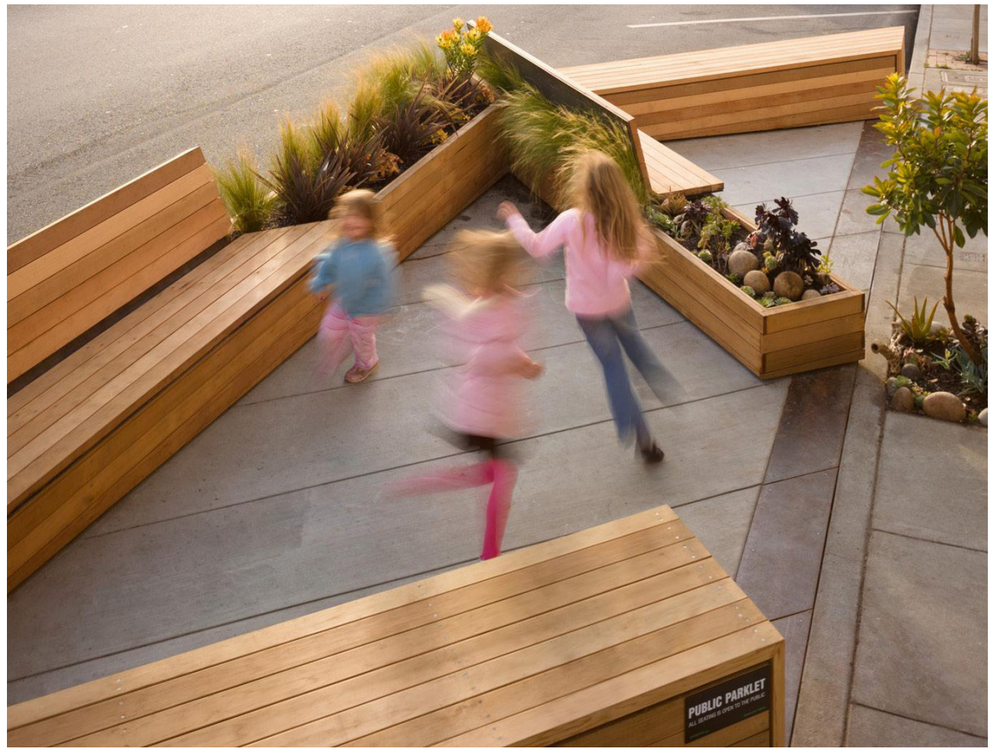


Fig. 2.36. A parklet in San Francisco, a hacking initiative that has been embraced by the local authorities. Photograph by Matarozzi Pelsinger Builders & Wells Campbell. Source: San Francisco Planning Department.

With the COVID-19 pandemic, data showed a quantitative explosion in parklet applications. However, this increase has also brought about a strategic evolution in the concept of parklets. These spaces are no longer just simple seating and socializing units, but have transformed into critical mechanisms ensuring the economic continuity of the city. Today, parklets are more than just singular projects; they have become a key component of comprehensive urban programs such as "Shared Spaces" or "Open Restaurants".[103]

These spaces, originally intended to create public space, have begun to serve commercial functions during the pandemic. However, this new functional allocation risks evolving into a process that negatively impacts other users of the street. Structures used by businesses to expand their service areas have, in some cases, encroached onto sidewalks, narrowing pedestrian circulation areas.[104] The most significant point of criticism is that this approach, presented as a public improvement, is increasingly falling under the control of commercial spaces and becoming consumption-oriented. This situation, which undermines the principle of "public space being open to everyone," has resulted in the practice transforming into an uncontrolled "privatization of public space," restricting both public access and pedestrian mobility.[105]

103 National Association of City Transportation Officials (NACTO), *Streets for Pandemic Response and Recovery* (NACTO, 2020), https://nacto.org/wp-content/uploads/NACTO_Streets-for-Pandemic-Response-and-Recovery_2020-05-21.pdf.

104 Honey-Rosés et al., "The Impact of COVID-19 on Public Space."

105 Alexandra Flynn and Amelia Thorpe, "Pandemic Pop-Ups and the Performance of Legality," *Global Reflections on COVID-19 and Urban Inequalities: Volume 3: Public Space and Mobility,* ed. Rianne van Melik, Pierre Filion, and Brian Doucet (Bristol University Press, 2021): 25-34, https://doi.org/10.2307/j.ctv1t4m1m6.9; Luce Beeckmans and Stijn Oosterlynck, "Lessons from the Lockdown: Foregrounding Non-Privileged Perspectives into the (Post-)Covid City Debate," *Global Reflections on COVID-19 and Urban Inequalities: Volume 3: Public Space and Mobility*, ed. Rianne van Melik, Pierre Filion, and Brian Doucet (Bristol University Press, 2021); Németh and Schmidt, "The Privatization of Public Space."

Intersection Repairs approach is a pioneering example of this movement. Emerging in 1997 in the Sellwood neighborhood of Portland, Oregon, this practice began with residents painting murals and making small urban additions in the middle of intersections without official permission. The primary goal was to transform intersections from mere traffic management functions into focal points for the public neighborhood.[106]

Here, experimental approach aimed to improve pedestrian safety by reducing vehicle speeds and creating opportunities for social interaction within the neighborhood. Although the municipality initially wanted to remove these unauthorized interventions, it backed down due to resistance from residents. In 2000, however, a regulation allowing similar interventions was passed, legalizing the process; the number of projects gradually increased and were integrated into street strategies throughout the city.[107]

This form of intervention, which embodies the value of experimentation, emphasizes the critical role of trial and error in urban design. Transformations of intersections and sidewalks, starting with simple elements like painting and flowerpots, evolved into permanent physical arrangements over time, thanks to public acceptance and the positive data obtained.[108] This experiment, institutionalized under the name City Repair Project, created a powerful community movement with local support and has spread worldwide.[109] According to Bloomberg Philanthropies (2024), such interventions have led to significant improvements in traffic safety. Studies show a 50% reduction in injury accidents rates and the rate at which drivers yield to pedestrians at crosswalks increased by 27%. Furthermore, societal impact reports indicate a decrease in crime rates and an increase in the sense of place.[110]

However, the greatest risk inherent in this typology is that interventions are reduced to a purely decorative approach, and the experiment is conducted superficially. Projects that prioritize aesthetics while ignoring functional parameters and user interaction eventually become obsolete, transforming urban spaces into dysfunctional decorations. Therefore, experiments aiming to create public spaces should analyze behavioral patterns within the space rather than focusing solely on visual enhancement, and discuss how this data can be translated into lasting design.[111]



Fig. 2.37. Complete Streets, at Parsells Ave and Greeley St., New York. Source: Common Ground Health.



Fig. 2.38. Portland's Share-It Square, the nation's first major "intersection repair" project. Source: The City Repair Project.

106 Bertolini, "From 'Streets for Traffic'"; Lydon and Garcia, *Tactical Urbanism.*
107 Bertolini, "From 'Streets for Traffic'"; Lydon and Garcia, *Tactical Urbanism.*
108 Jan C. Semenza, "The Intersection of Urban Planning, Art, and Public Health: The Sunnyside Piazza," *American Journal of Public Health* 93, no. 9 (2003): 1439–41, https://doi.org/10.2105/ajph.93.9.1439.
109 "The City Repair Project," The City Repair Project, accessed February 18, 2026, https://cityrepair.org/; Semenza, "The Intersection of Urban Planning."
110 Bloomberg Philanthropies, *Asphalt Art Safety Study: Historical Comparative Analysis and Observational Vid-eo Analysis of Asphalt Art Interventions* (Bloomberg Philanthropies, 2022).
111 Semenza, "The Intersection of Urban Planning."

Pop-up cycle lanes are a practice that gained momentum, especially during the pandemic. Created sometimes overnight using bollards, road marking paint, and planters, these lanes measure the flexibility of the street's transportation hierarchy. If usage data is positive and traffic flow can be balanced, these temporary lanes evolve into permanent projects.[112] Analyses conducted across Europe with projections for 2025 have shown that this approach significantly increases cycling rates. However, the fact that injury and death rates due to cycling accidents remain high across Europe demonstrates the need for more trials on streets and the development of safer travel methods for cyclists.[113]

However, the greatest risk of a permanent project turning into a functional failure lies in the ineffective design of experimental processes.[114] For example, if a pop-up cycle path implementation only measures the number of cyclists and does not analyze the accessibility of businesses' logistics supply chains or public transport stops, the permanent implementation may disrupt the economic and social functioning of the area.[115] This demonstrates the experiment's inadequacy in treating the street as a holistic system. Therefore, flow-oriented experiments should be designed not only to improve traffic safety but also to prove the extent to which the street can meet the multimodal mobility needs. Data from experimental interventions prior to a permanent change allows for early detection and revision of design deficiencies.

It is undeniable that the pandemic played a significant role in transforming mobility patterns. Factors such as avoiding public transport due to infection risk, reduced contact with public spaces, and the resulting need for fresh air have significantly increased the usage of bicycles. However, it is difficult to definitively answer whether this shift was solely due to the pandemic or whether this change had already begun before the pandemic.[116]

Indeed, some experimental interventions implemented during the pandemic not only received positive feedback. Many of these interventions were implemented through top-down decisions and implemented within a few days. So they were not addressed with an inclusive approach, which led to resistance.[117] For example, in Berlin, temporary cycle lanes were removed following a legal dispute, and in Turin, traffic congestion caused by the narrowing of roads for cycle lanes led to protests by drivers.[118]

It should be remembered that the transformation of transportation modes generally provides those living in and around the city center and physically active commuters with greater access to active transportation modes.[119] The difficulty faced by less affluent population groups living on the city's periphery in commuting and accessing active modes of transportation raises the possibility that these investments may be more exclusionary than inclusive. Beeckmans and Oosterlynck (2021) argue that interventions related to mobility are linked to the occupation of public space in terms of social status, stating that "just interventions in the circulation of vehicles [...], but always also an attempt to redistribute space".[120]



Fig. 2.39. Trash can planters provide a barrier between vehicles and cyclists. Photo by Dave Campbell. Source: Bike East Bay.



Fig. 2.40. A pop-up bike lane in St. Louis. Source: *Como Magazine.*

112 NACTO, *Streets for Pandemic Response and Recovery.*

113 SWOV, Infrastructure for Pedestrians and Cyclists, SWOV Fact Sheet (SWOV, 2020), https://www.swov.nl/en/facts-figures/factsheet/infrastructure-pedestrians-and-cyclists.

114 VanHoose et al., "From Temporary Arrangements to Permanent Change."

115 National Association of City Transportation Officials (NACTO), *Curbside Management Strategy* (NACTO, 2017).

116 Lennert Verhulst, Corneel Casier, and Frank Witlox, "Street Experiments and COVID-19: Challenges, Re-sponses and Systemic Change," *Tijdschrift Voor Economische En Sociale Geografie* 114, no. 1 (2022): 49, https://doi.org/10.1111/tesg.12542.

117 Verhulst, Casier, and Witlox, "Street Experiments and COVID-19," 49.

118 "How the Covid-19 Pandemic Is Changing Urban Mobility," Stardust Project, accessed April 12, 2026, https://stardustproject.eu/news/how-covid19-is-changing-urban-mobility/; Jörn Hasselmann et al., "Berliner Pop-Up-Radwege Rechtswidrig: Verkehrsverwaltung Will Beschwerde Gegen Gerichtsentscheid Einlegen," *Der Tagesspiegel*, August 10, 2022, https://www.tagesspiegel.de/berlin/verkehrsverwaltung-will-beschwerde-gegen-gerichtsentscheid-einlegen-5079784.html.

119 Honey-Rosés et al., "The Impact of COVID-19 on Public Space."

120 Beeckmans and Oosterlynck, "Lessons from the Lockdown," 41.

*negotiation based

GHENT I PLAY STREETS

One of the most significant examples of the temporal transformations of urban space emerged in Ghent, Belgium, in 1998 during school holidays, when residents demanded safe play areas for their children. This movement, fundamentally bottom-up, organized play streets through collaboration between residents and the local government. The core principle was that volunteers selected from the neighborhood contacted with the municipality, allowing stakeholders to work together harmoniously.[121]

This movement, aiming to change the usage regime without altering the physical structure of the street, offers a social prototype where the municipality provides the basic resources. The success of the experiment does not limit it to the local scale; it also paves the way for a national policy change.[122] The Belgian Federal Government integrates this practice into the national traffic code (wegcode), thus giving this process, which began as a civic initiative, official status.[123] This practice, which closes streets to vehicle traffic during certain hours in the summer holidays and allows residents to drive at walking speed, requires at least 60% approval from neighborhood residents each year.[124]

According to data from the Ghent municipality alone, around 150 streets achieve Play Street status annually.[125] Similar practices are also evident on a significant scale in many cities such as Antwerp and Brussels.[126] This strategy is one of the most important examples of the importance of experimental processes and how they can be made temporarily permanent over time.

This approach, which provides critical data for observing and analyzing the relationship between children and space, is diversified through different forms of application. Sometimes this involves temporarily covering a street with sand to create play areas for children, and sometimes it involves transforming simple, locally sourced modular materials into a playground, all organized by volunteers.[127] Such interventions unlock the potential of the street in terms of play and encounter.



Fig. 2.41. Play streets demonstrate how simple it can be to transform public spaces, and how significant an impact it can have. Source: Stad Gent.

121 Sara D'Haese et al., "Organizing 'Play Streets' During School Vacations Can Increase Physical Activity and Decrease Sedentary Time in Children," *International Journal of Behavioral Nutrition and Physical Activity* 12, no. 1 (2015): 14, https://doi.org/10.1186/s12966-015-0171-y; "Speelstraten," Stad Gent, accessed January 15, 2026, https://stad.gent/nl/mobiliteit-openbare-werken/mobiliteit/speelstraten.

122 D'Haese et al., "Organizing 'Play Streets'."

123 Belgian Highway Code (Wegcode), Royal Decree of December 1, 1975, art. 22octies.

124 Stad Gent, "Speelstraten."

125 Stad Gent, "Speelstraten."

126 "Reserve a Street to Play?", City of Brussels, August 22, 2024, https://www.brussels.be/reserve-street-play.

127 D'Haese et al., "Organizing 'Play Streets'."



Fig. 2.42. Sunday is cycling day in downtown Bogotá.
Photograph by MacAllenBrothers.

*a policy, a routine

BOGOTA I CICLOVIA

In 1974, in Bogota, Colombia, a group of activists temporarily closed a street of approximately 5-10 kilometers to traffic. This initiative, known as ciclovia or open streets, has since become a global pioneering movement. This successful experiment has evolved into a repeated approach, closing 138 km of the city's main arteries to vehicle traffic on Sundays and public holidays.[128]

Open streets promote physical activity, aim to develop social capital, advocate for cycling, and seek to improve quality of life.[129] It demonstrates that the mobility culture of the city and its inhabitants can be transformed without the need for permanent, costly infrastructure investments. Even when conducted only on specific days, this experiment permanently alters the perception of city dwellers. They begin to define areas they previously viewed as vehicle roads as social spaces.[130]

This strategy assesses the street's function at various scales within the context of the 'right to the city'[131], while also focusing on the atmospheric data of the street. Separating a 138 km-long road into pedestrian and non-motorized vehicles would prevent the noise and air pollution caused by the car-centric nature of the street. This approach, which emphasizes how the street should actually make the individual feel, also holds the potential to organize the lasting transformation of the street.[132]

Although a congressman argued in 2007 that this practice should be ended because it causes vehicular traffic and customer loss, users opposed and, with bureaucratic support, rejected the proposal.[133] In conclusion, this approach has gained a significant place in postmodern urban planning and has existed in various forms in many countries. The COVID-19 pandemic has further advanced this strategy globally.



Fig. 2.43. A casual Sunday in Bogotá. Photograph by Lombana.
Source: Wikimedia Commons.

128 Sergio Montero, "Worlding Bogotá's Ciclovía: From Urban Experiment to International 'Best Practice'," *Latin American Perspectives* 44, no. 2 (2017): 111-131

129 J. Aaron Hipp, Amy A. Eyler, and Jill A. Kuhlberg, "Target Population Involvement in Urban Ciclovias: A Preliminary Evaluation of St. Louis Open Streets," Journal of Urban Health 90, no. 6 (2012): 1010-15, https://doi.org/10.1007/s11524-012-9759-6; Olga L. Sarmiento et al., "The Ciclovía-Recreativa: A Mass-Recreational Program With Public Health Potential," *Journal of Physical Activity and Health* 7, suppl. 2 (2010): 163-180.

130 Montero, "Worlding Bogotá's Ciclovía."

131 Lefebvre, "The Right to the City."

132 Sarmiento et al., "The Ciclovía-Recreativa."

133 Susan G. Zieff et al., "Ciclovía Initiatives: Engaging Communities, Partners, and Policy Makers Along the Route to Success," *Journal of Public Health Management and Practice* 19, no. 3 (2013): 74-82.



Fig. 2.44. Paris Plages, July 21, 2013. Photograph by Jean-Louis Zimmermann Source: Flickr.

*not just a corridor, but a series of "rooms"[137]

PARIS | PLAGES

One of the most radical models among temporary urban space strategies is the Paris Plages project, presented by the Paris Municipality in 2002. Implemented only during the summer months, this intervention aimed to close the Georges Pompidou Avenue along the Seine riverbank to vehicular traffic and transform it into a temporary urban beach with recreational facilities. This experiment, which appears quite radical and even utopian, aimed to demonstrate the reversible nature of public space by utilizing flexible and modular tools within the landscape design, incorporating elements such as sand, sunbeds, and palm trees.[134]

The main motivation of the project was to make public activities such as rest, entertainment, and gathering accessible to Parisians who can not go for vacation so struggle with high temperatures and humidity during the summer months. In this context, the project gradually expanded to the Bassin de la Villette area in the north of the city. Along with this area, swimming areas (natural pools) were added to the project, and active recreation was integrated alongside passive recreation. The expansion of the project aimed to increase social interaction from the tourist center to the suburban borders and to increase inclusivity.[135]

After repeated experimental phases, considering the potential for the public to use the riverbank without vehicles, a section of the avenue was permanently closed to traffic and transformed into a park in 2016 with the Parc Rives de Seine project, 15 years later.[136] This project may be one of the most radical examples of a temporary and seasonally repeated experiment evolving into a permanent and physical transformation. Here, the experiment actually functions as a rehearsal phase.



Fig. 2.45. Paris Plages, July 21, 2013. Photograph by Jean-Louis Zimmermann. Source: Flickr.



Fig. 2.46. Paris Plages, August 29, 2013. Photograph by Besopha. Source: Flickr.



Fig. 2.47. Paris Plages, July 30, 2011. Photograph by Marcel "MadJo" de Jong. Source: Flickr.

134 François Mancebo, "Combining Sustainability and Social Justice in the Paris Metropolitan Region," in *Transitions to Sustainability*, ed. François Mancebo and Ignacy Sachs (Cambridge University Press, 2014), 263–84, https://doi.org/10.1017/cbo9781139923316.019; Michèle de la Pradelle and Emmanuelle Lallement, "Paris Plage: 'The City Is Ours'," *The Annals of the American Academy of Political and Social Science* 595 (2004): 134–45, http://www.jstor.org/stable/4127615.

135 de la Pradelle and Lallement, "Paris Plage."

136 Léa Bou Sleiman, "Are Car-Free Centers Detrimental to the Periphery? Evidence from the Pedestrianization of the Parisian Riverbank," Center for Research in Economics and Statistics (CREST) Working Papers (2021).

CRITICAL PERSPECTIVE THROUGH CASE STUDIES

While experimental urban interventions are often idealized in the literature as a path to lasting transformation, the cases examined (Ghent, Bogotá, Paris) demonstrate that this process involves far more complex socio-spatial dynamics. The success or failure of these examples should be evaluated not only by their physical outcomes but also by their impact on social justice and sustainability.

Ghent-based Play Streets initiative can be described as a successful process that started with grassroots but has also begun to be addressed at the municipal level through annual applications.[138] Although Bertolini (2020) criticizes such volunteer-focused projects because they 'do not create systemic transformation'[139], Ghent example challenges this theory with its micro-scale success. Not every urban intervention needs to aim for a radical regime shift. The Ghent model proves that quality of life can be improved and social participation can be ensured at a 'hyper-local' scale without making a major systemic change. Because sometimes, a child being able to jump rope in the street during the summer is a huge success for the quality of urban life. The fact that this does not spread throughout the city does not diminish the success of that particular street. People taking responsibility for their own streets makes them feel a sense of belonging of the city. Public involvement is more valuable than the municipality doing everything from above.

And in fact, the dynamics of each street are different...

The real questionable status of this model is not its scale, but the inequality of access it creates.[140] This system works very well in upper-middle-class neighborhoods with high social capital (educated, people who know each other, who have time). On the other hand, in disadvantaged neighborhoods where there are many immigrants, people work double shifts, or where neighborhood relations are weak, organization can be more challenging. Therefore, the issue in Ghent model is not the scale of the project, but the fragility of the implementation in terms of social justice.

About Ciclovía, has been going on since 1974, but Bogotá is still one of the cities with the worst traffic congestion in the world.[141] The experiment creates a remarkable "bicycle city" simulation on Sundays, but on Monday mornings, the city returns to its current state.[142] While experiencing 138 km area without a car is a mind-shift, the fact that the model has remained the same for over 50 years and has not changed the rest of the week raises the question: "Is this an achievement or a tool of pacification?"

138 Stad Gent, "Speelstraten."
139 Bertolini, "From 'Streets for Traffic'."
140 Flynn and Thorpe, "Pandemic Pop-Ups."
141 "Latin America: Longest Traffic Jam Delays by City 2020-2021," Statista, November 29, 2025, https://www.statista.com/statistics/970839/cities-hours-lost-traffic-jams-latin-america/.
142 Montero, "Worlding Bogotá's Ciclovía."
143 Montero, "Worlding Bogotá's Ciclovía."

However, given the chaotic structure of the city and its socio-economic vulnerabilities, it can be argued that attempting to consider this project from a Eurocentric perspective is not the proper approach. Beyond physical transformation, the project, even if only for one day a week, creates a path between two different sharp class divisions from north to south while temporarily suspending social hierarchy in the street.[143] Ghent and Bogota experiments sought to adapt rather than break with the existing system, on the other hand, Paris Plages project aimed to change it by challenging the existing system. Both environmental and political criticisms in the project's early years discussed the source and the impact of transporting tons of sand to the riverbank annually which was resulting carbon footprint, and logistical costs. In response to these criticisms, the municipality reduced sand use and was forced to opt for wooden platforms, grassy areas, and portable furniture.[144] However, after a few seasons, it was decided that sandy beaches would be brought back starting in 2025. It was announced that the sand would be recycled for use in construction sites around Paris.[145] Also, the project's visual appeal risked transforming the area from a public service into a tourist attraction in Paris, a city already heavily frequented by tourists.[146]

While criticisms of "gentrification" and "exclusion" directed at this example may have some merit, the project's historical context reveals that this intervention was not just an aesthetic choice but a public health necessity. Closing the street along the riverbank was a radical transformation necessary to improve the city's air quality and define open public spaces. In this context, Paris Plages is a political "framing" strategy that makes this approach acceptable under the identity of a "city beach".[147]

This transformation has also brought with it the risk of the exclusionary nature of the new regime.[148] The elimination of access provided by the highway is a positive change for pedestrians in the center, but a crisis in accessibility for car owners coming from the suburbs. At the same time, the transformation of the car-free riverfront into a tourist showcase, rather than a space for locals, could lead to the museumification of the area.[149]

SO... Experimental interventions test the entire ecosystem, from shopkeepers' supply chains to residents' parking habits. The most critical methodological error here is that these temporary events are shown in a festival atmosphere without simulating normal daily life. If the experimental phase tests the extraordinary state of the street while ignoring the problems in the ordinary state (garbage collection, emergency access, etc.), permanent pedestrianization projects designed with this data become unsustainable. Therefore, programmatic experiments should be considered as a realistic rehearsal of the future permanent situation/ daily life.

144 Anne Sollier, "Paris-Plages 2017: Une Édition Sans Sable Fin," *Le Figaro*, May 26, 2017, https://www.lefigaro.fr/sortir-paris/2017/05/24/30004-20170524ARTFIG00236-paris-plages-2017-une-edition-sans-sable-fin.php.
145 Heather Stimmler, "Everything You Need to Know About Paris Plages 2025," Secrets of Paris, accessed March 10, 2025, https://secretsofparis.com/featured-events/paris-plages/.
146 Gwendal Simon, "Paris-Plages or the Staging of Distance: Tourist Referents in the 'Everyday' World," *Current Issues in Tourism* 23, no. 2 (2018): 153–63, https://doi.org/10.1080/13683500.2018.1479380.
147 de la Pradelle and Lallement, "Paris Plage."
148 Savini and Bertolini, "Urban Experimentation as a Politics of Niches," 831-848.
149 Simon, "Paris-Plages or the Staging of Distance."

BARCELONA SUPERBLOCK

Ildefons Cerda's grid plan for Barcelona, presented in the 19th century, sought solutions to the problems of the congested and polluted city created by the industrial revolution. Originally aiming to offer an egalitarian and healthy system, this plan deviated from its vision over time due to the pressure of real estate development, such as blocks filling with buildings and apartment heights exceeding what is necessary, and the dominance of automobiles in the streets.[150] By the 2000s, Barcelona had transformed into a dense and polluted metropolis lacking green spaces. The Superblock model emerged as a necessity of this period. The fundamental motivation behind the Superblock model was to address environmental crisis such as high air pollution, noise levels, and a lack of green spaces. In doing so, it aimed to reverse the existing situation where more than 60% of public space was allocated to vehicles, giving priority back to pedestrians and cyclists.[151]

What makes Superblock unique is not so much the outcome, but the experimental and iterative process followed before reaching it. In addition to traditional planning and even micro-scale experiments in street transformations, the Superblock model questioned how a city could be transformed on a macro scale. In doing so, it utilized Barcelona's existing block structure, establishing a principle where 3x3 block areas are considered together.[152]

In 2016, the experimental process of Superblock in Poblenou district began based on the principles of flexibility and reversibility; instead of permanent and expensive infrastructure investments, elements that could enable the user to exist on the street, such as sandboxes made of tires, paving, and modular furniture, were defined.[153] Traffic flow was reorganized with 3x3 blocks, and vehicle speed within the block was minimized.[154] This approach also triggered a deep discussion on the right to use the street.[155] The pioneer of Superblock concept, Salvador Rueda, then director of the Barcelona Urban Ecology Agency (BCNecologia), posed the question, "When children playing ball in the street and a car wanting to enter its garage, who should have the right of way?", challenging the rooted notion of car supremacy in the public consciousness.[156] This experimental and phased approach provided an opportunity for data collection, as well as a design process in which mistakes made/to be made were tolerable.[157]



Fig. 2.48. Sense of Public Space, Barcelona. Photograph by Del Rio Bani. Source: ArchDaily.



Fig. 2.49. Transition to the superblock model that prioritizes pedestrians and bicycles and allows certain vehicles to enter. Source: Barcelona City Council.

150 Marco Amati, Quentin Stevens, and Salvador Rueda, "Taking Play Seriously in Urban Design: The Evolution of Barcelona's Superblocks," *Space and Culture* 27, no. 2 (2023): 156–71, https://doi.org/10.1177/12063312231159229.

151 Freddy Nogueira, Filipe Moura, and Ana Morais De Sá, "The Phase of Experimentation in Public Spaces: The Cases of Milan, Barcelona and Rio De Janeiro," *Transportation Research Procedia* 72 (2023): 3419–26, https://doi.org/10.1016/j.trpro.2023.11.777.

152 Franziska Schreiber, "The Long Road From Urban Experimentation to the Transformation of Urban Planning Practice: The Case of Tactical Urbanism in the City of Barcelona," *Journal of Urban Mobility* 7 (2025): 100100, https://doi.org/10.1016/j.urbmob.2025.100100.

153 Nogueira, Moura, and De Sá, "The Phase of Experimentation in Public Spaces."; Schreiber, "The Long Road From Urban Experimentation."

154 Nogueira, Moura, and De Sá, "The Phase of Experimentation in Public Spaces."

155 Christos Zografos et al., "The Everyday Politics of Urban Transformational Adaptation: Struggles for Au-thority and the Barcelona Superblock Project," *Cities* 99 (2020): 102613, https://doi.org/10.1016/j.cities.2020.102613.

156 Amati, Stevens, and Rueda, "Taking Play Seriously in Urban Design."

157 Schreiber, "The Long Road From Urban Experimentation."

The Poblenou pilot project has been a critical process not only for spatial transformation but also for analyzing social and political resistance. Opposition groups, such as the 'Poblenou Ens Mou' (Poblenou in Motion) platform, framed the project as a top-down imposition by the municipality, arguing that this contradicts the principles of participatory democracy. The opposition's main arguments were based on the fear that shifting traffic to surrounding streets would not eliminate pollution but merely relocate it, and that the isolated 3x3 safe zones would create eco-gentrification, displacing residents. In addition, local businesses expressed concerns, common in global pedestrianization projects, that 'cutting off vehicular traffic would lead to customer loss'.[158]

However, in the literature, this state of conflict is interpreted as a natural and necessary part of the process. The experimental process allows the municipality to bring these hidden conflicts to the surface, enabling it to develop more equitable solutions encompassing all street actors before undertaking permanent and irreversible construction.[159] Public persuasion and the legitimization of the project are possible with concrete data obtained in the experimental phase (air quality, noise level, pedestrian use); transparent sharing of this data allows concerns to give way to social acceptance. In particular, a picnic table placed in the middle of the street or children running around in the experimental phase radically challenge the old perception that 'the street is for cars', transforming the way society perceives space.[160]

One of the most significant transformations started with Superblock model is the integration of a 'learning-by-doing' culture into bureaucratic processes, such as a municipality. This method initiates new ways of thinking and organizing, symbolizing a break from the traditional planning approach, which is long-term but has uncertain results. Instead, a 'transversal' management approach is aimed for, breaking down interdepartmental boundaries and strengthening communication. The collaboration of ecology, transportation, and urban planning units in a horizontal hierarchy at the same table has made planning practice more inclusive, leading to institutional innovation.[161]

Following the pilot project in Poblenou, the process continued with projects in Sant Antoni and Horta districts. Drawing lessons from the social resistance experienced in Poblenou, a more participatory policy was adopted in this new phase; design quality was improved by adding playground elements for children and urban furniture alongside tactical paintings.[162] As Nogueira et al. (2023) point out, during this period, the municipality tested 'Superblock' concept not only on the Eixample grid but also in neighborhoods with different morphologies, attempting to prove the flexibility of the model.[163]

The COVID-19 pandemic in 2020 was the most significant external factor that accelerated the adoption of Superblock model, transforming it into a health necessity. However, an examination of the data obtained from 2016 to 2023 revealed critical issues regarding the model's sustainability.[164] In light of these analyses, the municipality revised its strategy, shifting from individual blocks to a 'Green Axes' model where main streets like Consell de Cent were transformed along their entire lengths. At the points where the street intersects with other green axes (Rocafort, Comte Borrell, Girona), vehicular intersections were removed, creating four large new plazas. However, the shift in municipal administration after 2023 led to the project losing political support, stalling, and a renewed shift in strategy.[165]



Fig. 2.50. Superblock of Sant Antoni. Source: Leku Studio.



Fig. 2.51. Superblock of Sant Antoni. Source: Leku Studio.

158 Zografos et al., "The Everyday Politics of Urban Transformational Adaptation."
159 Schreiber, "The Long Road From Urban Experimentation."
160 Amati, Stevens, and Rueda, "Taking Play Seriously in Urban Design."
161 Schreiber, "The Long Road From Urban Experimentation."
162 Amati, Stevens, and Rueda, "Taking Play Seriously in Urban Design."
163 Nogueira, Moura, and De Sá, "The Phase of Experimentation in Public Spaces."
164 Anna Puig-Ribera et al., "Use of the Superblock Model for Promoting Physical Activity in Barcelona: A One-Year Observational Comparative Study," *Archives of Public Health* 80, no. 1 (2022), https://doi.org/10.1186/s13690-022-01005-y.
165 Simon De Boeck et al., "Barcelona's Superblocks: An Unfinished Urban Planning Policy Paradigm Shift," Cit-ies 171 (2025): 106710, https://doi.org/10.1016/j.cities.2025.106710.

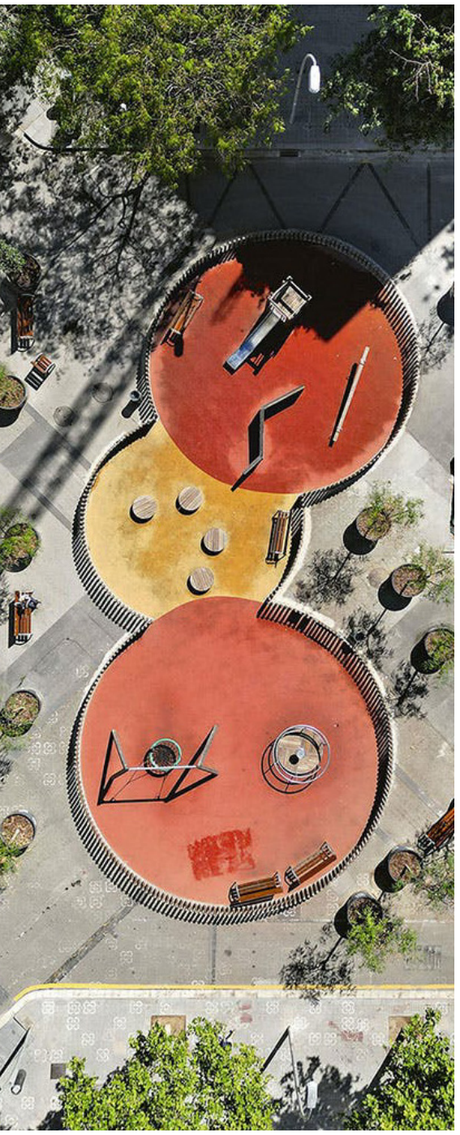


Fig. 2.52. Poblenou Superblock in the Sant Martí district, Barcelona. Source: Barcelona City Council.

CRITICAL PERSPECTIVE THROUGH SUPERBLOCKS

While Barcelona's Superblock model is undoubtedly shown as a success story in global urban planning literature, it is undeniable that it also carries social and political contradictions. Critical readings in the literature prompt a rethinking of the project in terms of politics, inclusivity, and sustainability.

Initially, it has been observed that the Superblocks create a dual structure of being 'inside' and 'outside' which increases the risk of 'green gentrification' in the area.[166] Along with this, it has been understood that the painted asphalt used in the tactical phase does not reduce Barcelona's heat island effect; on the contrary, real soil and biodiversity are needed.[167]

The research conducted by Puig-Ribera et al. using the SOPARC* methodology revealed that simply changing the physical space and restricting traffic is not enough to make people active; the area needs to be supported by social programs. The year-long study showed that the walking and physical activity rates in the Superblock area were at similar levels to any standard street layout. While this approach initially offered a successful experimental phase, it can be argued that the street layout may not have been able to adapt to the changes and needs that have arisen over the years.[168] Therefore, it should be noted that the experimental process should be a tool that determines how the project functions, rather than how it looks.

The transition to and subsequent adoption of the green axes model represent a more challenging process in terms of public participation. This model, with its vision on a different scale and approach than the superblock model, was presented as a continuation of the superblock project, thus avoiding any new experiments or analyses; construction proceeded directly. However, no time was given for people to experience it, leading to stronger political and legal objections.[169] The courts ruled for the project's cancellation due to its violation of zoning regulations, but it was not reversed, as it had already incurred high costs.[170] This demonstrates that the experimental phase encompasses not only technical or design processes but also social experimentation, along with societal acceptance and inclusion.

This project, which brought a different perspective to macro-scale urban planning, was limited by the way the experiments were implemented and sustained. This problem was attributed to the process being linear and results-oriented rather than flexible and iterative.

De Boeck et al. characterize the Barcelona example as an "Unfinished Paradigm Shift". As the superblocks became the branding of Mayor Ada Colau, they were systematically targeted by opposition parties, transforming from a city policy into a party project. This political polarization created a fragility that resulted in the new administration suspending the project after the 2023 elections.[171] As Schreiber emphasizes, tactical urbanization and experimental phases risk disappearing when political winds change, unless they are fully integrated into an institutional and legal framework.[172]

In conclusion, the Superblock model is a revolutionary methodological achievement in regaining the city and returning it to a human-oriented. However, this experiment is also an incomplete manifesto demonstrating that urban transformation cannot be truly just without transforming property relations, decision-making mechanisms, and political continuity, rather than simply removing the asphalt.

166 De Boeck et al., "Barcelona's Superblocks."
167 Schreiber, "The Long Road From Urban Experimentation."
168 Puig-Ribera et al., "Use of the Superblock Model,"
169 De Boeck et al., "Barcelona's Superblocks."
170 Clara Blanchar, "Una jueza ordena desmantelar el eje verde de Consell de Cent de Barcelona," *El País,* Sep-tember 7, 2023.
171 Zografos et al., "The Everyday Politics of Urban Transformational Adaptation."
172 Schreiber, "The Long Road From Urban Experimentation."

MILANO
PIAZZA APERTE

Barcelona's Superblock project rethinks the city through a grid system, on the other hand, Milan, with its successive projects such as Open Squares for Every Neighborhood, Open Streets, and Open Squares for Every School, aims to transform the car-centric nature of planning into a human-scale urban fabric by focusing on specific areas of the city.

The municipality has advanced its work through strategic partnerships with external experts; following pilot projects carried out in 2018 under the leadership of Agenzia Mobilita Ambiente Territorio (ATAM) and in collaboration with Bloomberg Associates and the Global Design Cities Initiative (GDCI), an open call was held, launching more than 60 proposals and initiating Open Squares for Every Neighborhood process.[173]

This project, which has become part of the comprehensive strategy in line with the municipality's 2030 (PGT 2030*) goals, has been further accelerated and expanded (Open Streets projects) by the impact of the COVID-19 pandemic, and has formed the basis for urban policies. Limiting vehicle speeds to 30 km/h in the city center, implementing bicycle paths on main arteries such as Corso Buenos Aires, and wide sidewalks can be seen as new policies within this period. Furthermore, flexible policies such as opening up parking areas to allow businesses to use have emerged as approaches that preserve the economic vitality of the streets and contribute to their transformation.[174]

Building on this success, a second call for proposals was launched at the end of 2022. Here, again, but in a further variation, the motto "Open Squares for Every School" aimed to encourage new initiatives. This process resulted in 87 proposals submitted, involving 600 groups, associations, and 250 schools.[175]

What distinguishes the Piazza Aperte (Open squares) model from other projects is the "Pacts of Collaboration", which brings the process between the municipality and citizens to a legal level. Through this agreement signed between two stakeholders, the public space is defined as a commons; the local community takes ownership of the street's vibrancy and activities, becoming an active participant in the process. This approach emerges as a model that enables a top-down project to be embraced from the bottom-up.[176]

Like other models that use experimentation as a vital phase, Milano Piazza Aperte model is based on low-cost, flexible, and reversible interventions. In this approach, where the street functions as a laboratory, the success of the program is not measured solely by the physical transformation of these areas, but rather by the increase in the time spent by users in the space and the data-driven acceptance of the project.[177] To obtain this data, specific monitoring phases were carried out; pedestrian flow counts, user surveys, microclimatic measurements, and the impact of the transformation on local businesses were evaluated. The feedback obtained at the end of the monitoring process formed the criteria for the permanent phase.[178]



Fig. 2.53. Piazza Aperta in Via Spoleto and Via Venini.
Source: Graphic overlaid by the author; base image from Comune di Milano.

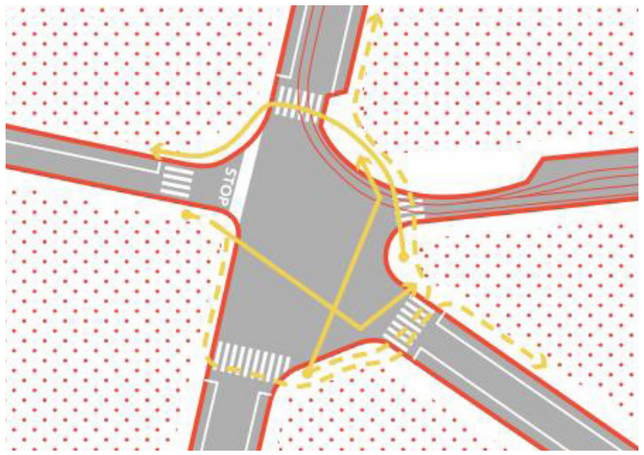


Fig. 2.54. Pedestrian circulation scheme before the project. Source: Comune di Milano with AMAT, Spazio pubblico - *Linee guida di progettazione* (2021).



Fig. 2.55. Pedestrian circulation scheme after the project. Source: Comune di Milano with AMAT, Spazio pubblico - *Linee guida di progettazione* (2021).

173 "Piazze Aperte: How Milan Gave Its Piazze Back to the People," Global Designing Cities Initiative, April 10, 2023, https://globaldesigningcities.org/update/piazze_aperte_report-en/; Jingjing Huang, "Urban Street Experiments in Milan and Shanghai: Transforming Streets in a Tactical and Experimental Approach" (master's thesis, Politecnico di Milano, 2023).

174 Huang, "Urban Street Experiments in Milan and Shanghai"; Giulia Sicignano, "Milan Before and After: Citywide Placemaking," The City at Eye Level, 2021, https://thecityateyelevel.com/stories/longread-milan-before-and-after-citywide-placemaking/.

175 "Piazze Aperte - Comune di Milano," Comune di Milano, accessed February 16, 2026, https://www.comune.milano.it/argomenti/partecipazione-civica/piazze-aperte.

176 Huang, "Urban Street Experiments in Milan and Shanghai"; Sicignano, "Milan Before and After."

177 Sicignano, "Milan Before and After."

178 Huang, "Urban Street Experiments in Milan and Shanghai"; Sicignano, "Milan Before and After."

At the end of the process, some evaluations were made to determine how effective the experimentation phase was in the transformation of the street or square, and what led to positive or negative trends.[179] For instance, it was observed that the graphic design and colors used in the project created a sense of restriction for drivers, and that the use of contrasting colors slowed drivers down with natural reflexes.[180] In completely pedestrianized areas, it was found that these studies enabled pedestrians to adapt more easily to the car-free perception, and created a sense of safe spaces where children could show the courage to move independently from their parents.[181]

Likewise, a low-cost example is the practice of entrusting the maintenance of planters and urban furniture to the community, which has proven to increase a sense of community belonging and deter vandalism.[182] It is presented as one of the most important sociological outcomes of this experiment that a sense of community provides more effective protection than expensive security cameras or physical barriers.[183] Furthermore, neglect of these interventions (peeling paint, drying planters) is a significant factor that weakens users' sense of security and belonging, altering their perception of the space. The involvement and responsibility of the community in this process is therefore crucial.[184]

Another notable aspect of the experimentation phase was how the placement of street furniture stimulated the social life in the space and fostered interaction. Placing seating units facing each other (socio-petal) was observed to increase the likelihood of individuals initiating communication with each other by 30%.[185] Similarly, play elements (such as table tennis and chess areas) were found to facilitate social interaction not only among children but also among adults. Based on these observations, it can be concluded that street elements break down social barriers and rebuild a sense of community.[186]

The positive approach towards the unfixed street furnitures were another marked aspect during the monitoring phase. The ability of user groups to adjust the position of benches according to the angle of the sun, or for a large group to bring benches closer together to create a new spatial arrangement, opened up space for user-led design; it was observed that this allowed the design to become a living process in conjunction with the user.[187]

Stagias & Argyris examine two squares from the Piazza Aperte project and compare their usage after monitoring. They find that both squares were transformed using similar techniques, while user experiences differ. Piazza Dergano is seen as more embraced by the locals, while the opposite is true for Piazza Angilberto II. This is attributed to Piazza Dergano being closer to a human scale and the positive impact of the surrounding commercial areas on its use. While Piazza Angilberto II is physically successful, its central location in the traffic flow raises questions about security perceptions, and its larger area is argued to distance it from a human scale. Furthermore, the square's high sun exposure and insufficient shading significantly reduce its usage during midday hours.[188]

This demonstrates that while site selection is as critical as the design itself, climatic design should not be overlooked. Moreover, if on-site observations are not carried out at regular intervals after the project is completed, the feedback loop is broken, leading to the same errors that underlie permanent projects without an experimental phase.



Fig. 2.56. The Dergano suburb in Milan after the intervention of Piazze Aperte. Source: Comune di Milano.



Fig. 2.57. The Dergano suburb in Milan after the intervention of Piazze Aperte. Source: Comune di Milano.

179 Argyris Stagias and Israa Mahmoud, "Post-Occupancy Evaluation for Tactical Urbanism Interventions Through Placemaking Model: Two Case Studies From the 'Piazze Aperte' Program in Milan," *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* (2024): https://doi.org/10.1080/17549175.2024.2381532.

180 Huang, "Urban Street Experiments in Milan and Shanghai."

181 Argyris Stagias, "Evaluating Tactical Urbanism Initiatives Through the Prism of Placemaking: A Case Study on Milan's 'Piazze Aperte'" (master's thesis, National Technical University of Athens and Politecnico di Milano, 2023).

182 Huang, "Urban Street Experiments in Milan and Shanghai."

183 Stagias, "Evaluating Tactical Urbanism Initiatives."

184 Stagias and Mahmoud, "Post-Occupancy Evaluation."

185 Stagias and Mahmoud, "Post-Occupancy Evaluation."

186 Stagias, "Evaluating Tactical Urbanism Initiatives."

187 Huang, "Urban Street Experiments in Milan and Shanghai."

188 Stagias and Mahmoud, "Post-Occupancy Evaluation."

	INTERVENTION AREA	VISION & CONCEPT	GOVERNANCE & STAKEHOLDERS	ELEMENTS & DESIGN	RISKS & LIMITATIONS
PARKLETS	A section of a street Allocating typically 1-2 parking spaces for pedestrian use	Transforming one part of the street from a vehicle-dominated space into a social area.	Civic initiative later taken over by local government Funding is provided by local cafes and NGOs	Modular Elements Seating Units Plants Paving Flower Pots	Falling under the control of commercials, so becoming consumption-oriented space
INTERSECTION REPAIRS	A section of a street Allocation of intersections to pedestrians	Transforming traffic management into a community-focused public space Reducing vehicle speed Decreasing injuries	Civic initiative, the municipality wanted to remove it, but the public resisted It was legalized and institutionalized in 2000	Paintings Flower Pots Portable Modular Elements	Becoming decorative approach, aesthetic concerns coming first instead of functionality
POP-UP CYCLE LANES	A section of a street Transforms only a single lane or parking areas along the route	Testing the flexibility of the street Changing the transportation hierarchy	Decisions are usually made top-down and overnight so created resistance in citizens	Bollards Paintings Flower Pots	Design failure if it does not effect death/injury rate Ineffective design without concerning logistics and public transportation stops
GHENT I PLAY STREETS	Entirely, on selected streets School Holidays The street is periodically closed to vehicle traffic	Creating safe play areas for children. Changing the usage regime of the street, instead of its physical structure	Bottom-up, later a collaboration between local government and residents so gained official status 60% approval from street residents required every year	Simple Municipal Supplies Portable Modular Elements Street Barricades	Disadvantaged neighborhoods have difficulty accessing this opportunity, so possibility of creating a social justice problem
BOGOTA I CICLOVIA	The entire 138 km of main arteries Sundays and public holidays The street is periodically closed to vehicle traffic	Promoting physical activity Developing social capital Improving quality of life	Civic initiative, later taken over by local government In 2007, an attempt by a politician to cancel was rejected by public and government resistance.	Street Barricades	Functioning as pacification tool rather than creating a systemic transformation
PARIS I PLAGES	Several kilometers of highway, along the riverbank closed to vehicle traffic Initially during the summer months, 15 years later, became permanent	Closing the riverbank to traffic, and making recreation and gathering areas accessible Improving air quality	Top-down	Modular Elements Sand Sunbeds Portable Wooden Furniture	Urban gentrification, exclusion, and museumification in the case of transformation into a tourist attraction
BARCELONA I SUPERBLOCK	The entire internal street network within a 3x3 grid block Transformed into pedestrianized area	Solving the environmental crisis such as air quality, noise pollution and lack of green spaces Giving back pedestrian and bicycle access to the streets within a 3x3 urban grid	A macro-scale municipal initiative Resistance from opposition groups and shopkeepers, such as "Poblenou ens mou"	Sandboxes made from tires Paintings Modular Elements Playing Elements Seating Units Plants	Eco-gentrification Displacement of residents Fear of customer loss for businesses Not adapting to changes and needs along the years
MILANO I PIAZZA APERTE	Polycentric Nodes throughout the city Wide, abandoned intersections or large parking spaces	Creating safe, car-free zones for people throughout the city with the help of intersections	A macro-scale municipal initiative Strategic partnerships with GDCI, ATAM, and Bloomberg Association Legal "Pacts of Collaboration" between the local community and the municipality	User-led Design Contrasting colored paints (vehicle slower) Plants Unfixed Seating Units Play Equipment (chess/ping-pong)	The sense of space diminishes with the aging furniture and peeling paint Failure in locations detached from human scale (non-commercial or lacking shade)

Table 2.2. Comparative analysis of case study features as a foundation for the design guidelines. Source: Author.

03

RESEARCH AIM &METHODOLOGY

In street transformations, incomplete or incorrect design of the experimental phase, which is expected to be carried out before the transition to permanent version, can lead to critical issues difficult to be solved. Transformation projects undertaken without a comprehensive understanding of what the experimental phase is and how it should be carried out, are at risk of failure.

Studies on this phase often remain largely theoretical, failing to offer an approach whose results can be seen in practice.[189] This study focuses precisely on this gap and intends to use it as input in the decision-making process. Accordingly, the study aims to provide a guide on how to structure and conduct the experimental process, incorporating a practical approach. To better understand the gap between literature and practice, the chosen case study is one that has gone through an experimental phase and whose transformative success has been questioned.

In this context, the study is considered a laboratory and centers on the following methodological question: If we were to go back in time, how would the experimental phase of the process be structured to prevent errors? The following sections outline the analytical tools adopted by Jan Gehl methodology and the structural details of the monitoring framework (time, indicators, and limits) that will be used to answer this question.

189 Smeds and Papa, "The Value of Street Experiments."

DATA COLLECTION TOOLS

Public life on the street is never fixed; it constantly changes throughout the day, week, month, and year, and depends not on a single context, but on many. Many factors influence street life, including design, culture, local conditions, global transformations, technological changes, the human and non-human entities present on the street, the users of the street, and the gender and age of those users.



Fig. 3.1. Eye-level approach. Source: Gehl.

Observation is key to studying public life. It is simple and cost-effective. Moreover, it offers the opportunity to holistically examine scenarios that other systemic approaches cannot analyze. Since life is unpredictable and immeasurable, observation can give us insights into what should and should not be done to have more people-friendly streets. However, this approach is often overlooked or leads to an ineffective process when planning street transformations. This results in municipalities and designers failing to grasp real-life situations through top-down approaches.

Instead of asking questions about how people live in the street and receiving monotonous answers, observing the habits individuals unconsciously maintain in their daily lives and mapping their interactions with the street is one of the most effective ways to understand the street and its people. In this way, the possibility of seeing things that are overlooked on the street will emerge.

Things that go unnoticed in the ordinary course of daily life can tell a lot about a street. Therefore, when observing, it is important to note the things that are least noticeable but are experienced and observed. Because when we observe, we do not just look; we see, feel, listen, and think. We focus on many things that we do not notice in the flow of daily life. In this way, when transforming a street, instead of giving people fixed patterns on how they should use the space, we can make observations that allow us to draw conclusions about how people use it, and design temporary experimental transformations that allow us to move forward with these observations.

In the experimental phase, observation is not a routine action, but a systemic approach. The type of approach used at this point depends on the situation and process; as Jan Gehl emphasizes, the manual observation method, essentially using pen and paper, may not be sufficient to obtain definitive results in certain situations. However, while technological devices such as tracking devices can provide more precise results, their compatibility with the constantly changing nature of streets is debatable. In extraordinary circumstances, such technical devices may not be sufficient, but in situations where the human observer is at the center, the user takes initiative and provides much more than statistical information. Because here, the observer's senses come into play.[190]

190 Gehl and Svarre, *How to Study Public Life*.

WHAT TO OBSERVE?

To observe the street, there should be specific categories to analyze. Jan Gehl argues that street dynamics are complex, overlapping, difficult to decipher, and constantly changing; therefore, he emphasizes that asking fundamental questions such as “who, where, what, how many people, how long” can be a means of deciphering this complex structure, aiming to gain insights into street life.[191]



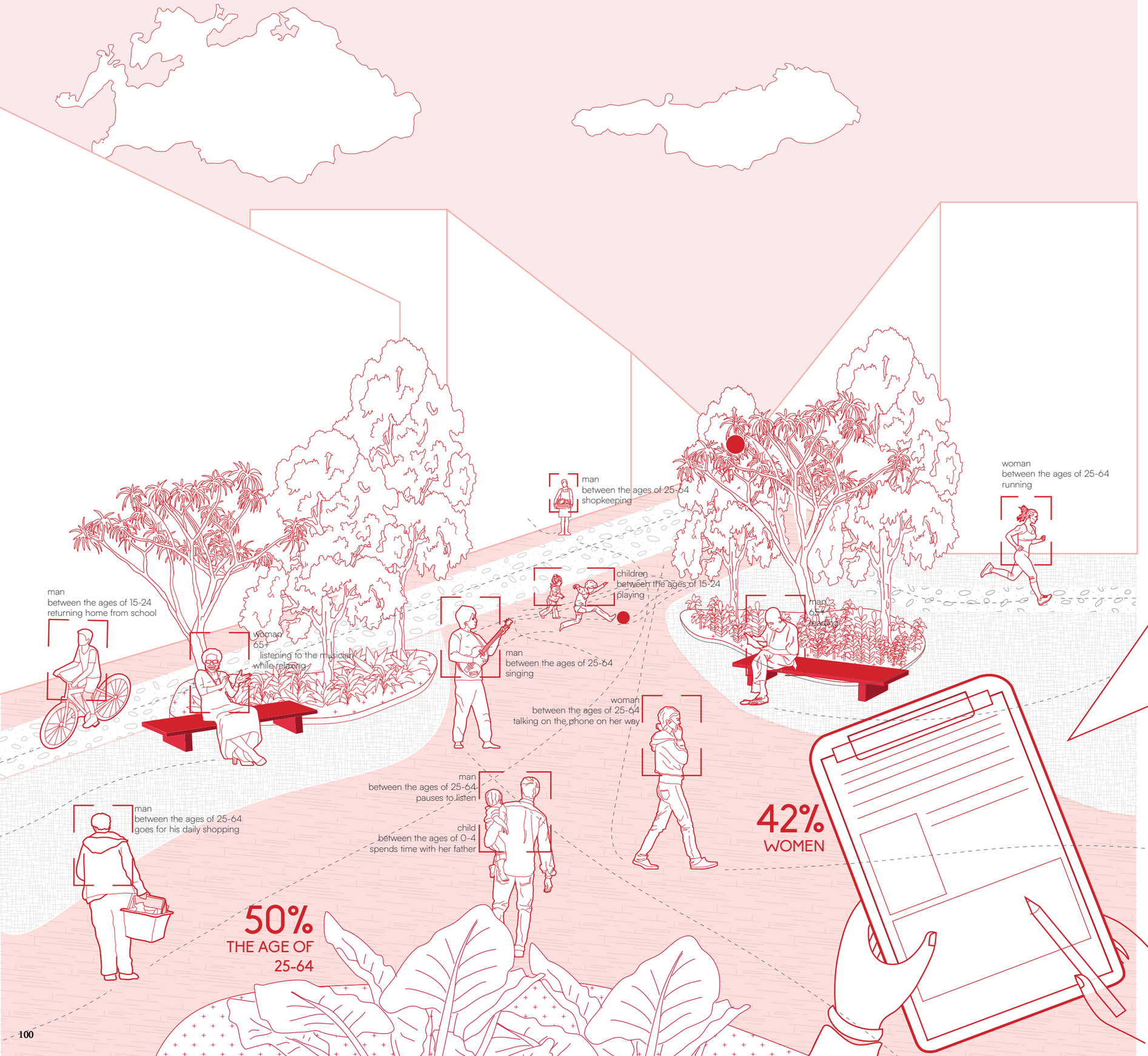








191 Gehl and Svarre, *How to Study Public Life*.



HOW MANY?

There is a wealth of statistical data available showing how many vehicles pass through at different times of day or what the traffic is like on main roads. On the other hand, for pedestrians, data on the number of actions such as stationary activities or pedestrian flow is quite limited or nonexistent. It should be understood that knowing how many people are doing something provides arguments that can be used to make inferences when thinking about the street.

WHO?

Recording the number of people on a street gives us information about the number of users of that street. However, to better understand the characteristics of the street, specific information that can be determined through observation, such as the gender and age of the people passing by or present there, is needed. This is because identifying the users of the street and taking action accordingly is necessary.

WHERE?

Observing where people move, where they stay, or where they spend time provides an indicator that reveals users' tracks and preferred locations. This allows us to gain insight into how behavioral patterns and their related elements can interact, how necessary elements can be positioned, or how areas can be created according to these.

WHAT?

The types of activities that take place on the street are countless, and classifying them helps to understand what is happening on the street systemically. In his book "New City Life," Jan Gehl classifies these as necessary and optional activities, and social activities that is between them. From necessity to optional, dependence on external conditions increases. In the case of social activities, dependence is more related to the presence of others. For studies that aim to observe and reveal public life, examining social activities is vital.

HOW LONG?

Both the activities themselves and the duration of those activities are tools for understanding the street. In places where the street is more than a path to pass, it is known that the time spent on the street increases and the walking speed slows down. The duration of activities, the speed at which people walk a certain area in a given time, and people's willingness to spend longer or shorter periods on the street all demonstrate that the concept of time is a factor that should not be overlooked when observing public spaces.

Fig. 3.2. A diagram highlighting observations from the study of daily street routines. Source: Graphic by the author.







HOW TO OBSERVE?

To determine which tools to use during observations, the purpose of the study, its budget, and local conditions must be considered.

The appropriate time intervals are necessary for observation, as the patterns of the street differ between weekends and weekdays, and between morning and evening.

Weather conditions are another factor to consider. People generally prefer to be outdoors on sunny days and avoid rain. Therefore, observations made in good weather yield more accurate results.

Unforeseen events can affect the actual data. If there are any changes that could disrupt the rhythm of daily life, the observation should be postponed to obtain more accurate results. This does not mean postponing all observations for the day, but rather postponing the observation period, which could otherwise lead to inaccurate results. Because the most important thing to consider during observation is understanding the rhythm of daily life.

MAPPING

This method is also called behavioral mapping since it present what people do and where they are in different periods by asking the questions “what, where?”.[192] The basic principle here is to see the points where people prefer to stay or do activities. When mapping, drawing different symbols for each stationary activity is crucial for the decision-making process.

COUNTING

It basically helps to answer the question of “how many?”. The aim here is to count the pedestrian flow and stationary activities within a defined street. This is done by determining an area based on the scale of the street and conducting the count within that area. Counting for ten minutes once an hour has been found to provide sufficient data transfer, since the rhythm of the street generally follows similar sequences unless there are unusual circumstances.[193] This should be adopted as an approach that is repeated at specific intervals, allowing us to compare different time periods, days, months, and even years.

TRACING

This method has great potential for determining street flow, direction choices, most and least used entrances, and consequently, movement patterns. The method requires a specific approach depending on the scale of the street. However, in general, during observation, movements should be plotted as lines on a plan within a specific time period.

TRACKING

In other words, this is a shadowing method. Instead of observing general behavioral patterns, it aims to study the walking speed, behavioral patterns, and routes taken by following selected individuals. This method can also be used to answer specific questions, such as those related to safety.

LOOKING FOR TRACES

This is more of a method that requires opening up the senses to find the traces people leave behind. Chalk drawings on the ground, footprints in the snow, paths made by people in green areas, furniture left outside are examples of traces that give insight into public life in that place.

PHOTOGRAPHING

Photography is a tool that helps document scenes from public life, and therefore, the interaction between people. Because things that cannot be conveyed in writing gain meaning through photography.

KEEPING A DIARY

Overlooked details can be a vital source of information for understanding what’s really happening on the street. When a real-time diary is kept, this information reveals hidden aspects of the street, providing detailed insights into public life.

TEST WALKS

The observer selects specific routes to test on foot. During the test, time is recorded, noting waiting times and other potential impacts on the route. This method aims to compare the expected walking time with the actual time taken.

192 Gehl and Svarre, *How to Study Public Life*.
193 Gehl and Svarre, *How to Study Public Life*.

THE METHODOLOGICAL APPROACH TO THE CASE STUDIES

RETROSPECTIVE READING OF RESULTS

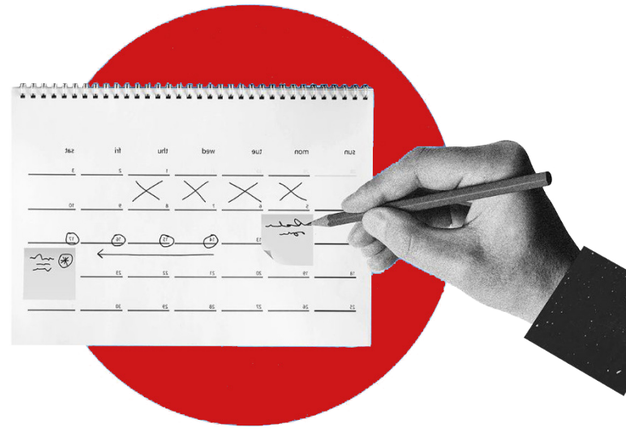
Beginning in the 1960s with Jan Gehl, this research method criticized urban planning that neglected people's interaction with the city and highlighted the necessity of observation.[194] The goal is the same goal today: to recapture public life as an important planning dimension.

In his book "*How to Study Public Life?*", Jan Gehl aims to reveal public life by providing tools and concrete examples to demonstrate how it can be studied. The book focuses on studies that show how methods can be applied, rather than on the results themselves.

Meanwhile, this study aims to contribute to this topic by addressing the importance and effectiveness of the tools presented by Jan Gehl and focusing on case studies from all perspectives. In doing so, it prioritizes creating an observation that examines a long retrospective period based on the results of spatial applications. This approach aims to test how the theoretical approach can be applied as a tool in the field by comparing it with practical variables, and to provide guidance for the experimental phase.

It focuses on how the incomplete or incorrect use of the experimental phase affected the street. By examining the final results, it seeks to answer the question of what kind of experimental phase process in the past would have changed the current fabric of the street and made public life more visible today. In summary, the case study not only provides an example but also demonstrates the necessity of developing guidelines for the experimental phase regarding situations that may arise in public space.

194 Gehl and Svarre, *How to Study Public Life*.



MONITORING FRAMEWORK

Timeline, Indicators and Limits

Observation is important and needs to be tested in real-world situations, but this stage must also have certain metrics. This helps to provide a framework during the observation. Without it, it is difficult to proceed systematically. However, it should be remembered that every street is unique, and the established criteria should allow for flexible approaches that can evolve based on the identity of that street. In this way, a more contextually sensitive framework can be created instead of a rigid, uniform, one-size-fits-all process.[195]

Therefore, the framework is not a page-by-page checklist requiring checkmarks upon completion/tracking, but rather a structure that varies according to user profile, functions, and street typology. These characteristics directly affect the three-stage evaluation system (timeline, indicators and limits) that works in an integrated manner.

195 Street Experiments Tool, *SET Guidelines Kit* (2022), https://streetexperiments.com.

TIMELINE The first step in the monitoring process is defining "time" itself, and this time will not be the same for every street. The timeline should be flexible according to its functions and needs. First of all, it is necessary to consider the available data for later comparison. Then, depending on the duration of the monitoring, experimental phases are implemented and tested. In this phase, if the street is only active in the morning hours, the timeline can be kept shorter. On the other hand, in a street that varies depending on night and day or seasonal changes, the timeline can be kept longer to observe the formation of behavioral patterns. After these processes, the observation enters the final evaluation phase.

However, since the street is not static, repeating this process at specific intervals, even after the experimental phase, is an important evaluation step to ensure the area remains active. This is because sometimes the impact of the novelty extends beyond the expected time, or unexpected situations may occur at the end of the process. Currently, long-term observation periods are limited in the literature; therefore, it is not very feasible to see the 3-year/5-year effects of experimental phases.[196]

INDICATORS Here, observations are evaluated to gauge the performance of the experimental phase. For example, recording the flow of people during an observation and detecting an increase during that time provides an example of an indicator for the study. Although the timeline varies according to the rhythm of the street, there is a standard independent of the results of the indicators.

The identified indicators are closely linked to the considerations that should be taken into account when transforming a street, as stated in the first part of the study. However, to summarize; pedestrian traffic, number of standing/sitting people, commercial pedestrian traffic, changes in the turnover of local businesses, accessibility, logistics, and more are indicators expected to be measured during the same period. However, the fact that these indicators yield similar results does not always mean that the same approach should be adopted. The results are similar, but the urban reactions vary.

LIMITS The positive and negative impacts of street transformation should be measured, and what will be transformed along with the street should be questioned. Establishing limits during monitoring is therefore essential. Because while the limits of the framework are being established, the direction the experimental phase will evolve is also determined. Sometimes the results push the limits; for example, a dramatic increase in traffic on surrounding streets while pedestrianizing a street shows that the existing negative effects of that street are only being spread to the surrounding streets. Moreover, it may be determined that the street elements used in the experimental phase have negative impacts, particularly in terms of accessibility. At this point, the experimental design may need revision. On the other hand, sometimes, instead of redesigning, the limits may need to be redefined. For example, if the limits of a street with high elderly usage are determined according to different age groups, it may be found that a system that works on paper does not work in daily life.

The experimental phase exists precisely for this reason: It allows for the accurate and reliable re-measurement of previously made findings within a framework, thereby preventing significant problems that might arise during the transition to the permanent phase.

196 Gunnar Grandel and Martin Berger, "Pathways From Street Experiments to Transformation: A Systematic Review of Theories of Change," *Transport Reviews* 45, no. 6 (2025): 924–47, https://doi.org/10.1080/01441647.2025.2523282.



Fig. 3.3. Collecting metrics on pedestrian volumes, activities, and other key metrics helps to inform updated street designs. Source: Photograph by NACTO-GDCI.

CHALLENGES OF MONITORING

Temporary Experimental Phase

The temporary nature of street interventions can sometimes lead to challenges in interpreting the methodology. Even if the data itself are defined within a well-structured framework, the variable rhythm of urban life can be the main reason for this challenge. Therefore, it should be remembered that this test also has its own handicaps, and a methodological approach should be adopted while being aware of these handicaps.

ADAPTATION PERIOD Essentially, the transformation of the street can have double-faced effect on the user. Initially, users unaccustomed to the novelty and unwilling to lose their habits may reflexively resist the transformation of the street and complain about the process by refusing to use the area. On the other hand, the attractiveness and engaging nature of the novelty can increase its adoption rate. People may show intense interest in things they can experience, such as temporary street furniture and paints, instead of the familiar silhouette of cars on the street. This can create a perception contrary and lead to the misconception of the project. Consequently, ending this temporary experimental phase prematurely could prevent one from catching the rhythm and thus fully understanding the street.

While these are not the primary problems, the transformation of the chosen street might affect other neighboring streets, a situation that could be encountered during the monitoring process. Traffic from the pedestrianized street might initially spill over onto other roads. However, the literature suggests that this situation can be resolved within a few months as people shift to alternative routes and increase their use of public transportation.[198] Therefore, it's important to observe the potential for such negative consequences during the experiment.

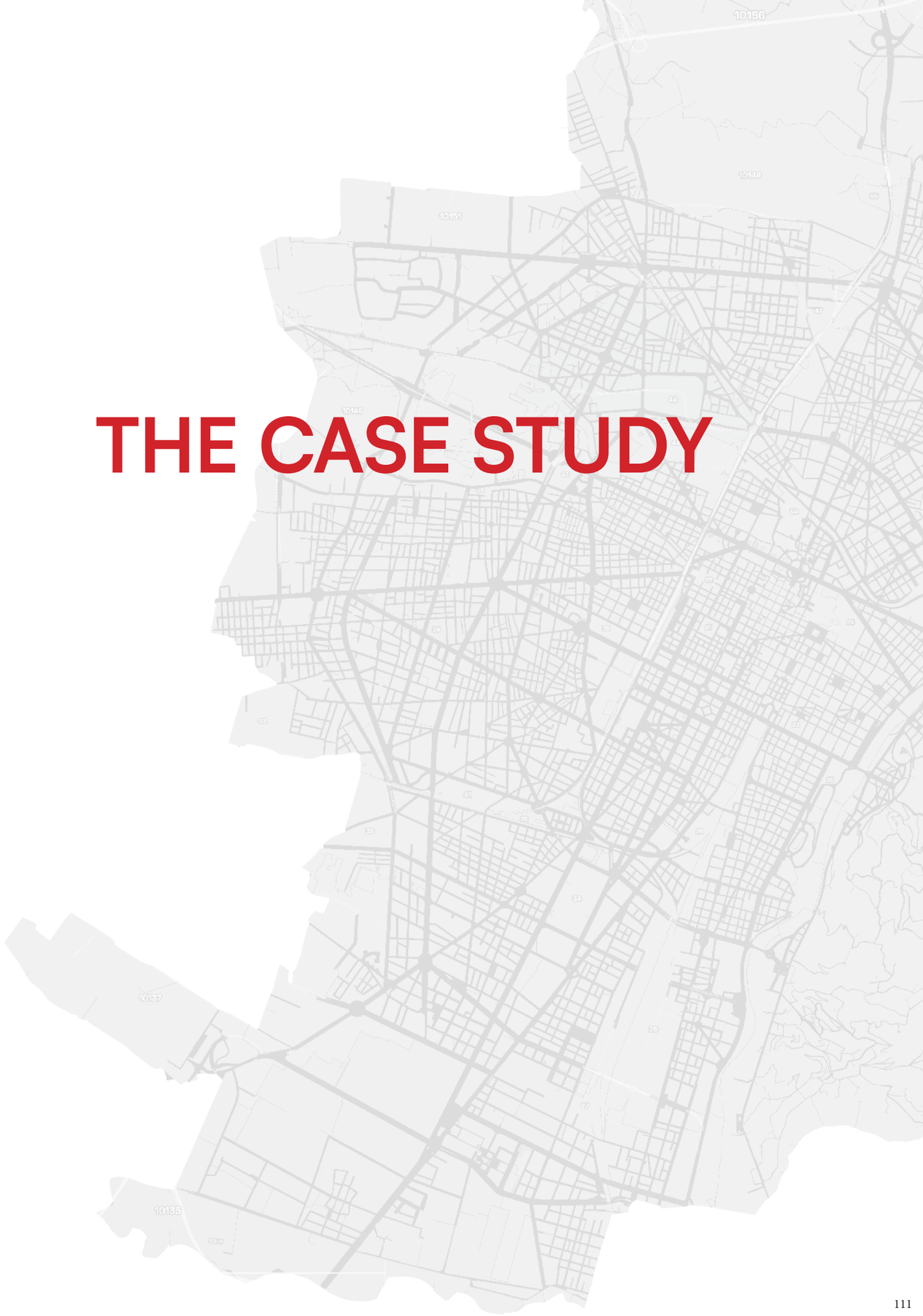
SEASONAL EFFECTS Experimental phases are typically limited to a few months, making it difficult to determine how the impact of street transformation varies throughout the year.[197] This is because public space usage differs significantly between summer and winter months, directly affecting pedestrian traffic. Determining how the ideal experimental phase reacts in different seasonal cycles allows for predicting how street transformation can be achieved.

Being aware of these challenges necessitates that the guide to be created be designed as a mechanism that can adapt to the changing dynamics of the city.

197 Grandel and Berger, "Pathways From Street Experiments."
198 Bertolini, "From 'Streets for Traffic' to 'Streets for People'."

04

THE CASE STUDY



PEDESTRIANIZATION PROJECT IN TURIN

Turin has one of the highest rates of car ownership in Europe. This dominance stems from Turin's industrial background, specifically the fact that the FIAT factory is located in Turin. This historical process has also influenced the city's development, shaping its mobility trends. According to the EMTA report based on 2023 data, in Turin, motorised vehicle usage is the most dominant mode with approximately 63%. On the other hand, walking also has a significant weight (28%). Despite the city's long industrial history, the reason for considerable walking rates is the uninterrupted nature of pedestrian walkways in certain areas (especially in the city center). Moreover, the usage of bicycles and public transport was measured at 3% and 6%, respectively.[199] Although the high population density in rural settlements of Turin leads to a relatively higher dependence on cars and consequently higher car usage, data shows that car ownership is 689 per 1000 inhabitants in the city, while in the metropolitan area, the rate is 705 per 1000 inhabitants.[200]

While pedestrian walkways have expanded in recent years, particularly in the city center and historical areas, they are still scattered and discontinuous on the outskirts of the city. There is only one traffic-limited zone, which constitutes 2% of the municipal area. Apart from that, a small area is active with a 30 km/h speed limit.

The Italian Ministry of Environment, in 2016, made a call titled "National experimental program for sustainable home-school and home-work mobility". The call aimed to reduce traffic congestion, air pollution, and car-centric urban planning by prioritizing pedestrianization and cycling. It is stated that projects meeting these criteria would be funded. However, the key factor was that projects could only be funded if their actual success rate and usage could be evaluated and their data measured. In response to this call, the Torino Mobility Laboratory (TML) was born with the application.[201]

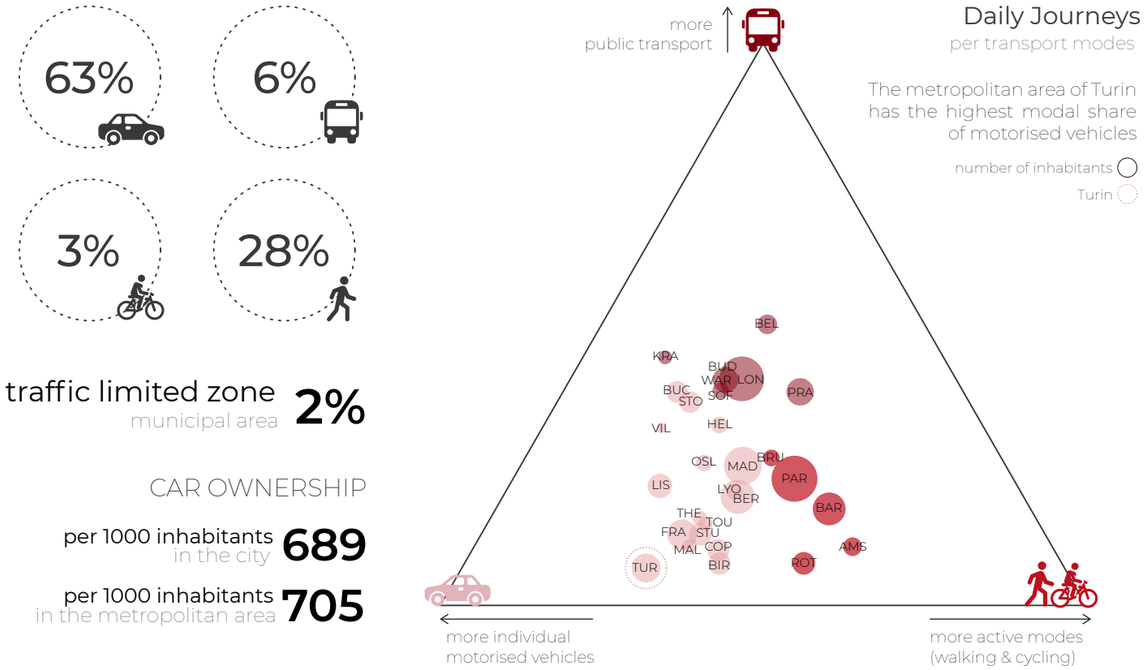


Fig. 4.1. An illustration provides information about transport modes in Turin and compares it with other cities around the world. Source: Graphic by the author; data from EMTA, "EMTA BAROMETER Opendata" (2023).

199 European Metropolitan Transport Authorities (EMTA), EMTA Barometer on Public Transport in Metropolitan Areas (2025), https://www.emta.com/publications/article-emta-barometer-of-public-transport/.

200 European Metropolitan Transport Authorities (EMTA), "EMTA BAROMETER Opendata," 2023, dataset, https://docs.google.com/spreadsheets/d/135f9rHv04psLBGGpNsrJiV9aCvlfgqdCXpSJX53d0uY/edit?gid=0#gid=0.

201 "Torino Mobility Lab," Municipality of Turin, last modified October 28, 2025, https://www.comune.torino.it/schede-informative/torino-mobility-lab.

TORINO MOBILITY LAB. The project was tasked with managing the communication, participation, and monitoring processes, focusing on the changing distribution of mobility, both before and after its implementation. Initially focused on pedestrianization but especially cycling, the project evolved, particularly during the COVID-19 pandemic, as individuals' needs changed; it prioritized promoting pedestrianization, relegating cycling to a secondary role.

SAN SALVARIO DISTRICT. The project was initially designed to be tested in all its aspects by focusing on a specific neighborhood in the city, with the goal of expanding it to the rest of the city if successful. Therefore, San Salvario district was chosen due to its proximity to the center, high population density, and mixed cultural structure. Furthermore, the regular grid layout of the district was adaptable to a superblock-like approach. Another important factor was the high number of local associations on this street (more than street numbers, according to the council rep.), and their commitment to sustainable mobility even before the TML project. Thus, the district's structure was highly suitable.

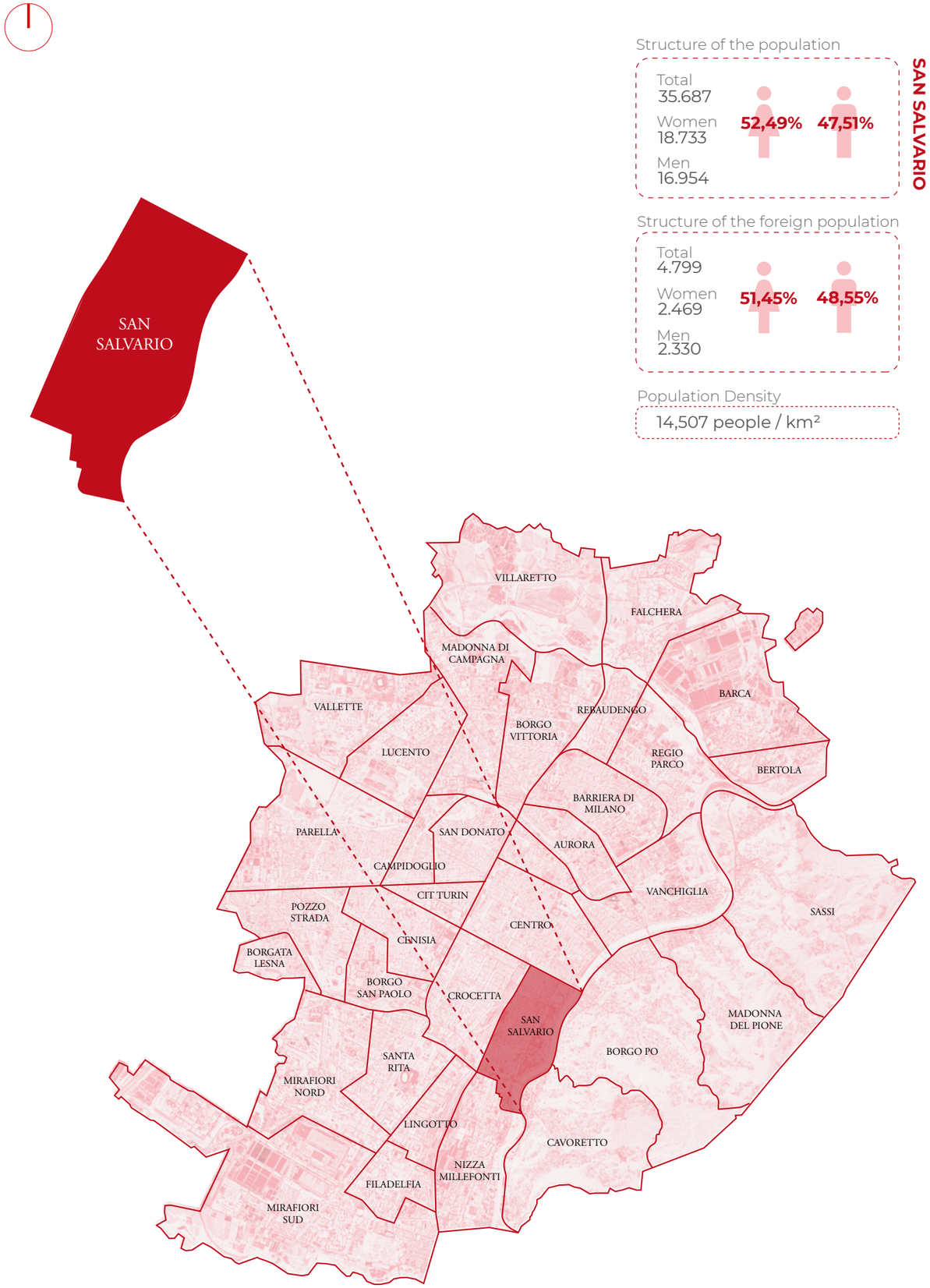


Fig. 4.2. A map of Turin indicates San Salvario district, with demographic information of San Salvario on top. Source: Graphic by the author; data from Municipality of Turin, "Statistiche demografiche" (2025).

TML initially proposed pedestrianizing 11 different areas. The designated streets were mostly planned around local school buildings or proposed new public spaces. Seven of these interventions extended to existing sidewalks, while four extended to the entire street. According to the project, this would free the streets from cars, allow for minor infrastructural changes to enable the street to exist as an experiential space within the city, and create areas where activities that could not be held indoors, such as in schools and associations, could be organized outdoors, especially during the COVID-19 pandemic. Subsequently, the targeted design process, based on these approaches, would be completed and transformed into permanent structures.

After a feasibility and impact matrix was implemented, the number of areas selected was reduced to four. When the project's implementation phase began at the end of 2019, the budget was given to a third party for a year, from December 3, 2019, to November 30, 2020, to manage the project's monitoring, communication, and participation tasks. This third party, called ATI (Associazione temporanea d'imprese), was a joint association of four local associations within the San Salvario district. However, the process took longer than expected, causing delays in many stages, resulting in a time gap between the start and implementation of the project.

The ATI began its work in the early months of 2020 by conducting surveys aimed at assessing the current modal split, the transportation needs of the neighborhood, and the impact of the pandemic on transportation. Later on, in October 2020, long before the experiments were finished, the ATI conducted separate surveys to measure the reactions of residents, shopkeepers, and parents of students at a school located on a street planned for pedestrianization, regarding the car-free approach. Overall, the district council and some of the residents were contrary to pedestrianization. They argued that the project would eliminate parking spaces and would not solve the problem in the already densely populated neighborhood. On the other hand, ATI, the municipality, local schools, and associations supported the multiple-use aspect of the street; bars and restaurants requested that seating areas be extended outdoors.[202]

Between August and December 2020, monitoring began on four streets. During this process, temporary, experimental, and low-cost improvements were implemented to see how pedestrianization might affect the reallocation of the streets. The aim was to collect data from users and the process of how the street is used. This was done by measuring the streets using the methodologies "people moving count" and "stationary activity mapping", discussed in the previous section.

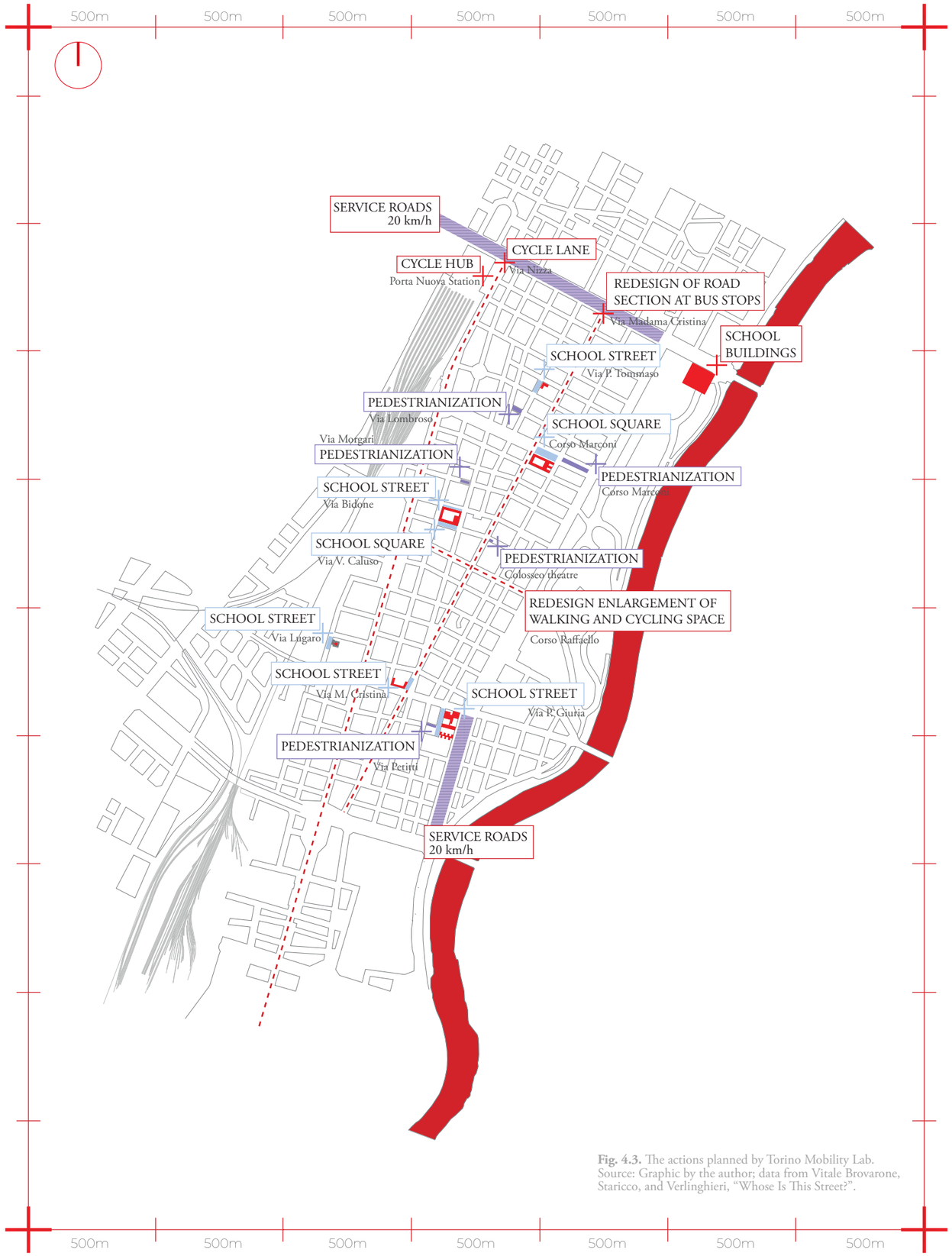


Fig. 4.3. The actions planned by Torino Mobility Lab. Source: Graphic by the author; data from Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?".

202 Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?"

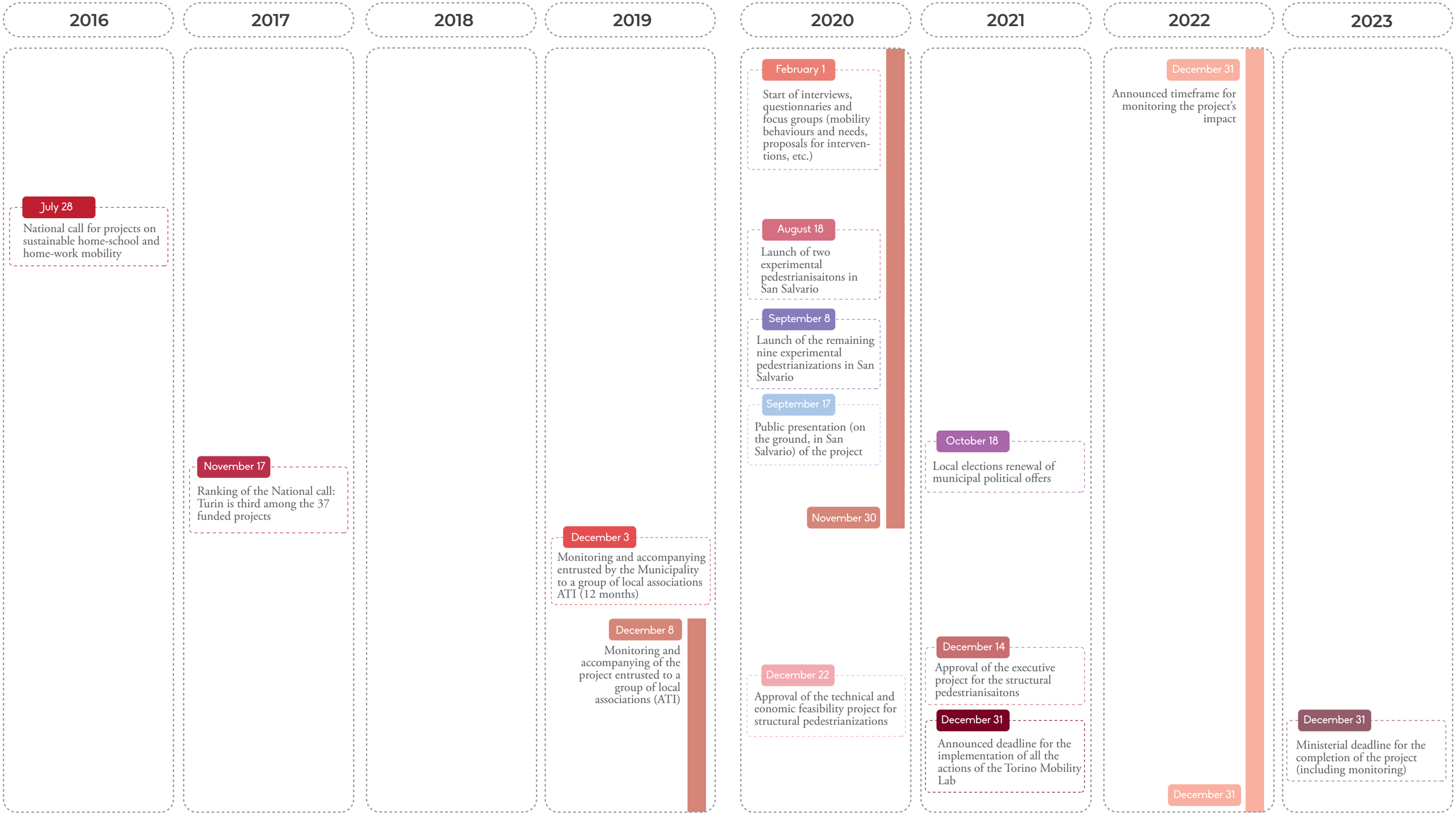


Table 4.1. Timeline of the Torino Mobility Lab project. Source: Table by the author; data from Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?".

In this process, plants were placed at the beginning and end of the street, and the street was closed to traffic. The streets were lack of any street furniture, green spaces, or other facilities that would extend the time people spent there. According to the information reported by ATI, closing and pedestrianizing a street was pointless if there is no characterization that allows people to experience public space in different ways. In this version, the streets are 'empty and disconnected' and do not give the impression of reclaimed, social, or livable spaces. This is why negative assessments regarding pedestrianization were more prevalent in a survey conducted among residents in October 2020: only 25% to 40% of people stated that pedestrianization improved the quality of life on the streets.[203] It should be noted at this point that no criteria were established for evaluating the validation of the experiments; there was no threshold value for satisfaction.

The monitoring began during the summer holidays, in August; the municipality justified this choice by stating that it needed time to address and allocate space for COVID-19 related procedures before the start of the school year. However, residents, local businesses, associations, and even the ATI found this timing misleading and a top-down approach.

"We found the street closure imposed on us from above, we were not even in Turin, in August, ... it was a really complicated situation to manage. We found ourselves in a run-up having to go and tell everyone what the Municipality had decided, because if we did not tell them between now and tomorrow, the day after tomorrow the Municipality would have started taping the construction sites."

ATI representative

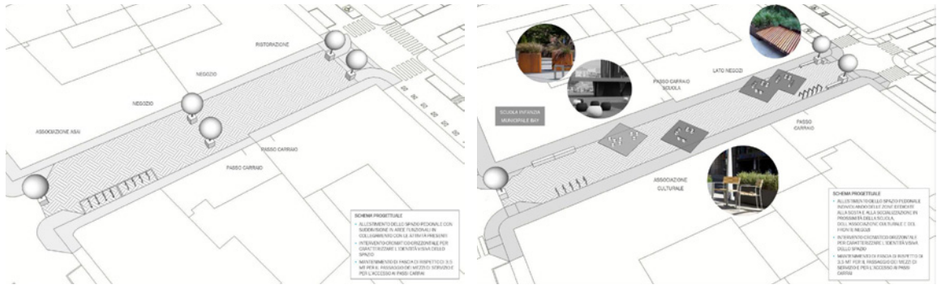


Fig. 4.4. Project scheme approved by the Municipality for the area. Left: Via Lombroso. Right: Via Principe Tommaso.
Source: Presentation of Torino Mobility Lab 'scuole car-free', Novembre 2020, 10-26.

"It happened in August, nothing was actually communicated to the neighbourhood, and so this famous bottom-up participation actually came down more from the top. Pedestrianisation was kind of seen as something that happened while everyone was on vacation and we ended up with pedestrianised streets."

Local Association representative

Although the ATI was responsible for conducting the monitoring process, they encountered problems beyond their control, as described above. These included the starting time of the monitoring process and the approval time of the street closures, which should have been shorter than it should have, all of which contributed to the perception of the process as a mere formality. Moreover, weak communication with the local community and the late involvement of the district administration in the project also led to dissatisfaction.

Furthermore, in November 2020, workshops were held to decide on the permanent phase with stakeholders: 15 different stakeholders participated in this workshop, including local associations, residents, and shopkeepers. At this time, it is decided to approve three pedestrianization experiments and cancel one experiment on Via Morgari. When comparing these four streets, Via Morgari indeed recorded the most negative results in the monitoring phase; however, as previously stated, the positive approach in the other streets did not exceed 40%.[204] Therefore, the motivation behind approving the pedestrianization of the other three streets while reopening only Via Morgari to traffic was not understood by local stakeholders. This decision was also expected to be made in December 2020, when the use of open public spaces is at its lowest, according to the normal schedule, but the decision was finalized a month before the experiment's scheduled end date. Again, there was no explanation for the reason behind this. Although decisions regarding pedestrianization processes were made in November 2020, the transition to the permanent design was completed three years later, in November 2023.

203 Luca Staricco, Ersilia Verlinghieri, and Elisabetta Vitale Brovarone, "Permanently Temporary: Street Experiments in the Torino Mobility Lab Project," *TeMA: Journal of Land Use, Mobility and Environment,* no. 3 (2024), https://doi.org/10.6093/1970-9870/10934.

204 Staricco, Verlinghieri, and Vitale Brovarone, "Permanently Temporary."

CONFLICTS IN THE PROJECT

The impact of the Covid-19 pandemic on the project, both in terms of the timeline and the effects of quarantine and social distancing on public life, undoubtedly complicated the process and had an impact.[205] However, from the beginning to the end of the project, the procedures and relationships within the project process were more influential in making the process incoherent and disorganized.

Firstly, the experimental phase, by its very nature, should be agile and proceed through trial-and-error.[206] However, the municipality's rigid bureaucratic structure, the lengthy permit processes, and the resulting minimal intervention in the streets weakened the project's spirit. The municipality's lack of sufficient operational capacity to manage the project was also a significant factor. While it had a system built on monitoring and timelines, it also lacked the structure to manage a system that could strengthen the project, but it was cumbersome.

"The city is not ready; it lacks a head to stand behind these processes. There is a total lack of cross-functional skills, and a clear commitment from the top (from the political leadership of the city administration)."
Municipal Officer

Moreover, the uncertainty and lack of transparency in the discussions and the structuring of the network of actors and their responsibilities came to the fore. Although uncertainty can sometimes be a strategic method used in planning, in the case of the TML project in Turin, this was not supported by a valid justification; rather, it emerged as a symptom of polyphony and a lack of vision.

There was a lot of confusion since there was no clear leader. Instead of appointing a project manager, the municipality assigned different people from different sectors throughout the process, but this did not result in a clear coordination process. Participatory and community activities, which should have been planned to activate the project areas, also suffered from this.

During this process, the ATI's non-third-party status drew criticism from residents and shopkeepers not affiliated with the ATI.[207] This was because the ATI, which played a leading role in the monitoring and controlling phase of the process, was also comprised of local associations already operating in San Salvario. Therefore, while being among the groups affected by the project, it also had the potential to influence the project's evaluation. This created a problem that could undermine the principle of impartiality and not acting in one's own self-interest. While facing these pressures, ATI has also suffered damage to its reputation within the district, leading to a breakdown of social trust among local actors.

Another significant problem was the project's lack of a vision. The project did not offer a long-term strategic agenda for transforming the city. The concept of sustainable mobility remained merely a slogan used to secure funding. Many expected analyses and simulations were either not conducted or were insufficient, paving the way for unforeseen problems. One of the main aims of an experimental phase is to identify and test this phenomenon in an area, and then, using this as a learning loop, to create a scaling-up that can be extended to the entire city. However, in the TML project, the integration of the data obtained from this process into other districts is the result of a policy-making process; this project did not have such a goal. This has reduced the intervention in San Salvario to a one-off, self-contained project instead of being a catalyst for a systemic urban transition.

Supposing that the project remains on a more local scale, not aiming to spread throughout the city, in this case, the issue of not including interventions that could improve the livability of these streets should be discussed. This situation can be seen as one of the biggest limitations facing the project. Because one of the important indicators of the success of a street's reallocation is people being there, spending time there, and using the street. However, these expected interventions have not occurred or have been very limited due to bureaucratic rigidity and procedural reasons.

205 Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?"
206 Honey-Rosés, "A Review of Field Experiments."
207 Verlinghieri, Vitale Brovarone, and Staricco, "The Conflictual Governance."

The experimental phase monitoring process, which involved residents, businesses, associations, and schools and aimed to finalize the design, gave rise to the idea that the project would be carried out through a collaborative design process. However, contrary to expectations, the final design was completed through a consensus reached among the most powerful institutional actors. Although the ATI had the potential to influence the process, it was very difficult. The ATI was the one that was in the field, collected data, and communicated with the public, but it did not have the authority to make changes. As a result, **the design was decided upon between the Municipality and the Superintendency of Archaeology, Fine Arts, and Landscape**.[208]

The fact that most of the streets in San Salvario are protected under the Cultural Heritage and Landscape Law (D.Lgs. 42/2004), and that Corso Marconi is also subject to restrictions by a regional decree (D.D.R. n. 587/2014), played a significant role in the transformation of the main actors in this way. Although the supervisory board was not involved at the beginning of the process, it expected a more uniform design in the final decision-making process, supporting symmetry and harmony with the environment through the use of basic colors. At the same time, it requested the preservation of the views affecting Corso Marconi, which connects the Valentino castle and the San Salvario church. On the other hand, the city council initially planned to diversify the designs, and as a result of consultations with schools and associations, planned a more color-dominated design with curved seating areas.[209] However, it turned out that there was **not enough budget** for this, and as a result, the areas of intervention remained limited. At this point, the extent to which the car-centric local culture is influential in the city becomes apparent. For example, **while the supervisory board sharply states that colorful pavements do not conform to the historical and cultural values of a street, it assumes that the presence of cars and traffic is compatible with these values**.[210]

The project is inherently **political**, and this became even more apparent in determining its fate. Firstly, the postponement of the local elections, originally planned for spring 2021, to the autumn resulted in a suspension of the project. Simultaneously, disagreements existed between the municipality and the district: the district council was dominated by the Democratic Party, while the municipality was governed by the Five Star Movement. Furthermore, the district's later inclusion in the project also caused friction between them and the ATI.[211]

"The district council felt bypassed (...) In an ideal situation, the ATI should not exist at all, and the monitoring programme should have been taken care of by the District."

District Council Representative

208 Staricco, Verlinghieri, and Vitale Brovarone, "Permanently Temporary."
209 Staricco, Verlinghieri, and Vitale Brovarone, "Permanently Temporary."
210 Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?," 8.
211 Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?," 7.

"Since the city stepped back, having seen the wave (of protests) coming, it eventually passed the message (admittedly not sure how) that this project was a project wanted by the ATI, and so the District Council was doubly enraged. The District did not treat us very well."

ATI Representative

When asked, 'If you were to re-run the project, what changes would you implement?' none of the actors interviewed responded by mentioning aspects of a fundamental character of the project, while various procedural aspects were reported, in some cases linked to relational ones.[212]

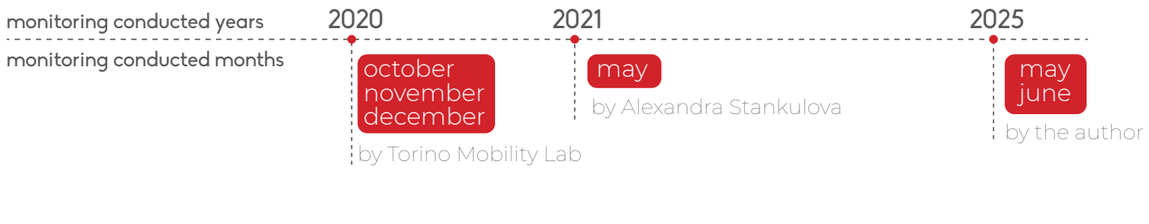
Problems that may seem less obvious or overlooked at first glance can emerge at different stages of a project and play a significant role in its progress. Here, there is a clear need for a multi-dimensional, grounded process that does not just look at the technical aspects but also considers the requirements of each phase of the project. However, attributing these problems solely to one institution would be a major mistake; the importance of non-case-specific problems should not be ignored.

The project also shows that process plays a more decisive role than outcome or design. The monitoring framework is a tool for managing this process during the experimental phase. Mastering the process requires mastering the relationships and conflicts it contains. As long as this framework is in place and managed correctly, things can be examined and re-evaluated from all perspectives, and transformed if necessary.

In addition to successful experiments, experiments that are questionable in many aspects can also contribute to many debates. At this stage, it is crucial to identify and recognize any errors that occur throughout the process. This is one of the main reasons why the TML project is the main case study in this research.

212 Vitale Brovarone, Staricco, and Verlinghieri, "Whose Is This Street?," 8.

LONG-TERM EVALUATION
of PEDESTRIANIZED STREETS



The presence of an “experimental” phase in street transformations is a recent approach that has increased following the COVID-19 pandemic. Examining experimental phases reveals that most projects focus on monitoring and initial setup phases, or on short-term impacts right after following the intervention. However, there are many aspects that cannot be measured by short-term assessments. Because as time passes, the actual users of the space emerge, the curiosity and temporary illusion aroused by the “new” transform into the final product of conflicts experienced throughout the process, and the effects of irreversible, permanent transformation begin to appear.

Therefore, long-term evaluation is needed to see the effects extend over years. In this context, a comparison is made between the initial monitoring carried out by the TML project for three months in 2020, the monitoring carried out by Stankulova[213] in 2021, and the monitoring carried out by the author in 2025 with updated data within the scope of this research to see the current situation. These comparisons aim to reveal data on long-term assessments of street transformations and to show how the promises initially presented by the project have evolved, diminished, or changed over a 5-year period.

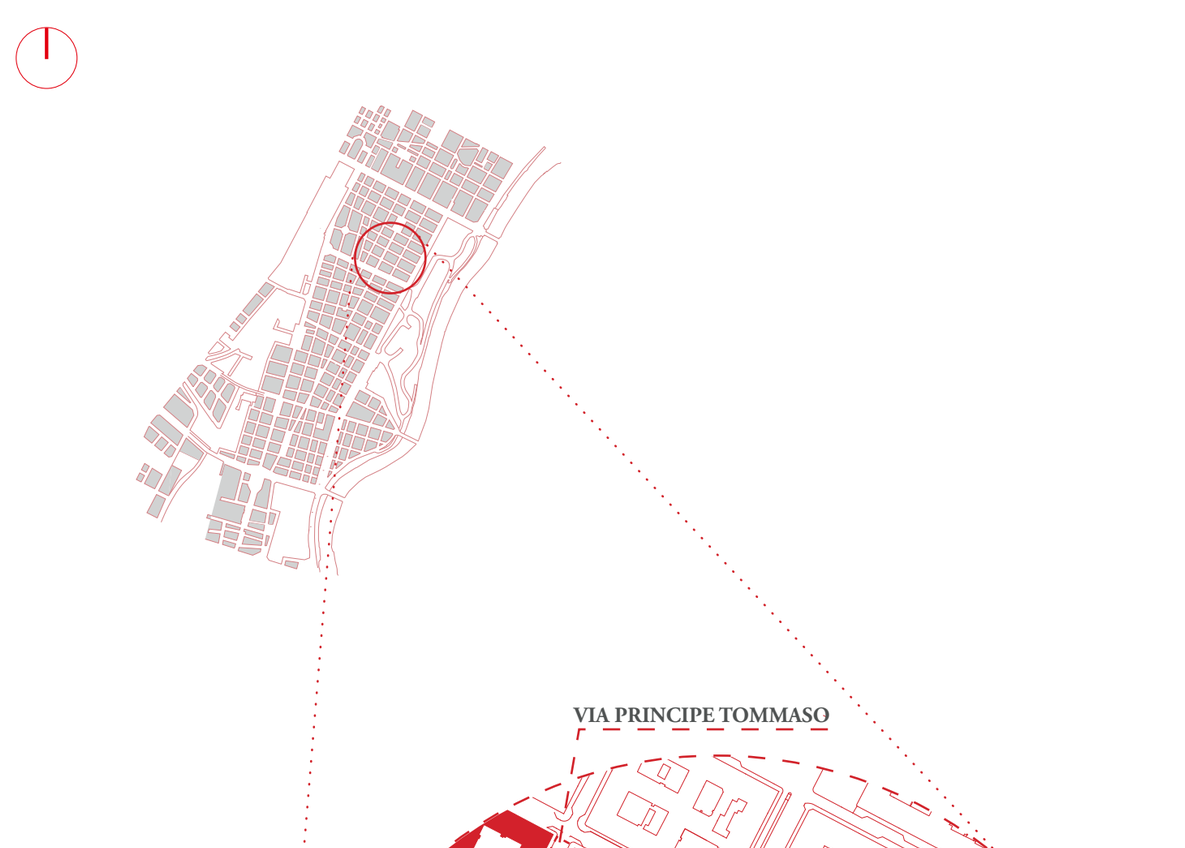


Fig. 4.5. A map shows pedestrianized streets in San Salvario. Source: Author.

213 Alexandra Stankulova was a Master’s Degree candidate at Politecnico di Torino who conducted the monitoring process on the same streets in 2021. For her complete monitoring data, see Alexandra Stankulova, “Pedestrianisation processes and public life: The case of Torino Mobility Lab” (Master’s thesis, Politecnico di Torino, 2021), 138-161.





Fig. 4.6. Pedestrianized area on via Principe Tommaso. Top: Seen from via Baretti towards Silvio Pellico. Bottom: Seen from via Silvio Pellico towards via Baretti.

VIA PRINCIPE TOMMASO

The street is located between Via Baretti and Via Silvio Pellico in San Salvario. It not only accommodates residential use but also contains other uses, such as restaurants, associations, offices, and other local shops. For instance, there is an association called Circolo Arci Sud, located in the middle of the street, which increases the street's vibrancy on the weekends, especially at night. Additionally, a kindergarten called Kindergarten Bay is situated on the corner of the street, raising concerns about creating a safer environment for it and its users. These diverse uses in the area demonstrate how different groups pass through or spend time here at different times.

According to past monitoring sessions, it is important to highlight that, while some parts of the street remain the same, there have been visible changes over the years. An example is the shift in user profiles away from younger crowds since the restriction of movida. Increased regulation on nightlife has made the area less desirable to young people. However, unlike previous monitoring, Circolo Arci Sud is operational and open every night. According to the monitoring conducted in 2021, it was likely inactive at that time due to COVID-19 restrictions.

In the street, there is no dehor belonging to the commercial areas; however, most of the people who come to Circolo Arci Sud prefer to stay outside. So they sit in the niches of the nearby building, on the ground, and on benches. The street had small changes in the last few years. For instance, the bench, which was normally one, has been increased to four (simply placed on one side of the street) and two bicycle parking areas, which were not previously present, were added to the street.



VIA PRINCIPE TOMMASO

MOVING PEOPLE COUNT

519 people

5,77 people/per minute



The pedestrian flow had the most crossings, with 443 people (85%), while cyclists were significantly lower with 55 crossings (11%). Another mode of transport to consider is scooters; although their crossing rate is low, at 21 crossings (4%), they are almost half the number of cyclists.

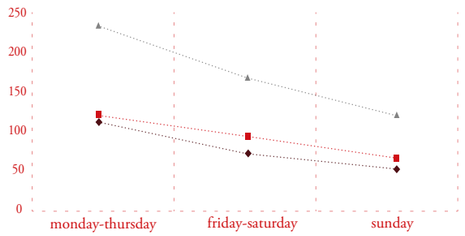


Fig. 4.7. General trend of people flow on via Principe Tommaso, according to days of the week.

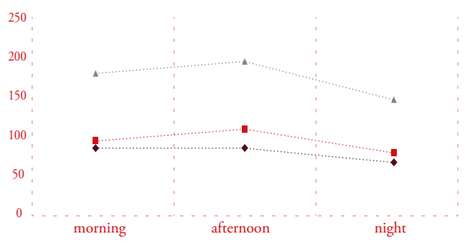
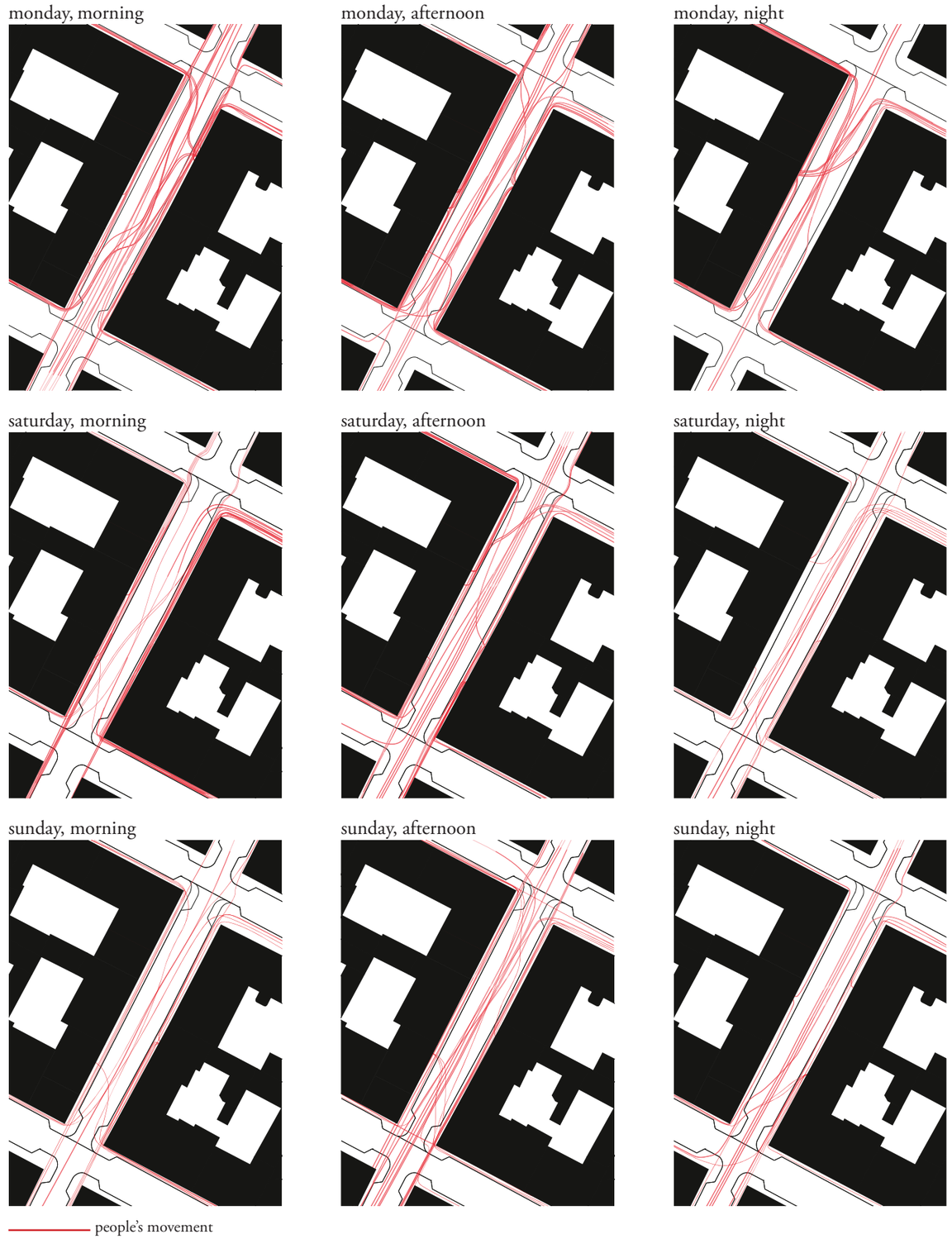


Fig. 4.8. General trend of people flow on via Principe Tommaso, according to times of the day.

Although the area has been completely pedestrianized, user behavior still reflects the perception of the old road-pavement distinction. Instead of using the center, people continue to walk on the "pavements" even though they will change their direction. In case of changing direction, they tend to cross from the middle of the street directly to the other pavement. However, if there are cyclists and scooters passing by (which is not interesting, since they use the car road before entering the area) or if there is a large group, they cross the middle of the street. This portrays that the old road perception continues in the mental map. The reason for the preservation of the same perception despite the transformations is that the sidewalks differ from the street itself, with overlooked design problems such as material and height differences.

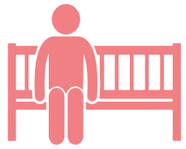
It is worth noting that the highest flow among all monitoring sessions is on a weekday, Monday (233). The presence of Kindergarten Bay dominates the intensity of this flow since parents take their kids to school in the morning (coinciding with the highest flow time) and pick them up from school. In addition, the flow times overlap with the work start and end times. Another essential thing is that the transportation stops are quite close to the street. Considering all these aspects, it is understandable to see a high percentage of flow on Monday. Meanwhile, when looking at the other days, it is seen that Sunday (120) is the lowest flow day, which is almost half of the Monday flow.

When looking at the flow hours, the afternoon comes first (194), however when comparing the distinction between day flows, it is seen that there is no such big gap between the other times (morning and night). While Monday is the day when the morning flow is the most intense, this flow has decreased significantly in the other morning sessions. When looked at in general, the night flow is at its lowest level, which can be seen as a reflection of the decrease in nightlife.



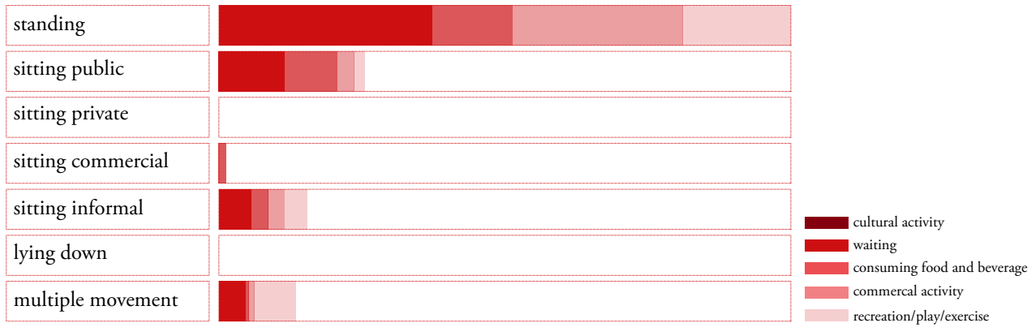
VIA PRINCIPE TOMMASO

STATIONARY ACTIVITIES COUNT



322 activities

35,78 activity/hour



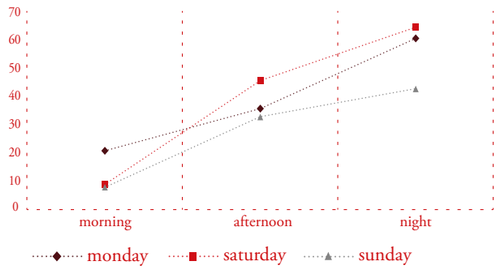
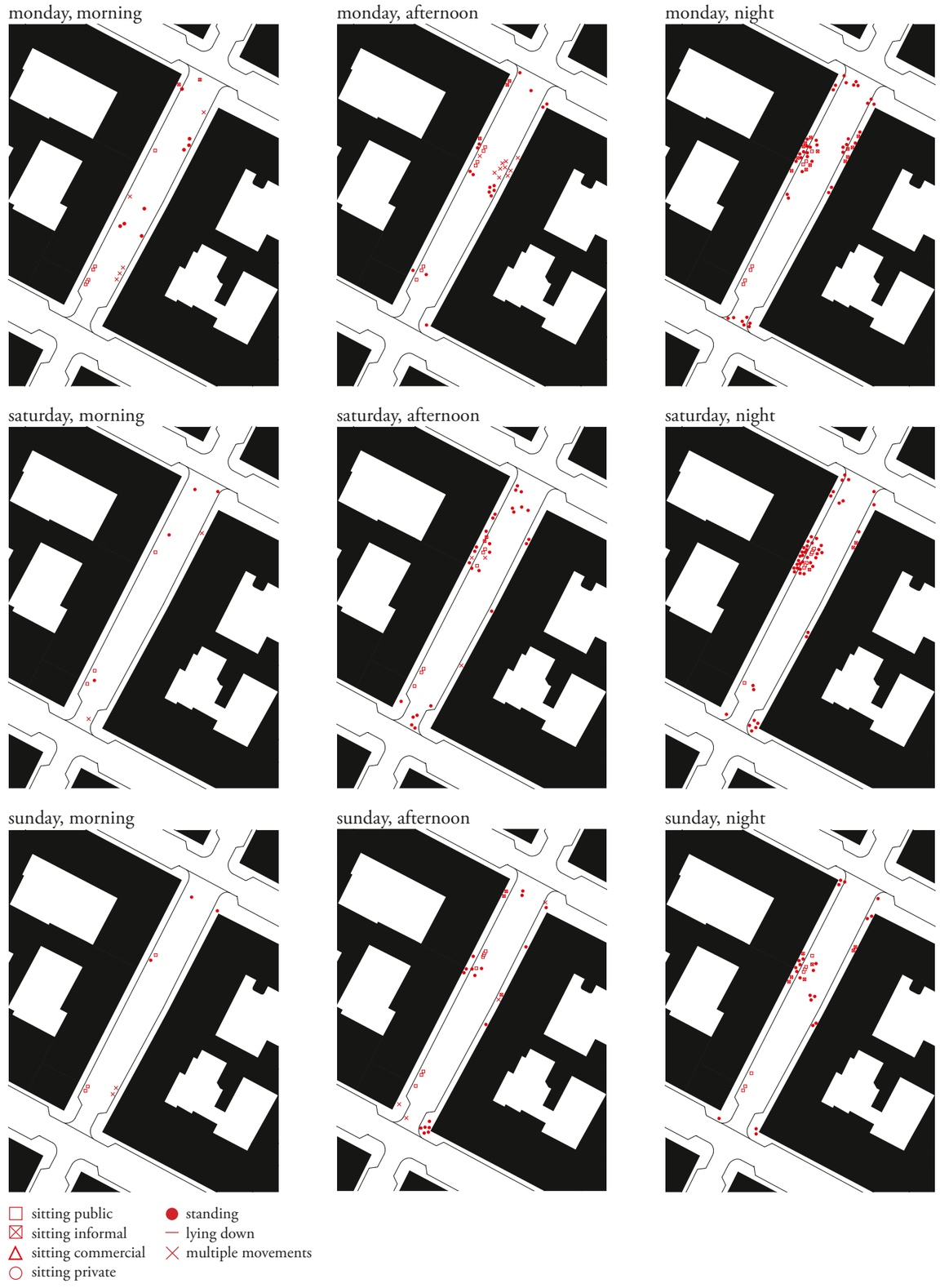


Fig. 4.9. General trend of stationary activities on via Principe Tommaso, according to times of the day.

The street includes most activity on Saturday, with a slight difference between Monday (120 and 118, respectively). Here, again, the importance of kindergarten and association is seen. Children spend time here playing with each other before and after school, and at the same time, it creates another activity type between parents (having a conversation) on weekdays. On the other hand, Saturday is the peak time to go out, and Circolo Arci Sud is one of them. That is why nights are also seen as the highest used time (169). In this case, mornings become the lowest activity time, which does not offer more possibilities than kindergarten. However, there is one place to store bicycles, and if there is a booked tourist tour by bicycle, people come here and take the bicycles with the guide. Even though it contains such a small portion of people, it is a crucial activity type for the street itself since it serves as a meeting point at that time.

There are features such as commercial places, two bicycle parking areas, and four benches on one side to interact with stationary activities on the street, but also naturally embedded street characteristics, such as bollards, walls, niches, and edges of the buildings, have become user preference points. Since commercial places are not constantly active during the week and there are limited elements where people can socialize, most of the activities are short-term. An exceptional example of this is the Circolo Arci Sud, which does not have any outer area and therefore mostly uses the bench and its surroundings right in front of it. However, when looked at in general, user preferences demonstrate that the potential of the area is ignored and cannot give vibrant public life due to neglected design decisions.

In general, attention should be drawn to the place they spend time, which is mostly on one part of the street. The height difference in the middle of the street can be a reason why people tend to stay on one side, but also one of the street entrances to the street is closed with a plant, while the other one has a removable barrier, so not all the time that part of the street is closed. Thus, people may perceive safety more on one part. Another reason can be the lack of lighting in one part. While the lighting remains constant from other streets till the area, it is interrupted in that part of the street, however continues on the other street.



VIA PRINCIPE TOMMASO

URBAN DIARY

DATE 26/05/2025
DAY Monday
TIME 08:20
WEATHER chill, clear

People Moving 132
Activity 21

1. The sidewalk in front of the school is used more due to the school's opening time.
2. Around 08:30, most of the users are children and parents, and a considerable percentage come by bicycle. The other high percentage belongs to the people who walk their dogs.
3. At 08:30, none of the benches were used, even though it was the peak time. However, while leaving the area, around 09:30, all of them filled up.
4. Even though the street is pedestrianized, cars and motor vehicles still enter. The motor passed around 08:30, and a car parked for a while.
5. Around 09:00, the street became quieter, but the area was never left empty.
6. An elderly man saw rubbish (an empty plastic cup) inside the plant vase, took it, and threw it in the trash can. He checked other places again.
7. Two tourists came to rent a bike with a tour guide. The store did not have a place to sit inside, so the guide offered them to sit on the benches while she was checking the bikes.
8. One man is sitting on a bench and staying there for a long time, making noise and staring at people.

DATE 26/05/2025
DAY Monday
TIME 18:00
WEATHER mild, fresh

People Moving 68
Activity 36

1. There is a group of children and parents who have been playing here for a long time. They left the bag in front of the school. At 18:10, there is no one else around, except them.
2. A little boy on a bike was about to cross the other street when a car came out, and his father held him.
3. A car is parked in the area. The driver is sitting on the bench with his friend.
4. There are many Glovo employees who come to deliver food nearby, and they usually rest in the area for a while.
5. A motorbike passed, meanwhile there was a boy on a bike, and he went to the side while the motorbike passed.

DATE 26/05/2025
DAY Monday
TIME 22:00
WEATHER chill, light wind

People Moving 33
Activity 61

1. People tend to walk more slowly compared to other times.
2. Women usually walk in pairs or groups, but not alone.
3. Lack of lighting on one part increases perceived insecurity.

DATE 07/06/2025
DAY Saturday
TIME 08:15
WEATHER mild, slightly cloudy

People Moving 29
Activity 9

1. Around 08:30, the hairdresser opened. At 09:15, two more shops opened.
2. Around 08:35, the garbage truck arrived at the area. Then, the cleaner moved the barrier from the street entrance to the side and left without replacing it.
3. 08:30 is the peak flow. However, after 08:45, the area became empty; there is no active use.
4. A family was passing by the street, when the child approached the end of the street, they called him and told him to slow down.
5. There are chalk drawings, most probably the children drew yesterday before school closed. Also, there is a border drawn with chalk (a certain area in front of the school); there was no drawing after that.

DATE 07/06/2025
DAY Saturday
TIME 18:00
WEATHER nice, calm

People Moving 77
Activity 46

1. Unlike in the morning, the barrier is in its place.
2. Mostly couples or large groups crossed.
3. There were two shops still open.
4. A disabled man in a wheelchair tried to cross the road but turned back due to physical accessibility issues.

DATE 07/06/2025
DAY Saturday
TIME 22:00
WEATHER slightly chilly, clear

People Moving 60
Activity 65

1. The people on bikes are mostly Glovo workers.
2. An old man sitting on the niche of the kindergarten and singing.
3. Opera music is coming from a house.
4. The street is getting more active with Circolo. One couple with a baby in a stroller also spend time there for a long time.
5. One person (probably a tourist) with a professional camera took a photo of one of the building's doors.
6. The chalk drawings (left from the kindergarten the day before) are increasing, seems like the people from Circolo added more.

VIA PRINCIPE TOMMASO

URBAN DIARY

DATE 08/06/2025
DAY Sunday
TIME 08:15
WEATHER sunny, fresh

People Moving 18
Activity 8

1. The street is quiet. People are usually walking their dogs, and neighbors are taking out the trash.
2. A woman sitting on a bench greeted me as she left the street, although we did not interact with each other before.
3. There is a man who was noticed because of his disabled dog; the same person also spends time walking his dog in Corso Marconi.
4. Tourists came for a bike tour and were waiting on the bench. After a while, the guide arrived. Some of them were sitting while others were taking a test drive on the street and had a little chat among themselves. They also took a photo of one of the doors.

DATE 08/06/2025
DAY Sunday
TIME 18:00
WEATHER mild, slightly cloudy

People Moving 49
Activity 33

1. Some people allow pets to roam freely.
2. A neighbor parked his car in front of the barrier for a while.
3. A grandmother and a baby are sitting on a bench, the grandmother started to complain about the neighbor's parked car.
4. A motorbike is parked in the parking lot.
5. A man picked up trash from the street and threw it in the trash can.
6. Activities such as rollerblading, walking the cat, and casual conversations between neighbors are observed.
7. Many people passing by on the street greet each other.

DATE 08/06/2025
DAY Sunday
TIME 22:00
WEATHER mild, light freeze

People Moving 53
Activity 43

1. The presence of a drunk man and dog caused a disturbance; one woman left because of his presence.
2. The street is dominated by the Circolo and is otherwise very quiet.
3. A motorbike that was parked left the street.



Fig. 4.10. A person is checking the clothes in the shop window, Saturday 7th June 06.30 p.m.



Fig. 4.11. Informal sittings, preferably in the shade, Monday 26th May 9.30 a.m.



Fig. 4.12. Tourists are waiting for their bike tour guide, Monday 26th May 9 a.m.



Fig. 4.13. A barrier at the beginning of the street and a cyclist, Sunday 8th June 06.30 p.m.



Fig. 4.14. They are about to begin their bike tour, Monday 26th May 9 a.m.



Fig. 4.15. A car is parked in the area, Monday 26th May 9.30 a.m.

VIA PRINCIPE TOMMASO

LOOKING FOR TRACES



Fig. 4.16. After school, children are playing with their families and drawing on the ground with chalk, Monday 26th May 6 p.m.

In addition to the flow and activity, traces left by the user in the space, ongoing collective actions, and lack of urban intervention are also important points in tracing. As an example, one of the most remarkable public life traces in Via Principe Tommaso is the chalk drawings left on the pavement by children from kindergarten (see Fig 4.17). It was not an activity that happened during the same time, but was repeated each time differently, even after school. The area itself gives children a feeling of belonging, so they do not hesitate when adding some pieces to it. After a while of observation, during the weekend, it was echoed by different groups (most probably by Circolo) by adding more chalk drawings on the ground as a continuous activity. In this case, the small act of interaction, which is spontaneous and informal, got more layers and created collective identity by different user groups at different times.

Unfortunately, this form of collective participation is limited and cannot be traced in every part of the street. For instance, during the observations, it was seen that the other half of the street was mostly unused and remained an idle transition area. The reason behind of this distinction is clearly the existence of both the association and the kindergarten.

From the beginning of the observation till the end, there was a part of the pavement fenced off by a safety strip by the municipality (see Fig 4.18). However, this area was not repaired since the beginning of the observation period and probably remains like this for a long time, left to a "deferred" solution by being limited. In this case, the act of neglecting rather than fixing creates another type of mark that shows a sense of disregard for public safety and everyday life.



Fig. 4.17. Traces of drawings, Monday 26th May 7 p.m.



Fig. 4.18. A safety strip has been here since the start of the monitoring, Sunday 8th June 06.30 p.m.



Fig. 4.19. Traces of children spending time here after school, Monday 26th May 06.30 p.m.



Fig. 4.20. Relocation of the barrier at the beginning of the street, Monday 26th May 10.30 p.m.





Fig. 4.21. Pedestrianized area on corso Marconi. Top: Seen from middle of the area towards via Madama Cristina. Bottom: Seen from middle of the area towards corso Massimo D'Azeglio.

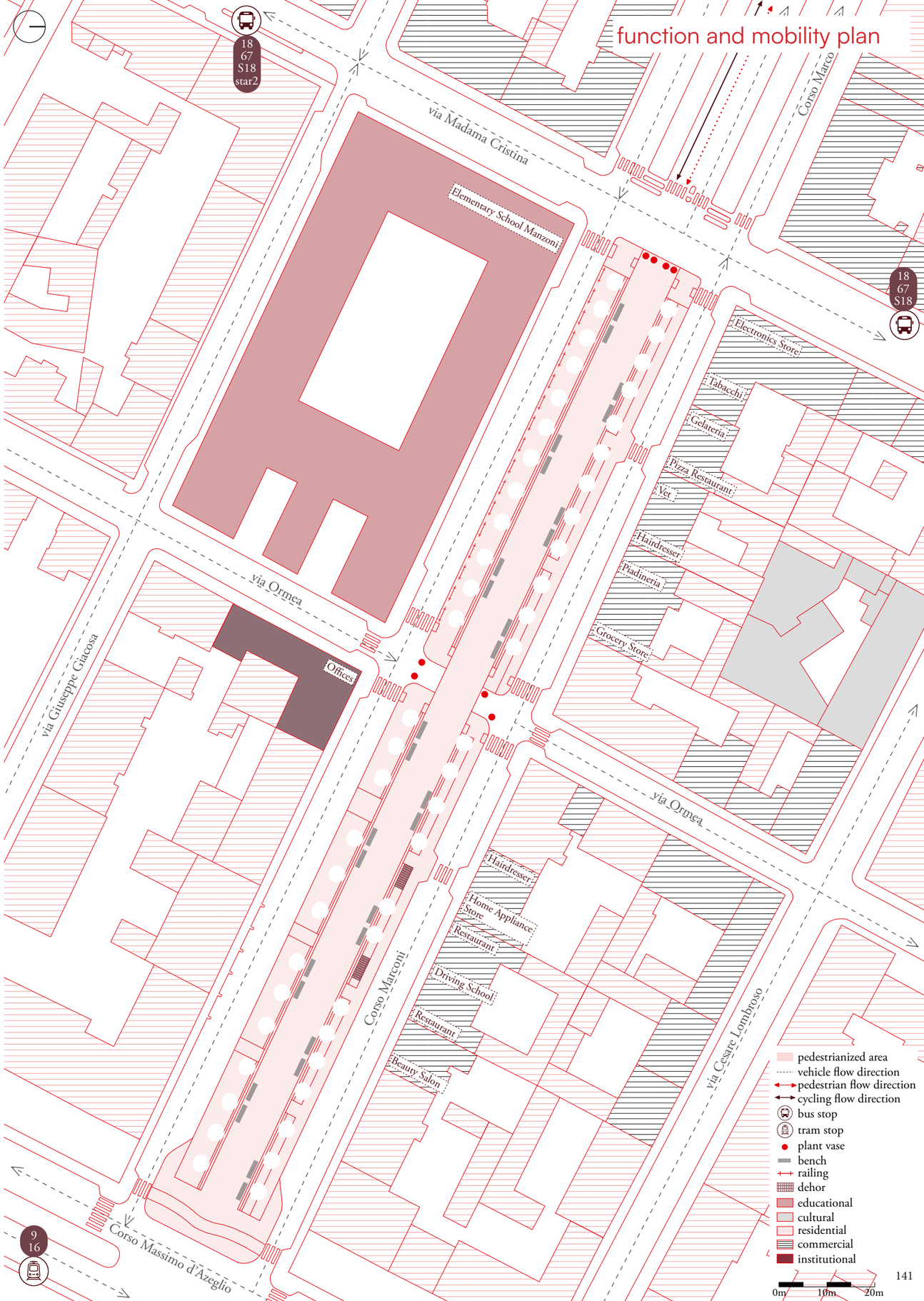
CORSO MARCONI

The street is located between via Madama Cristina and Corso Massimo d'Azeglio in San Salvario. Being a long boulevard lined with trees on both sides and connecting Valentino Castle and San Salvario Church, displays the importance of the area. The location of the area is very convenient to reach several transportation stops on both sides. As for the bike parking lots, they are located not in the pedestrianized area but in between the motor vehicle road and sidewalk in front of the blocks. In the area, mostly rental bikes remain. There are material differences in the pedestrianized area, which is paved in the middle and dirt path along the trees.

The surrounding area is home to numerous functions, including an ice cream shop, takeaway food stores, restaurants, markets, residences, a university, a park, and a school. So, both students going to school and university, and people going to work can be seen here at the same time. Moreover, there are many people who get things to eat or drink from the surrounding shops spend time here. This gives evidence of the area's very diverse user types. Here, again it is important to highlight that the restrictions and new regulations on nightlife in San Salvario decreased the young crowds in the area.

Unlike its current state, in September 2020, the street in front of the school between via Madama Cristina and via Ormea was also added to the pedestrianized area. However, after a while, in summer 2021, it was reopened to traffic.

From past observations in 2020/21 to the present, the pedestrianized area had small changes over the years. The first noticeable change is the benches used. The type of benches in the past was located not just along the street, but some of them created an L-shape. Moreover, the material of the benches was transformed from wooden to metal. As for the number of benches, over the years, it has remained quite the same. In the past years, the outdoor areas of the restaurants were not separated sharply from the rest of the area, however recently, it is restricted in the certain area on the side, not extended to the main boulevard Furthermore, with the growth of plants separating the two different paths, the transition from the dirt road to the paved pedestrian path has become limited and can only be done from certain points, not from everywhere as before.



CORSO MARCONI

MOVING PEOPLE COUNT

559 people

6,21 people/per minute



The highest number of crossings belonged to pedestrians with 470 people (84%), while cyclists accounted for 15%, with 81 crossings. On the other hand, scooter use was quite low compared to other modes, covering the remaining 1% with only 8 crossings.

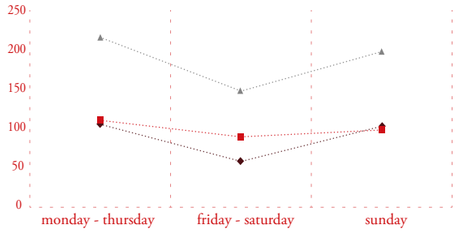


Fig. 4.22. General trend of people flow on corso Marconi, according to days of the week.

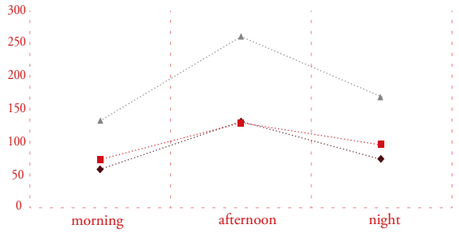


Fig. 4.23. General trend of people flow on corso Marconi, according to times of the day.

During the monitoring sessions, the highest number of crossings occurred on weekday with 215 crossings. The presence of the school is a crucial factor here, as the school's start (corresponding to the second highest crossing within the flow time) and end times coincide with two flow times on weekdays. Furthermore, the area is close to various transportation stops and serves as a connection point for parts of San Salvario; therefore, it is heavily used by people commuting to work, school, and the market. In addition, the upper floors of the surrounding blocks are mostly residential, and the residents' weekday daily routines (commuting, walking their dogs, taking out the trash, etc.) also affect these flows. Considering all these factors, it is understandable to see a high percentage of crossings on weekdays. On the other hand, looking at other days, Sunday showed a flow close to weekdays with 197 crossings, while Saturday had the lowest flow with 147 crossings.

Regarding traffic flow at different times of the day, the afternoon takes first place with 260 crossings, a significant difference compared to other sessions. Assuming that most people going to and from Valentino Park use this route, one reason for such a high number of crossings could be that people prefer to go to Valentino Park on weekends. A closer look reveals that the peak flow time in the monitoring is recorded on Sunday afternoons; this brings a single session quite close to the total of three morning sessions (109 and 131, respectively). It is because even though weekday mornings have a high number with 88 crossings, Saturday and Sunday mornings see significantly fewer crossings (29 and 14, respectively). On the other hand, the total number of crossings during the night sessions is 168, much less than the total afternoon flow.

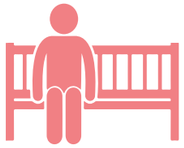
It should also be noted that, although the area is restricted to motor vehicles, a considerable number of motorcycles have been observed passing through this area along the via Ormea.

Looking at the gender distribution, the proportion of men is higher than that of women; 53% and 47%, respectively. Since this difference in proportions is not observed on the other two streets, the reason for this result should be investigated, probably taking safety perceptions into account.



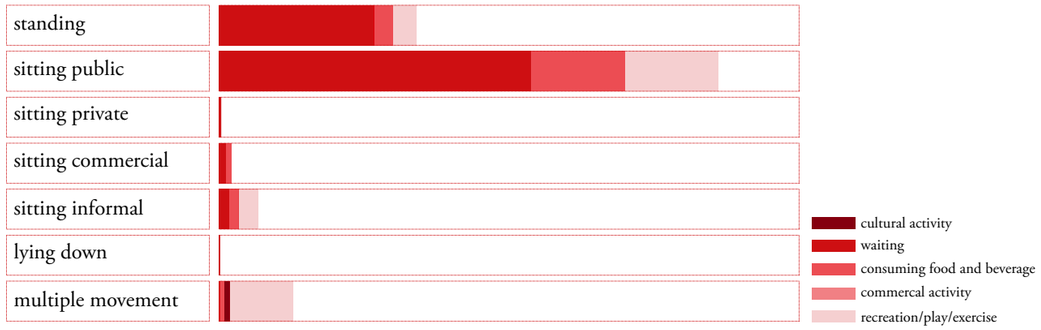
CORSO MARCONI

STATIONARY ACTIVITIES COUNT



1010 activities

112,22 activity/hour



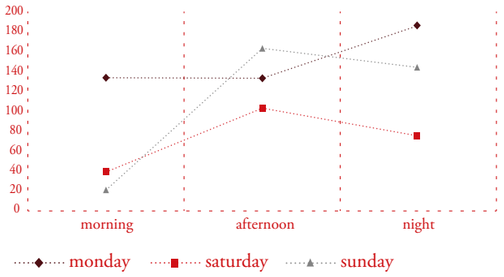


Fig. 4.24. General trend of stationary activities on corso Marconi, according to times of the day.

Observations made in Corso Marconi indicate that the highest number of activities was recorded on weekdays, with 452 activities. Morning and afternoon monitoring revealed that the presence of the school played a dominant role in the area, with significantly higher activity levels during these hours (133 activities recorded in each). In comparison, the weekday night session had the highest number of activities (186) among all sessions. A possible reason for the higher activity level on weekday nights is the high number of rainy days in previous weeks, which prevented people from going out. On the other hand, the number of activities on Saturday was significantly lower than on other monitoring days (217). While the Saturday afternoon session had a high number of activities with 103, the night session remained at 75. This could be attributed to regulations regarding nightlife in San Salvario in 2023.

Furthermore, data for Saturday and Sunday morning sessions were quite low (39 and 21, respectively). There is a slight difference between the Sunday afternoon and evening sessions (399 and 405, respectively). As for the morning sessions, with 193 activities, it is considerably lower than the other two monitoring sessions.

As mentioned above, on weekdays, children and their parents spend time here before and after school hours. This makes the area quite lively at certain times. The area has a bunch of benches lining both sides of the street, and they are usually full during peak hours. It's worth noting that people's bench preferences vary depending on the sun's position, with a general preference for shaded ones. Restaurants have outdoor seating in the area, contributing to the area's vibrancy. Additionally, people who come to buy ice cream from the shop nearby usually spend some time here. Regarding location preferences for activities, the section between Via Ormea and via Madama Cristina is significantly more preferred than other parts of the area. However, people walking their dogs tend to prefer along the lines with the trees. One more important thing that should be mentioned is its flexibility, stemming from its pedestrian-friendly structure, allows for the temporary creation of different functions when needed; for example, setting up stands to engage people with certain organizations.



CORSO MARCONI

URBAN DIARY

DATE 03/06/2025
DAY Tuesday
TIME 08:15-09:15
WEATHER chill, clear

People Moving 88
Activity 133

1. Busiest hours are between 08:20 and 08:30 due to school hours. The street was quite quiet before these hours.
2. Part of the road in front of the school is closed to traffic due to the school starting time, making the area in front of the school quite crowded.
3. There are parents and children arriving at school by bicycle.
4. Parents are waiting in the middle of the road since the road in front of the school is closed to traffic, but because there are so many people, this crowd extends into the pedestrian area.
5. People are also using the temporarily closed road as a passageway.
6. At 08:44, the barrier placed on the road is removed, and the road is reopened to traffic, causing the people who were chatting there to disperse. Three people remained, but they also moved towards the edge of the pedestrian area.
7. At 08:54, a commercial shop opened and the greengrocer opened at 09:05.
8. Two men came to take care of the plants in vases which is placed to limit perpendicular passage in the pedestrian area, and after finishing their work, they sat and rested on a bench.

DATE 03/06/2025
DAY Tuesday
TIME 18:00
WEATHER sunny, warm

People Moving 65
Activity 133

1. Around 18:00 was the busiest time. After school closed, children and their parents spent time here.
2. Many children were playing, mostly engaging in long-duration activities like football, running, skiing, card games, and drawing on the ground with chalk. Interestingly, while doing these activities, they used the long, thin, differently materialized ground in the middle as a reference, as if they were drawing a boundary for themselves.
4. A girl is climbing a tree.
5. The ice cream and margherita shop is very busy; people are buying food there and sitting on benches or walking along the path.
6. A motorbike passed through (actually restricted by plant vases) on the pedestrian walkway.
7. A child playing wanted to chat with me.
8. An elderly man passed by many times; I think it's exercise for him.
9. The children placed their school bags to create a "goal area." However, while playing football, they also affected people's passage, and mostly, people changed direction as they walked. Also, the ball was about to go out of the pedestrian area, and children were trying to catch it by running across the street, which was dangerous. Later, an elderly woman also joined the football match.
10. There is a high concentration of young people coming out of the university.
11. A group of girls was playing around people sitting on benches; a man there politely told them to play elsewhere because there were many empty spaces and they were disturbing people by playing nearby.

DATE 18/06/2025
DAY Wednesday
TIME 22:00-23:00
WEATHER nice

People Moving 62
Activity 186

1. The area is quite lively. The weather was very hot during the day, which is probably why people preferred to go out at night.
2. Two restaurants and an ice cream shop are open along the street; one of them closed around 22:30.
3. People buying ice cream prefer to sit on benches, even though the ice cream shop has seating areas.
4. Families with children tend to stay in the middle of the area, rather than on the edges or at the front, probably for safety reasons.
5. A group of people is listening to music together, a bit loudly.
6. Rental scooters and bicycles on the road are obstructing pedestrian moving. They are all in different places and not organized. Also, although the bike parking lot is empty, nobody parks there; they prefer to park in this area. This may be because there is a road between the bike parking lot and pedestrianized area.
7. Cyclists have difficulty passing through the area because there is no separation between cyclists and pedestrians.

DATE 31/05/2025
DAY Saturday
TIME 08:15-09:15
WEATHER mild, partly cloudy

People Moving 29
Activity 39

1. A quiet morning.
2. There were mostly people walking around with dogs and market bags.
3. Some people do not put leashes on their dogs here so they can roam freely.
4. People are greeting each other, mostly those walking their dogs, so I assume they are neighbors.
5. A barber shop opened at 8:20.
6. There is construction noise in the area, around 08:50.
7. A cafe opened at 9:00.
8. At 9:00, some people started setting up a tent at the beginning of the street. I think it's a stand for the organizers.
9. There's an old man sleeping on a bench with his guitar; he woke up around 9:15 after the organizers set up their stand next to him, moved to another bench, and continued sleeping.
10. Another shop opened around 9:10.
11. Two cars were parked at the beginning of the pedestrian zone. This restricts the passage of bicycles and scooters through the area.

DATE 21/06/2025
DAY Saturday
TIME 18:00-19:00
WEATHER nice, light wind

People Moving 86
Activity 103

1. The area is mostly filled with elderly people and families.
2. I saw people bringing their chairs to sit here.
3. Many cars passed by in a convoy on the road next to the pedestrian area, honking their horns.
4. The Valentino Park side is quieter than the other side.
5. There are brochures hanged in the trees.
6. After 18:40, the sun started shining more into the area.
7. The shops are open and busy.

CORSO MARCONI

URBAN DIARY

DATE 31/05/2025
DAY Saturday
TIME 22:00-23:00
WEATHER chill, clear

People Moving 32
Activity 75

1. A motorcycle parked on the road coming from Via Madama Cristina and it is restricting access to the area by bicycle and scooter.
2. At 22:55, a motorcycle passed through the middle of the area.
3. A car was parked at one of the entrances to the area.

DATE 01/06/2025
DAY Sunday
TIME 08:15 - 9:15
WEATHER light breeze, calm

People Moving 14
Activity 21

1. A quiet morning.
2. The benches and surrounding area were dirty; there were food scraps, packages, and cups scattered around. Perhaps that's why there were so many mosquitoes, making it uncomfortable to sit there.
3. I saw familiar faces walking their dogs; I assume they are neighbors and take their dogs out for walks at certain times.
4. An elderly man who saw me drinking coffee asked me for some, but did not insist. He then looked elsewhere for food and eventually sat down on one of the benches.
5. One of the rental bikes was lying overturned in the middle of the area. Many people turned to look as they passed by, and it caught their attention. Strangely, an elderly man even stared at it for a long time, and another young man was about to pick it up and straighten it, but then changed his mind.

DATE 01/06/2025
DAY Sunday
TIME 18:00-19:00
WEATHER sunny

People Moving 109
Activity 163

1. There's a heavy flow of people coming here from Valentino Park.
2. Many people are buying ice cream from the ice cream shop and sitting here.
3. Around 18:00, all the benches were full, but later I noticed that people preferred not to sit on the sunnier benches and left.

DATE 22/06/2025
DAY Sunday
TIME 22:00-23:00
WEATHER nice, light wind

People Moving 74
Activity 144

1. The area is very lively.
2. Many groups of young people are gathered here; some are having drinks, some are chatting, some are eating.
3. A car is parked on the edge of the area. A large group has gathered around the car and is chatting.



Fig. 4.25. A large crowd in front of the school before school starts, Tuesday 3th June 08.30 a.m.



Fig. 4.26. A car is parked at one of the entrances to the area, Saturday 31th May 10 p.m.



Fig. 4.27. Children are spending time here after school, Tuesday 3th June 6 p.m.



Fig. 4.28. Children are playing football, Tuesday 3th June 06.30 p.m.



Fig. 4.29. The children are playing games while sitting on the ground, Tuesday 3th June 06.30 p.m.



Fig. 4.30. Setting up a stand at the beginning of the street, for an organization, Saturday 31th May 09.30 a.m.

CORSO MARCONI

LOOKING FOR TRACES

Sometimes, the information about an area can be obtained without needing measurable data during the monitoring, since the traces allow us to understand which user types are most active in the area at different times of the day. Corso Marconi is one of them and offers a great opportunity to understand what is happening in the area, while also highlighting the lack of urban interventions the area needs.

For instance, to understand that there is a school nearby in the area, we can look at the trees. Some of the trees line the length of the area in front of the school, have signs hanging on them that display class numbers; probably hints that the area could be used for children to line up. It shows that, when it is needed, the area becomes a flexible space that can be integrated into the school. Moreover, these trees sometimes become a notice board to announce upcoming children's events (see Fig 4.32.) which are again hung near the school. A closer look at this area reveals another indication that a noticeable number of families living nearby prefer bicycles as their mode of transportation to and from school, with the abundance of children's bicycles (see Fig 4.33.) during school hours being a further sign.

All of these traces are very close to the school's location; on the other hand, it can be seen that students carry these traces throughout the entire pedestrianized area during pre-school and post-school hours. During these times, students, along with their parents, become one of the most active users of the area. One of the most visible pieces of evidence of this is the school bags (see Fig 4.31.) seen on the ground all along the pedestrian area.

Looking at other patterns showing how people interact with the area, it's possible to understand that young people spend time here on certain days, especially Saturday nights. These traces, noticed during Sunday morning monitoring, showed that, unlike other sessions, there was a lot of food and drinks around. These tracks were not confined to one area; they were scattered everywhere. On one side were food items, and on the other, half-finished drinks next to a trash can (see Fig 4.34. and Fig 4.35.). While the monitoring held on Sunday morning showed signs of the previous night's occasions, the coffee cup left on the table (see Fig 4.36.) was perhaps a sign that someone had started their morning routine here.

All of these traces mentioned above are a reflection of public life, an effort by people to incorporate the space into their own routines by taking advantage of its potential.



Fig. 4.31. Left bags in the middle of the area, Tuesday 3th June 6 p.m.



Fig. 4.32. A tree sometimes becomes a notice board to announce upcoming children's events, 31th May 09.30 a.m.



Fig. 4.33. Student's bicycles are seen here during school hours, Tuesday 3th June 08.30 a.m.



Fig. 4.34. After saturday night, possible to see drinks scattered everywhere, Sunday 1st June 9 a.m.



Fig. 4.35. After saturday night, possible to see drinks scattered everywhere, Sunday 1st June 9 a.m.



Fig. 4.36. The coffee left on the table can be a sign someone had started their morning routine here, 31th May 09.30 a.m.





Fig. 4.37. Pedestrianized area on via Lombroso. Top: Seen from middle of the area towards via Principe Tommaso. Bottom: Seen from via Sant'Anselmo towards via Principe Tommaso.

VIA LOMBROSO

Via Lombroso is a long street between Corso Massimo d'Azeglio and Via Sant'Anselmo, but the pedestrianized section is located between Via Sant'Anselmo and Via Principe Tommaso. The street is surrounded by residential blocks with different functions on the ground floor. One side of the street is mostly owned by parking garages and a private company (NanoTech Analysis), while the other side is occupied by an association called ASAI, a bistro (with a cycling club inside), and local shops such as hairdressers and greengrocers.

The street itself is not completely pedestrianized; one part continues to have limited car access, due to the garages of the residences in the area and the necessity to bring goods to the shops. Therefore, while there is no barrier on one side of the street, there are two plant vases in the middle of the street and at the other entrance. Although the street is located in a dynamic area, the street itself is quite calm. The ASAI dominates the area on weekday mornings with the presence of children. Here, it should be noted that the monitoring happened right after the school summer holiday started. As for the bistro, it is open every day except Sundays and has an outdoor area located on this street, which creates a lively area.

According to past monitoring sessions, there have been noticeable transformations that need to be mentioned. For instance, at the beginning of pedestrianization, there was one bicycle parking on the street but no benches. Since then, the bicycle parking area has doubled, and four benches have been added. However, during monitoring, it was seen that bicycle space is still not sufficient, so people park their bicycles on the railings. It is also worth noting that the benches are not effectively positioned and thus their use is limited. Consequently, it is debatable whether this increase in benches enhances public life.



VIA LOMBROSO

MOVING PEOPLE COUNT

118 people

1,31 people/per minute



The pedestrian flow is the highest with 104 people (88%), while cyclists are significantly fewer with 12 crossings (10%). Another vehicle to consider is the scooter, which is the lowest with only 2 crossings (2%).

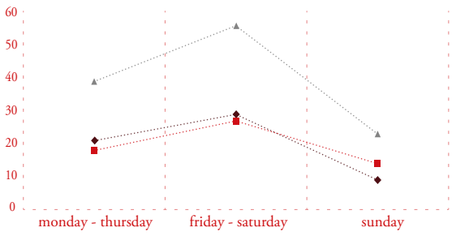


Fig. 4.38. General trend of people flow on via Lombroso, according to days of the week.

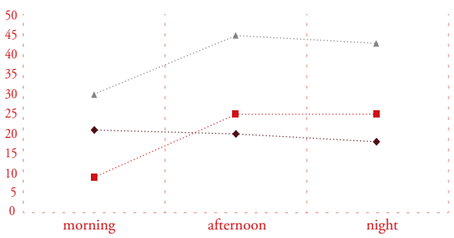


Fig. 4.39. General trend of people flow on via Lombroso, according to times of the day.

women men total

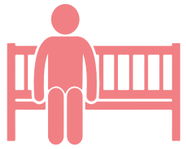
The indicator shows us that the highest flow is on Saturday with 56 crossings. This is because people are more social during the weekend, and the bistro is a place that welcomes this sociality and keeps it lively (it is open from midday to midnight). Apart from this, people's short visits to local shops also affect the flow. On Sunday, since none of the shops are open, there is no possibility of such a high flow here, and therefore Sunday has the lowest flow with half the flow of Saturday. On the other hand, the flows at different times of the day are quite similar, with no significant differences between them. For example, the afternoon flow is the highest but barely different from the night (45 and 43, respectively), and the morning flow follows them with 30 passing. Also, when looking at the general flow, it is seen that the flow is much lower here, unlike via Principe Tommaso and Corso Marconi.

The space is not read as a single whole, and there are many obstacles to its fluidity. For example, the plants positioned in the middle are very large, and there is no distance between them (see Fig 4.45.). There are also railings on the sides, so people tend to walk mostly on the edges rather than in the center. The exceptions here are cyclists and scooters because they usually do not follow the pavement. However, sometimes it becomes difficult even for them to cross the middle of the street due to parked cars (see Fig 4.45.).

The safety of the area can be measured by the presence of the ASAI and especially the bistro; since the whole street ends here, it is not a place where people have to cross to get somewhere, so without them, the area does not reach many people and remains quite quiet. Despite being a relatively low-frequented street due to its location, monitoring results show that the total number of women in this area is equal to the number of men, which is something interestingly not seen in other streets. This indicates that the street can be considered safe.

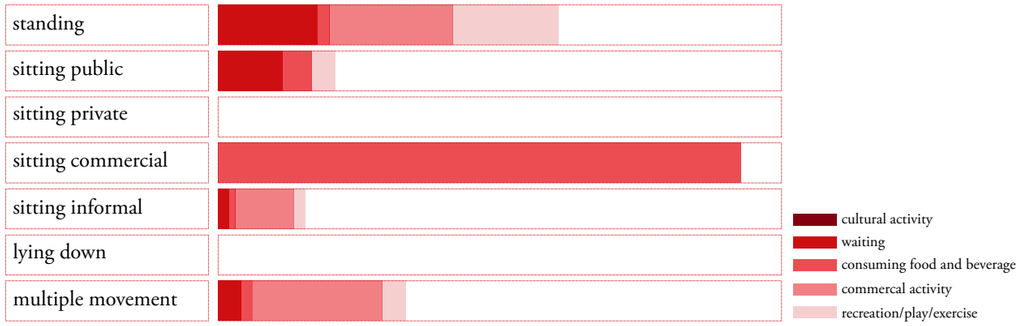


STATIONARY ACTIVITIES COUNT



214 activities

23,78 activity/hour



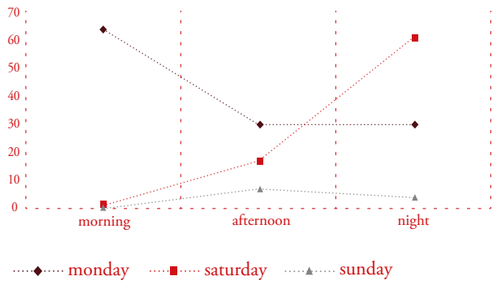


Fig. 4.40. General trend of stationary activities on via Lombroso, according to times of the day.

Although there is a slight difference between Saturday night and Tuesday morning, the highest observed activity time is Tuesday morning (61 and 64, respectively). However, overall, total activities at night are recorded as the highest, with 95 activities. On the other hand, afternoons become the lowest activity time with 54. The most interesting thing here is the calmness of Saturday and Sunday mornings. On Saturday, only one person spending time here was observed, while on Sunday, no one was recorded. This is an indication of how little use this street has in the mornings, apart from the ASAI association. As for the bistro, it has a significant impact on the other hours of the day for short/long-term activities. Furthermore, the monitoring carried out on Sunday shows that the activities are reduced accordingly since both commercial places are closed (11).

On the other hand, on Tuesday, the activities are almost ten times higher than the Sunday activities, and on Saturday, almost seven times higher, which again creates a big difference between the days. This difference is the answer to how vital these two places are for the street.

During the weekdays, before the ASAI courses start, the children spend time outside and play various games. Then, they gather there to sing and dance their songs (see Fig 4.46.). This is a kind of ritual that they repeat every day before lessons. During this time, they are not allowed to cross to the other side of the street, since it is not completely pedestrianized. Nevertheless, during the observation, some children were seen to cross to the other side several times and played football (see Fig 4.41.). Another striking thing is that the association takes the table footballs outside and puts them at the beginning of the street, and plays there for a long time. Moreover, even after the lessons start, it seems that some of the courses are spent time with outdoor games (see Fig 4.44.). Such activities are seen on weekday mornings, while the bistro on the corner attracts young groups in the afternoons and at night. As seen in the other streets monitored, the street hosts different age groups at different times, but here, the distinction in the way that young people and children use different parts of the physical space is seen.



VIA LOMBROSO

URBAN DIARY

DATE 10/06/2025
DAY Tuesday
TIME 08:30
WEATHER chill, lightly windy

People Moving 16
Activity 62

1. A car was parked on the street for a while, then it went into one of the garages. Another car came to drop off its child at ASAI. A motorbike also passed by. Cars and motorcycles were still using the street despite the restrictions.
2. The majority of the crowd on the street was from the ASAI association. They brought two table footballs to the street for the children to play. Other children were playing football and jumping rope. Some were just sitting in the niche of the building and chatting.
3. After 08:20, the area became quite crowded due to the opening time of ASAI.
4. Due to the presence of children, it was quite noisy despite the early hour.
5. While the children were playing football, they bumped into a person sitting on a bench and other passers-by.
6. The children crossed the area divided by plants, and the teacher called them back; this happened more than once. Therefore, it can be assumed that the children's access to the entire street was limited. It is questionable whether we can consider the plants as barriers then.
7. The hairdresser opened at 09:00.
8. People passing by watch the children and greet each other.
9. Around 09:10, the children gathered and lined up. The teacher used the bench to be on top and make the announcement. Then they played songs and danced before going in. It seems to be a ritual for them.

DATE 10/06/2025
DAY Tuesday
TIME 18:00
WEATHER chill

People Moving 20
Activity 28

1. The street is a bit more active on the garage-accessible side, due to the bistro being open.
2. ASAI closed at 18:45.
3. The children of those sitting in the restaurant are freely roaming around the restaurant.

DATE 10/06/2025
DAY Tuesday
TIME 22:00
WEATHER chill

People Moving 3
Activity 30

1. The bar is full, but other than that, there is not much activity.
2. The restaurant across the street (Antica Gastronomia Partenopea) is crowded, so there is a lot of noise.
3. A motorbike passed by at 22:44.

DATE 14/06/2025
DAY Saturday
TIME 08:30
WEATHER nice, calm

People Moving 10
Activity 1

1. The place is quiet.
2. There are brochures on the benches about Aosta tourism.
3. Around 08:45, the shops started to open (hairdresser and greengrocer), and neighbors greeted each other as they passed by.
4. A motorcycle and a car are parked in the area. There was a disabled woman in the car, who came to the hairdresser. They left the car doors open for a while, then one of the women came and parked the car on the side of the street.

DATE 14/06/2025
DAY Saturday
TIME 18:00
WEATHER sunny, fresh

People Moving 16
Activity 17

1. A motorbike passed by.
2. The bar is open, people are sitting outside, and the rest is quiet as usual.

DATE 14/06/2025
DAY Saturday
TIME 22:00
WEATHER nice, lightly windy

People Moving 30
Activity 61

1. The bar was crowded again. When it exceeded maximum capacity, they extended the tables and chairs beyond the border.
2. The parked car remained there throughout the observation.
3. An old man approached and asked for money.

VIA LOMBROSO

URBAN DIARY

DATE 15/06/2025
DAY Sunday
TIME 08:15
WEATHER nice, calm

People Moving 4
Activity 0

1. The area is quite quiet, except for one house where a movie is being watched at a very high volume.
2. Few people passing by, most of them walking their dogs.
3. A car was parked, and its owners carried something to a nearby location; the car did not stay there for very long.

DATE 15/06/2025
DAY Sunday
TIME 18:00
WEATHER sunny, lightly windy

People Moving 9
Activity 7

1. All the shops are closed, so the area remains quiet as it was this morning.
2. Two boys rode their bikes for a short while on one side of the street.

DATE 15/06/2025
DAY Sunday
TIME 22:00
WEATHER nice, calm

People Moving 10
Activity 4

1. The suspicious-looking old man seen earlier (last night) returned to the area; he tried to talk to a woman, who in turn left the area.
2. As was the case throughout the day, all the shops were closed.
3. The smell of cooking was coming from the houses.



Fig. 4.41. Children are playing football before the course starts, Tuesday 10th June 08.30 a.m.



Fig. 4.42. The course is helding as an outdoor game, Tuesday 10th June 9.30 a.m.



Fig. 4.43. Bicycles are not only parked in bicycle racks, Saturday 14th June 6 p.m.



Fig. 4.44. ASAI is bringing table games outdoors for children to play, Tuesday 10th June 08.30 a.m.



Fig. 4.45. The cars are parked on one side of the street, and the children are playing on the other, Tuesday 10th June 9.30 a.m.



Fig. 4.46. A ritual before class starts, the children sing and dance together, Tuesday 10th June 9 a.m.

LOOKING FOR TRACES



Fig. 4.47. Children are playing before the course starts,
Tuesday 10th June 08.30 a.m.

The observation in Via Lombroso provides meaningful evidence of the interaction with the street. For instance, posters for events or announcements can be seen attached to the plant vases (see Fig 4.49.), which is one of the possible places within the limited space, although not in a place where everyone can see them. However, they are not only attached to plant vases, but are also left on benches (see Fig 4.50.). If a person comes here on a random Saturday and wants to rest for a while on these benches, the first thing the person will see is these advertisements, which demonstrate that the public space has the potential to be transformed into its own temporary communication boards when needed.

When looking at other patterns that show how people transform this street according to their habits, the commercial areas along the street become a good example. Shop owners tend to personalize in front of their shops in different ways. On one side, there are crates lined up by the greengrocer, and on the other side, there are flower pots placed in front of the door as a welcoming perception (see Fig 4.51.). Moreover, the flooring material used in the outdoor area of the bistro is different from the entire street, and even a bend in the corner of that flooring is evidence that there is a user there. Also, the pizza boxes seen in the garbage bins (see Fig 4.48.) indicate a different pattern in spending time on the street. While such traces show the relationship between public space and actual usage practices, they also allow us understanding how users transform, appropriate, and mark the space.



Fig. 4.48. The pizza boxes seen in the garbage bins,
Sunday 15th June 8.15 a.m.



Fig. 4.49. Attached posters for announcements regarding to children,
Tuesday 10th June 08.30 a.m.



Fig. 4.50. Advirtesements left on the benches,
Saturday 14th June 8.30 a.m.



Fig. 4.51. Personalization in front of the shops,
Saturday 14th June 8.30 a.m.

COMPARATIVE FRAMEWORK

of MONITORINGS

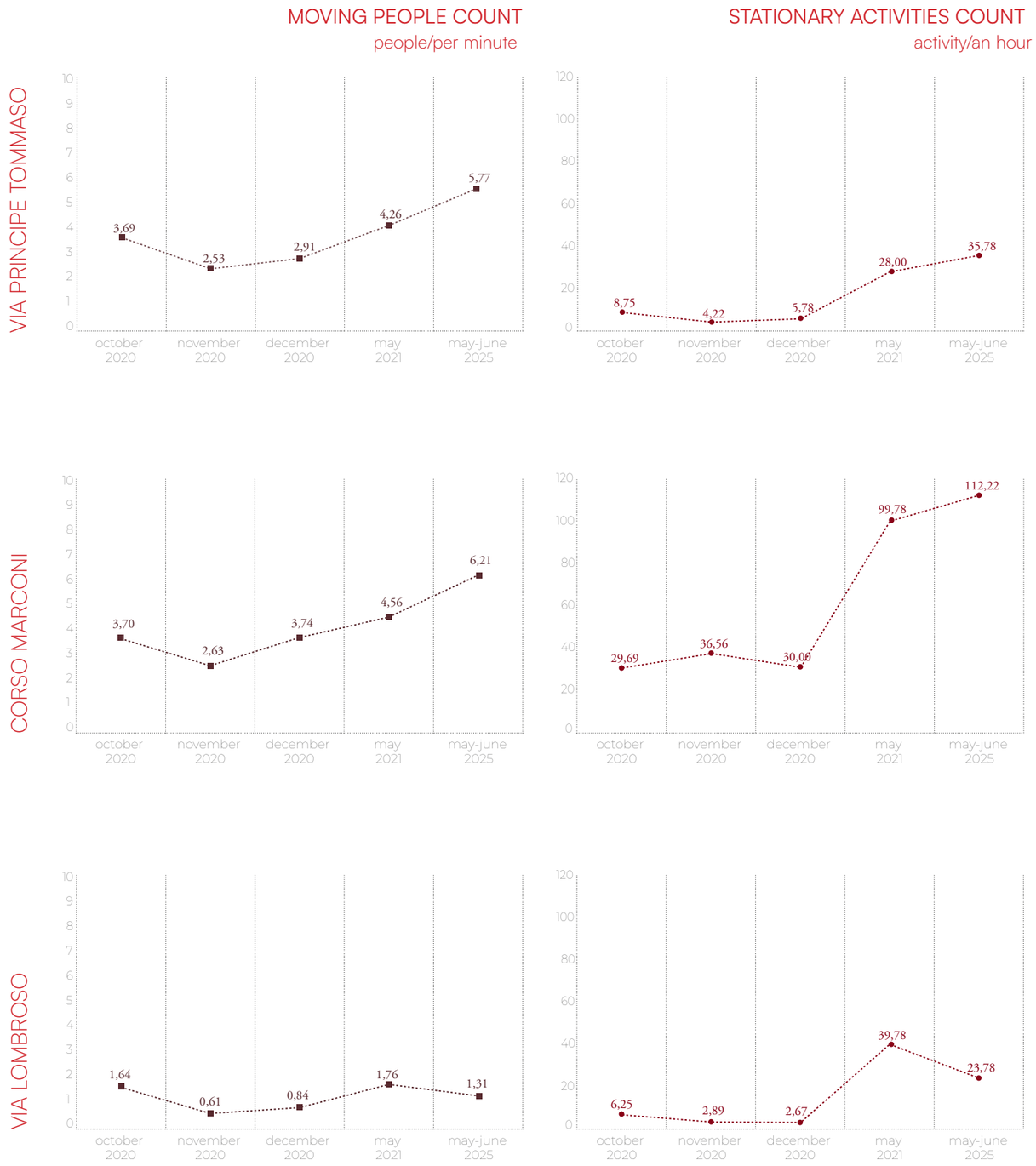


Fig. 4.52. A comparison of the moving people count and the stationary activities count on Principe Tommaso, Corso Marconi, and Via Lombroso over the years. Source: Graphs and data for 2025 by the author; data for previous years adapted from Torino Mobility Lab (TML) project observations and Stankulova, "Pedestrianisation processes and public life," 138-158.

When comparing the monitoring results, it must be taken into account that those conducted by TML correspond to Covid-19 restrictions, and the monitoring in May is from the post-Covid-19 period, when people still take precautions. Another index is the weather; the first three observations were made in autumn and winter, it is a huge possibility that people do not spend time outside except for repetitive routines in these weathers, especially in Italy. In May and June, the weather is more pleasant, so people stay outside longer and use street elements much more often. The months of May and June in 2025 had rainy days for a long time, so the monitoring dates were carefully chosen to take place on favourable, sunny days. This is a reason why the monitoring is separated into several days and times.

The collected data shows an increase in pedestrian flow on two of the three streets examined (Via Principe Tommaso and Corso Marconi). However, when the rate of this increase over time is examined, the acceleration of the increase in the 5-month period (December 2020-May 2021) is very close to the total increase recorded in the following 4-year period (2021-2025). Conversely, a decrease is observed in Via Lombroso from May 2021 to 2025 which is even lower than the initial situation (October 2020).

Looking at the shift in stationary activities over time, a similar picture emerges; while a slight increase is observed in Via Principe Tommaso and Corso Marconi, there is a significant decrease in Via Lombroso. It is important to note that while a significant increase is observed when comparing May 2021 and December 2020, this trend loses momentum between May 2021 and 2025.

Although the number of bicycle racks and benches has been added or increased since the monitoring process in May 2021, it is evident that this has been insufficient in enhancing the human-space interaction. This indicates that the project failed to gain depth beyond the novelty effect in its initial months.

The findings show that projects lacking a dynamic monitoring environment, comprehensive planning encompassing multiple factors, and a long-term strategic vision, tend to a litte extreme. This highlights the importance of managing the experimental phase effectively before moving on to permanent design. The better the experimental phase is planned, the better the long-term results will be. This research, therefore, poses the question: "If we were to go back in time, how would the experimental phase of the process be structured to prevent errors?"

Outcomes of the Monitoring Phase

The project process and the analysis of the monitoring data indicate that pedestrianizing a street, in and of itself, does not necessarily translate into the promotion of social life. The process of pedestrianization entails socio-spatial dynamics far more complex than those addressed in the TML project. Although this approach, such as consulting with local associations, was contemplated at the outset of the project and appeared to be a bottom-up process, the outcome reveals that by the time the project reached its conclusion, the approach had shifted entirely, constraints were encountered, and the decision-making mechanisms ultimately reverted to a top-down model.

It appears that there is no clear evidence indicating that any of the findings derived from the monitoring process were actually reflected in the final configuration of the street. Furthermore, insufficient interventions were carried out during this phase, which was intended to test the street's ecosystem. Street furniture was limited to plant vases and benches; indeed, with the exception of Corso Marconi, the other two streets featured perhaps only one or two benches at most. Aside from this, local associations situated along the streets (as was the case on Via Lombroso) maintained their own tables and chairs. However, over time, these tables disappeared, leaving only empty space in their wake; meanwhile, the benches and bicycle racks that slightly increased over the years did not contribute to the vitality of the street.



Fig. 4.53. A possible transitional overlay demonstrating the shift from an unqualified, empty street to an active public space on experimental phase. Source: Photograph and graphic elaboration by the author; rendering generated via Visoid.

05

THE GUIDELINE

METHODOLOGICAL STATEMENT

In urban interventions, changing one variable can trigger a butterfly effect, unpredictably shifting the course of subsequent phases and ultimately producing an outcome detached from its context. Therefore, instead of writing an alternative history and linking the outcomes of one phase to another in the pedestrianization process in San Salvario, this guide evaluates each phase independently by freezing it, according to the conditions of its own time, using time-machine logic.

Each phase in the guide is essentially a capsule in itself and will be examined one by one. For each, we go back in time, using a time machine, and ask, “What happened in the process?” and identify the questioned approaches taken during that period. Then, we seek an answer to the question, “What should the ideal scenario have been in this phase?”, and, as a result, display the guideline.

However, when zooming out to its entirety, it is seen that these capsules share a common ultimate goal: to provide comprehensive knowledge for street experiments starting from scratch. While the guide addresses past crises by breaking them down into phase-specific components, it actually constructs a comprehensive and integrated prescription for how a street experiment should be structured from beginning to end. The guideline, built upon this structure, aims not to remain a scenario specific to San Salvario; instead, it seeks to be a toolkit that can be adapted, in whole or in part, to different urban contexts.

THEORETICAL REFERENCE

This guide references the “Street Experiments Tool - Guidelines Kit” to understand the processes required for street experiments, the questions to be asked, and the points to consider when reflecting them in urban interventions.[214] In doing so, it does not adopt the document directly and rigidly. Instead, it treats the Street Experiments Tool as general knowledge for addressing urban experiments, then adapts the structure to San Salvario’s unique dynamics and the guide’s specific methodology.

SCOPE & SITE JUSTIFICATION

The guideline considers contextual realities while defining the limits of street experimentation and excludes Corso Marconi from the scope of application. The analysis and monitoring carried out have determined that the density of people on Corso Marconi is quite high compared to other streets, both in terms of flow and stationary activities. More importantly, the historical background of the boulevard and its monumental symmetry, protected by regional decree, contradict the flexible and hackable environment required for the experimental phase. For this reason, the guideline will be structured on Via Principe Tommaso and Via Lombroso.

214 Street Experiments Guideline Kit is a practical tool designed to share knowledge on how to plan, implement and support street experiments. For a detailed information, see Street Experiments Tool, SET Guidelines Kit (2022), https://streetexperiments.com.

phase.0

challenges
characteristics
impact

This phase, which describes the challenges, physical limits, character, and texture, establishes the baseline for the streets, providing the objective framework on which subsequent phases will stand.

phase.1

actor involvement
research & documentation
key findings

Organizing and defining the governance dimension plays a crucial role in street experiments, both in networking and research processes. These will help manage the process and measure the street, ultimately contributing to findings that will be key factors in later stages regarding the street.

phase.2

vision
goals
action plan
engage

The aim is to address the social and strategic dimensions of the street, which are necessary before conducting street experiments. How the urban vision can be defined and how street users can be involved in this process will be discussed with the help of TML project as a case study.

phase.3

strategy
design aspect
implementation
communication
monitor & evaluate

This phase can be described as the time when interaction with the street itself begins. It prioritizes reaching the best possible version by testing and experimenting with the street before transforming it into a permanent one. At this point, the theoretical approach descends into the street with design aspects and begins to take shape.

phase.4

maintenance
management
long-term strategies

Once the design is implemented and evaluated, short-term and long-term strategies should be structured, taking into account the needs of the transformation process to make it permanent, and steps should be taken to ensure the design does not lose its effectiveness after the process.

identify. CHALLENGES on the streets

The project's definition was quite one-dimensional: reallocating the streets from cars to people and soft mobility users. This is why the challenges of the project were limited to eliminating parking spaces that were spatially dominant on the streets and imposing restrictions on cars, which have historically held a significant place and dominated the streets for many years.

When the current situation is examined, it is clear that pedestrianizing streets and removing vehicles do not automatically make them liveable for people. On the contrary, it takes different forms of challenge, leading to new socio-spatial debates. This is where the guide's methodology comes into play. It rejects reading the challenge as one-sided.

The identification of challenges must be questioned from a multi-dimensional perspective. Initially, the transformation of the street creates a sense of loss for users. Individuals accustomed to existing patterns tend to focus on the disadvantages of losing the existing order, rather than the potential advantages of transformation. While losing parking spaces can be a threat for the residents who used to have that habit, for a shopkeeper, it can be perceived as a loss of customers, so a financial threat. On the other hand, if the municipality can not communicate effectively with the users of the street, public concern can become a political risk.

All the challenges mentioned are inherent in street transformation, and many projects face them at the beginning or in their later stages if certain processes are not handled correctly. So, the guideline suggests identifying it from the beginning.

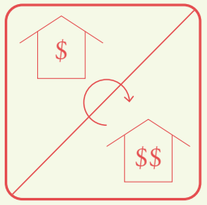
Challenges of street transformations needs to be considered



removing vehicles from the street



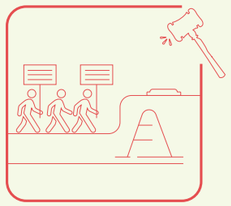
loss of parking spaces



gentrification



loss of customers for shopkeepers



political risk for municipality

define. CHARACTERISTICS & IMPACTS of street transformations

The existing literature on street experiments has established useful scales for defining street experiments and measuring their effects. These scales are highly useful for evaluating expectations and outcomes in both pre- and post-intervention periods. They help to question the priorities of the transformation in the streets.

The characteristics, introduced by Bertolini, are divided into five categories: radical, challenge-driven, feasible, strategic, and communicative.[215] On the other hand, the impact, introduced by Kinigadner et al., suggests that mobility-related, economic, social, environmental, and urban functions can be considered, but the extent of these impacts may vary by context.[216]

When the TML project is examined, it is clear that the approach to defining street transformation was solely mobility-related. Although the selection of the street at the beginning of the project focused on school streets, the relation with the built environment was overlooked during the process. Therefore, it is not really possible to assess the characteristics and impacts of street transformation and compare them with the alternative proposals offered in the guide.

This guide aims to examine the characteristics and impacts of the street experiments to establish a clear structure for later phases. For the characteristics, it uses the questions Bertolini asks when defining the transformations. As for the impacts, they are more related to the built environment and public life on the street, so the desired impacts should be defined to develop a better framework.

Instead, without making comparisons, the guide presents a table outlining how the phase should be structured at this point. In terms of characteristics, it takes into account the questions Bertolini asked when defining transformations. Impact, on the other hand, determines the targeted effects by considering the built environment and public life, and helps to establish a better framework.

CHARACTERISTICS suggestion by guideline

	low	medium	high
RADICAL Are the practices foregrounded by the experiment fundamentally different from dominant practices?	■	■	■
STRATEGIC Can the experiment generate lessons about how to reach the envisioned fundamental changes?	■	■	■
CHALLENGE-DRIVEN Is the experiment a step toward a potentially long-term change pathway to address a societal challenge?	■	■	■
FEASIBLE Is it possible to realise the experiment in the short term and with readily available resources?	■	■	▢
COMMUNICATIVE Can news about the experiment reach and possibly mobilise the broader public?	■	■	■

IMPACTS suggestion by guideline

	low	medium	high
MOBILITY-RELATED e.g., transport modes share, traffic safety	■	■	■
SOCIAL e.g., social cohesion, physical and mental health	■	■	■
URBAN FUNCTIONS e.g., street form, flexible infrastructure, zoning	■	■	■
ENVIRONMENTAL e.g., sound or air pollution, greenery	■	■	▢
ECONOMIC e.g., retail attractiveness	■	■	▢

215 Bertolini, "From 'Streets for Traffic'."
216 Kinigadner et al., "How to Transform Urban Spaces and Mobility."

ACTOR INVOLVEMENT

The diversity and inclusive role of actors are crucial in ensuring the necessary support at different phases of the project's progress. Interactions and networks should be structured not as a top-down approach, but as a more mutually reinforcing structure both decision-makers and users are active and have a say. This would allow municipal initiatives to adopt design with locals statement instead of design for locals.

In the TML project, the number of involved actors remained limited, and users were not adequately represented. Furthermore, the network of relationships established among the actors themselves, starting with the municipal initiative, meant the project continued entirely with top-down decisions, which had a significant negative impact on subsequent processes. Also, the division of involvement within the established structure and the conflicts among actors significantly impacted the project's outcome.

This guideline highlights problems encountered during the TML project phase, includes overlooked actors, and aims to create a new classification and network by offering alternatives.

HOW WAS THE PROCESS?	HOW THE PROCESS SHOULD HAVE DONE?
Although the Municipality appeared as the leading actor, it was insufficient in managing the process, failed to effectively divide the process among the actors, and ultimately resulted in a lack of a clear actor structure. Actors were unable to communicate with each other, and even standed on opposing sides.	A clear structure will be established for decision-making processes, and fluid distribution will be implemented in the field and in practice, instead of top-down approach.
The District Council was included in the process too late, so was not involved in the planning and monitoring phases. Thus, an actor capable of measuring the dynamics of the neighborhood, testing the reactions of the local population, and acting as the most formal intermediary between the municipality and the local community was overlooked in the project.	For a direct, action-oriented process in the field, it is important for all stakeholders to be involved. The District Council should be involved from the beginning of the process and shape the engagement process to have interaction with the users of the street.
ATI's presence both at the decision-making table and civic initiative, raised questions about its impartiality.	Organizations like ATI, which do not have decision-making authority but are part of the task unit, should remain in an allied position, maintaining their observer and mediator status.

HOW WAS THE PROCESS?	HOW THE PROCESS SHOULD HAVE DONE?
The fact that educational institutions, which form the dynamics of the streets, did not play an active role at any point in the process, and were only present in informal interviews, can also be seen as ignoring the actual inhabitants of the street.	By planning "pacts of collaboration" between the municipality and local residents, parents, school staff, or volunteer actors involved in the process, volunteer actors are legally recognized as co-operators in the maintenance and management of the street.
While the presence of the Polytechnic University of Milan demonstrated that the project had a theoretical foundation in terms of planning, but its absence in the implementation phase highlighted the problems that would arise when the theory was put into practice.	Planning and implementation are inseparable; the design changes as it is implemented in the field. Therefore, it is important for actors contributing to the project's vision to take an active role in both planning and implementation.
After all the processes, the proposed project were deemed unsuitable by the actor that involved to the process later, Superintendence of Archeology, Fine Arts and Landscape. Therefore, the project was not implemented.	Boundaries must be defined in advance, and the strategy should be designed accordingly. Any approach that suddenly blocks this while a different path is being followed will collapse the entire process.
Community engagement throughout the process was limited to interviews, but these interviews had no impact on the design.	Civic initiatives will participate in negotiations in a way that protects everyone's rights. This should include shopkeepers, students, parents, the elderly, and even children.

CLASSIFICATION OF ACTORS

	ACTORS	TYPE	LEVEL	PHASE
1	City of Turin — Municipality (head of the team)	PUBLIC ADMINISTRATION	CITY	ALL PHASES
2	District Council — Circoscrizione 8.	PUBLIC ADMINISTRATION	DISTRICT	ALL PHASES
3	Milan Polytechnic University — DASTU	INSTITUTIONAL	NATIONAL	ALL PHASES
4	ITER — Sustainable City Laboratory	PUBLIC ADMINISTRATION	CITY	ALL PHASES
5	Superintendence of Archaeology, Fine Arts and Landscape	PUBLIC BODY	PROVINCE	ALL PHASES
6	ATI	CIVIL SOCIETY	DISTRICT	PHASE I 1 & PHASE I 3 & PHASE I 4
7	Local Associations	CIVIL SOCIETY	DISTRICT	PHASE I 3
8	NGOs	CIVIL SOCIETY	CITY	PHASE I 1 & PHASE I 3
9	Volunteers and Street Representatives	CIVIL SOCIETY	HYPER-LOCAL	PHASE I 3 & PHASE I 4
10	Educational Institutions (street-based)	INSTITUTIONAL	HYPER-LOCAL	PHASE I 3 & PHASE I 4
11	Active Mobility Users	GENERAL PUBLIC	CITY	PHASE I 1 & PHASE I 3
12	Children	GENERAL PUBLIC	CITY	PHASE I 1 & PHASE I 3
13	Logistics and Service Providers	PRIVATE	CITY	PHASE I 1 & PHASE I 3
14	Residents	GENERAL PUBLIC	HYPER-LOCAL	PHASE I 1 & PHASE I 3
15	Parents of the children in the educational institutions	GENERAL PUBLIC	DISTRICT	PHASE I 1 & PHASE I 3
16	Local Business Owners	PRIVATE	HYPER-LOCAL	PHASE I 1 & PHASE I 3

Core Team
Partners
User

Table 5.1. The classification of the actors involved in the process indicates which stakeholder is to be included at which stage. Source: Author.

ACTOR NETWORK

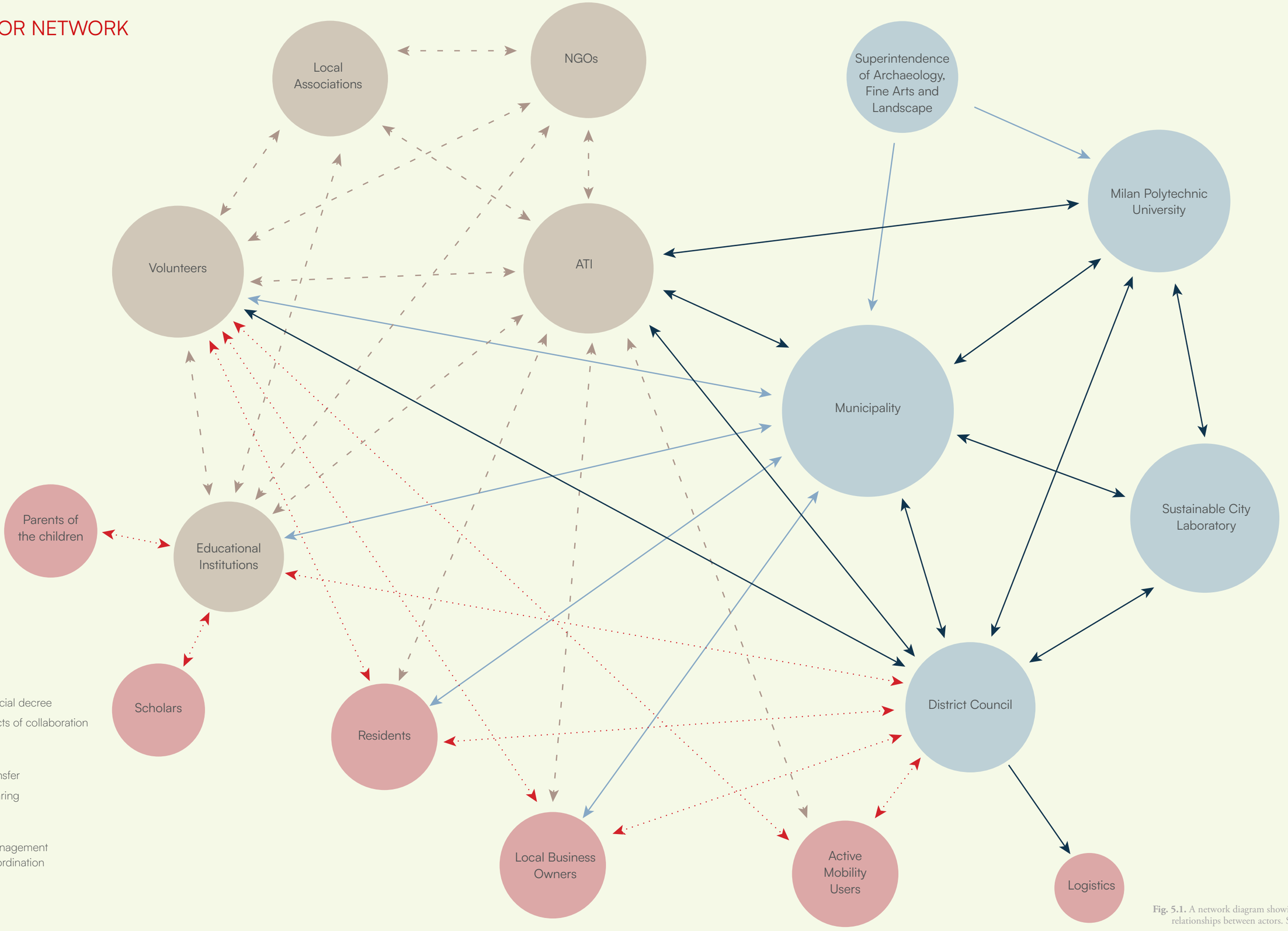


Fig. 5.1. A network diagram showing the types of relationships between actors. Source: Author.

RESEARCH & DOCUMENTATION

Before initiating an intervention on the street, it is crucial to understand the existing conditions with possible opportunities while transforming the street. Once the context is understood, it will help identifying the needs of the street and the community. Thus, it will help more than just gathering fundamental technical data. It should be understood that proceeding to the intervention phase without learning about and understanding the current state of the street would endanger the project from the outset.

There are many ways to reach outcomes. While a single, holistic methodology may suffice for research and documentation, sometimes different approaches can be combined. This is determined by the actors involved in the process and the decision-making mechanisms.

How this phase has done before?

Monitoring

To quantify the physical and social usage intensity of the street

Stakeholder Interviews

To measure local response, expectations, and satisfaction levels regarding the intervention

Workshop

To decide which streets will move to the permanent phase

Why did the process fail?

Although the methods used offer a comprehensive approach framework, their ineffective application and failure to be reflected in subsequent phases and the final product reveal significant methodological and managerial shortcomings.

The monitoring phase started in August, when everyone was on holiday and the period end earlier than expected.

Moving people and stationary activities were counted; however, their reflection on the implementation phase was absent.

Informal interviews are conducted by ATI, however terminated before the monitoring process was completed.

The backlashes coming from local actors were ignored.

Workshop is held to decide which streets to transfrom into permanent situation. The fact that the positive reaction rate of the four streets selected did not exceed 40%, only Via Morgari is eliminated. The reason behind this was not understood.

How should this process have worked?

The methodologies used offer very basic tools and suggestions that can help in understanding the street. However, viewing this as a process to be completed without impacting the project makes no difference whether you take this step or not. If the data collection and analysis processes at the beginning of the project had been carried out as comprehensively and proactively, the problems experienced today would not persist.

As a possible diagnosis between the past and today, the guide suggests the use of monitoring processes and tools provided for long-term evaluation to uncover past and present public life on the streets and to identify key findings regarding the streets.

Summary of the tools[217] to be used for long-term evaluation

- Background Research
- Behavioral Mapping
- Moving People Count
- Urban Diary
- Stationary Activities Count
- Photo Documentation
- Tracing
- Looking for Traces

After the streets are identified through the applied methodology, more additional tools can be used to support the findings and offer different perspectives on the process.

Mental Mapping

Volunteer actors such as residents and shopkeepers should be asked to draw and interpret the street according to their daily practices to clarify the boundaries and comfort zones.

Child-Focused Workshops

With the participation of Kindergarten Bay and ASAI, and using the creative expression tools, the perception of the street from a different view angle can be documented.

Dynamic Interviews

Instead of collecting data at once, it should be gathered across all phases of the process, and the perceptions of diverse users who engage with the street in various ways should be measured.

Monthly Meetings

They should be organized to keep the feedback loop alive and gather different stake-holders together.

217 For the detailed explanation of the tools, see p.93.

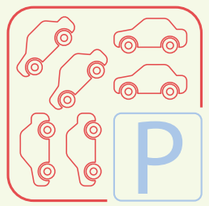
KEY FINDINGS

From an urban context, the proximity to the center, the multicultural demographic structure, and the grid-planned layout of the area, allowing for a superblock-like approach, clearly explain why San Salvario was chosen. And for the idea of pedestrianizing four streets in the district was subsequently linked to the educational institutions located on those streets. However, the findings show that the streets to be intervened were chosen as generic labels. The street-based morphology, ground-floor uses, built environment and social potential of the streets were ignored.

This situation shows that, when selecting project areas, each scale should be examined using different research methods suited to its own needs; therefore, urban-scale research cannot be applied to the street scale. If this were the case, the key findings that need to be determined before moving to the experimental phase would remain too superficial and general.

This guide aims to present key findings from a much broader perspective and synthesizes the incomplete readings of that era with today's objective insights.

Problem.1



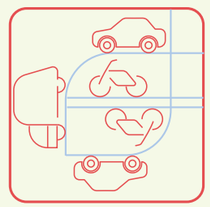
Dominated by parking spaces

Problem.2



Insufficient urban furniture and greenery

Problem.3



Unsafe soft mobility

Problem.4



Lack of social life

Problem.5



Lack of safe zone in front of the school

Potential.1



Existence of Kindergarten Bay

Potential.2



Existence of ASAI



Fig. 5.2. A comparative collage of streetscapes from 2020 and 2025. Source: Author.

VISION & GOALS

Having a shared vision is essential for ensuring that partners and community groups feel represented and aligned with the vision.[218] Therefore, it is crucial to have findings consistent with data before defining a vision. The vision provides guidance for identifying potential behavioral changes, both in its broad scope and its measurable aspects.

One of the most critical problems of the TML project was its lack of vision. The statement, "If the project in San Salvario is successful, it can be applied to other districts," remained just rhetoric. The sustainability and development of active mobility, such as cycling and walking, which was the project's starting point, remained just a slogan. Since the needed research is either not conducted or insufficient, it has made it more difficult to reach key findings and, therefore, a vision. The project became a one-off rather than a guide for systemic urban transition.

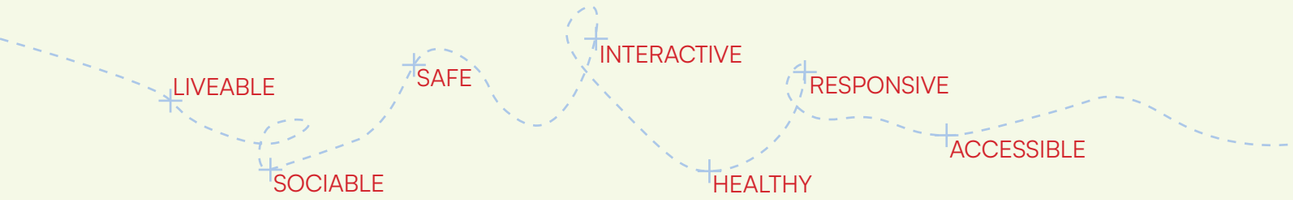
This guide aims to provide a comprehensive vision addressing the key points that should be present in vibrant streets. This vision should also be adaptable to long-term strategies with clear objectives, so that the project is not limited to a specific area or timeframe as it sets its own agenda.

RECLAIM THE STREET!

more urban life for all
more people to walk more
more people to cycle more
more people to stay longer[219]

The street, with its ordinary yet layered texture, is gradually losing its layers, and car-centric logic is placing significant weight on it. Instead of relying on this, we must take action and rethink from different perspectives.

Reclaiming the street from cars and the spatial voids they create will reallocate it to its actual users: people. In this, the forgotten public life on the streets will emerge. The resulting street will continue to evolve over time, therefore it must be constantly tested, reprogrammed, and adapted to social expectations. The project visions to have a resilient streets that are liveable today and sustainable tomorrow. By placing children as core, aims to shape the identity of the streets.



Strengthening



economic resilience by supporting local businesses and reducing the risk of gentrification

Planning



multiple and inclusive uses of public space that will allow diverse users to have a direct relationship with the street.

Reclaiming



public space for people, increasing pedestrian flow and upgrading cycling.

Empowering



schools and local organizations to increase interaction and foster a sense of belonging to the street.

Adapting



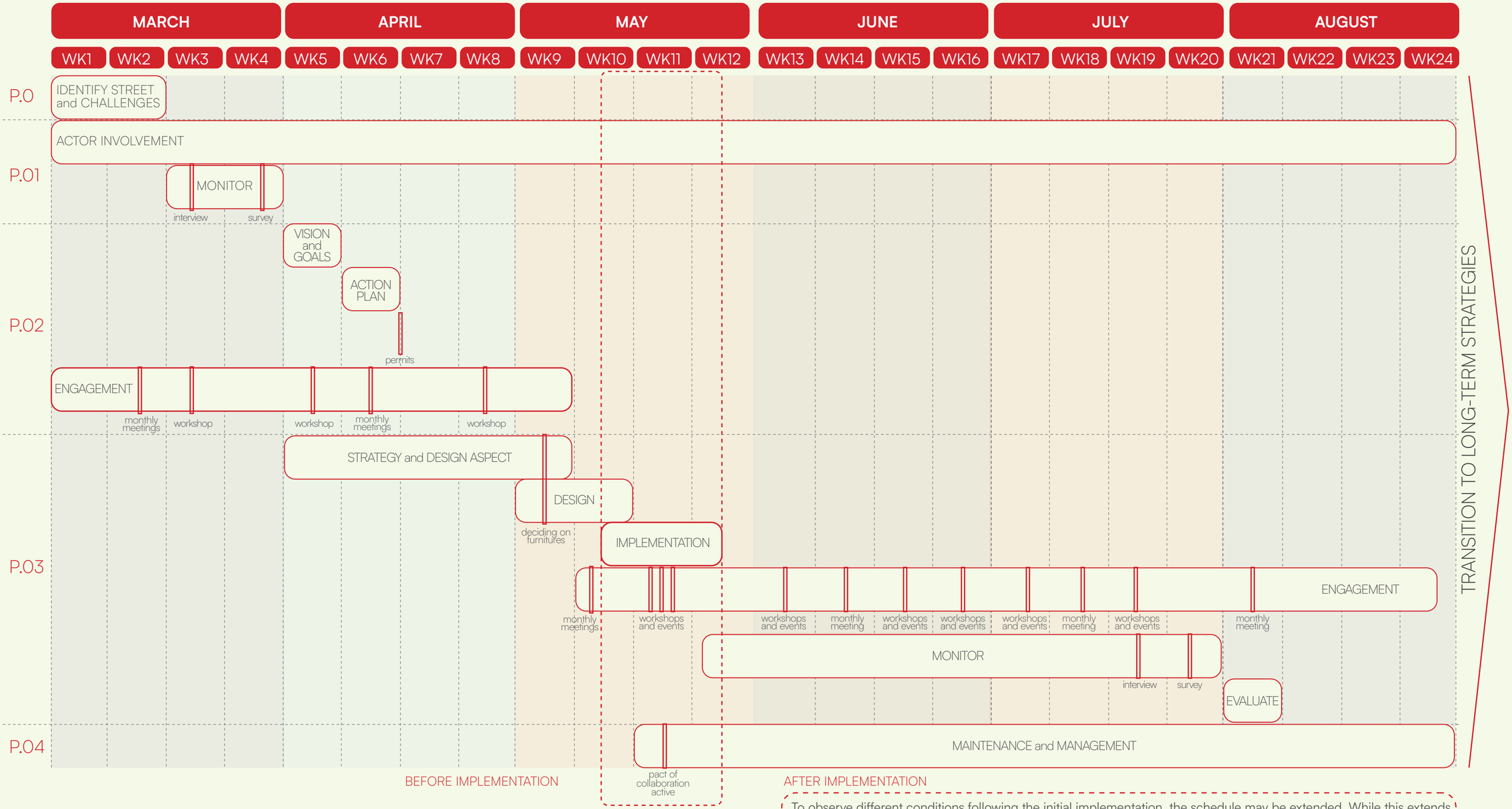
the street according to the different times of the day or different users

Prioritizing



the human scale as a reference while defining the streets

218 Issuu. *"URBAN95 Public Life Data Framework,"* March 5, 2025: 21 https://issuu.com/gehlarchitects/docs/urban95_public_life_data_framework.
219 City of Copenhagen, *A Metropolis for People: Visions and Goals for Urban Life in Copenhagen 2015* (Copenhagen: City of Copenhagen, 2009), 7, https://www.engageliverpool.com/wp-content/uploads/2015/07/Copenhagen_2008_A_Metropolis_for_People1.pdf.



To observe different conditions following the initial implementation, the schedule may be extended. While this extends the maintenance and management phases in parallel, it can transform the monitoring aspect into a process requiring repeated execution over time.

Table 5.2. The potential action plan covers all steps of the experimental phase.
Source: Author.

ENGAGE

The success of the street experiments does not rely solely on their implementation, and learning with the people involved can have a huge effect on them. Thus, when working on a project, it is essential to engage with stakeholders to ensure long-term commitment. This critical process helps stakeholders feel a sense of belonging, making them more likely to use and maintain it. For this reason, engagement is needed from the early stage of the project through to the end and should evolve according to the needs of each phase.

Engagement is a process that everyone can learn from. However, the process does not always go well; sometimes, the experiment receives backlashes. It can be about losing parking spaces or the fear of losing customers. That is why, specifically, a stakeholder team should be assigned for this kind of situation to have conversations with users, gather complaints, and provide a comprehensive response with concise arguments to convince them. At the same time, this stakeholder needs to coordinate with decision-makers and, when necessary, become one. This ensures that feedback is not ignored.

In the case of the TML project, this stakeholder can be the District Council. It has interactions with both the neighborhood and the municipality; it could play a critical role by persuading users through informed and consultative approaches, reaching consensus, and negotiating with authoritarian figures such as the municipality. Volunteers can also be potential stakeholders who can be involved and collaborate with users.

Categorizing engagement types could be useful when creating the network among stakeholders, so each stakeholder with a duty to engage people could be more effective across different categories and achieve multiple outcomes. In this guideline, the different levels of engagements are adapted from Stauffacher et al.[220]

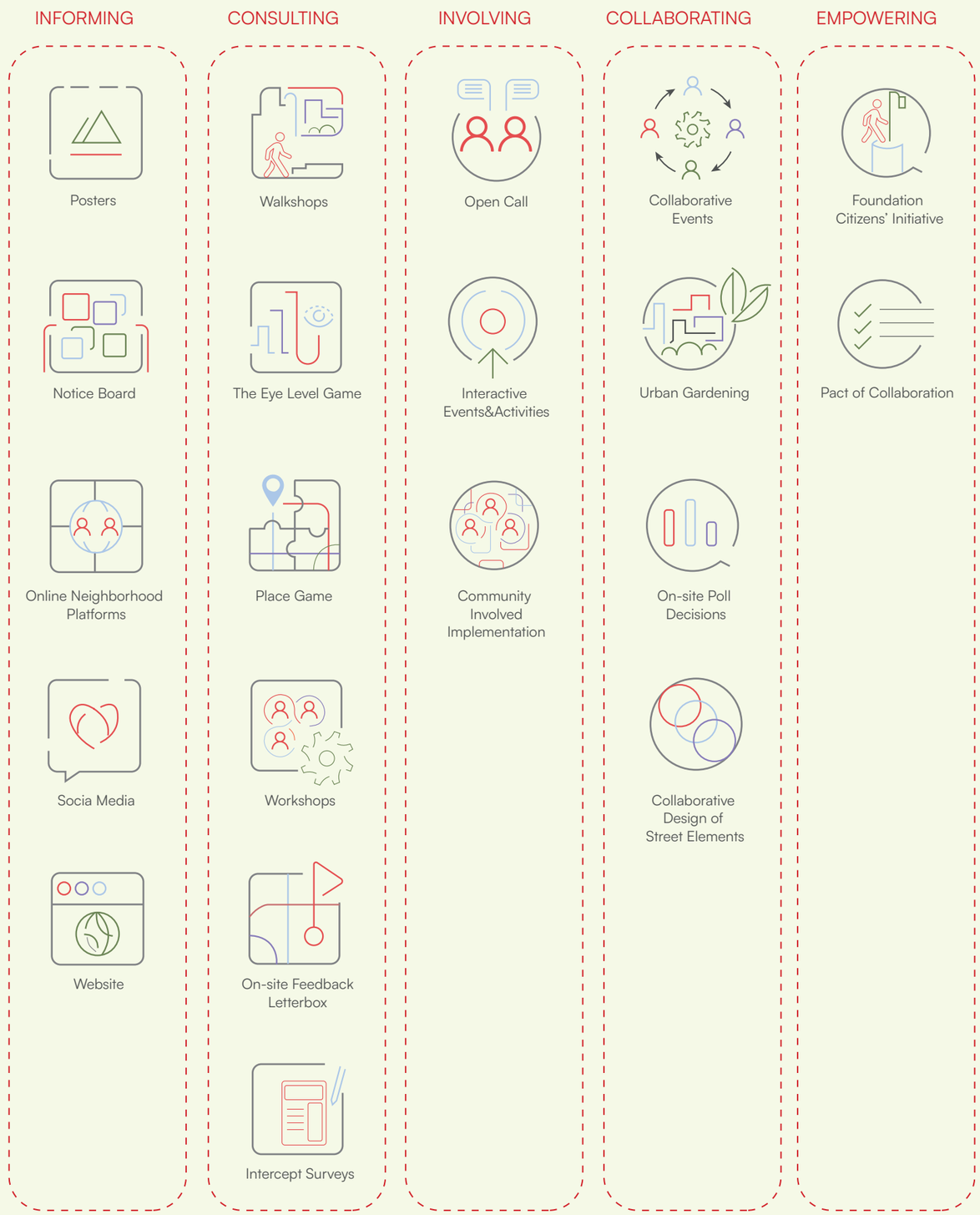


Fig. 5.3. Different engagement tools are categorized under five headings and listed the types of approaches that can be adopted. Source: Graphic by author; data from Street Experiments Tool, SET Guidelines Kit.

220 M. Stauffacher et al., "Analytic and Dynamic Approach to Collaboration: A Transdisciplinary Case Study on Sustainable Landscape Development in a Swiss Prealpine Region," *Systemic Practice and Action*, 2008.

SUGGESTED ENGAGEMENT_01

YOUR DREAM STREET[221]



Fig. 5.4. A drawing from Dream Street. Source: Adapted from a photograph by Shutterstock.

Category	Involving
Target Ages	● Small kids (4-6 years old) ● Older kids (7-12 years old) ● Teens (13-18 years old) ● Parents of children
Setting	● In-person ○ Virtual
Length	30-90 minutes

Materials

Colored pencils · Blank sheets of paper · Computer · Projector or large screen

OBJECTIVES

- Encourage children to imagine a street using their creativity.
- Awaken children's curiosity about the rhythms of daily life and their environment.
- Help children learn about street elements and their importance in the built environment.

EXPECTED OUTCOMES

- Creating awareness and interest on the streets.
- Raising consciousness about the functionality of streets.
- Thinking from a different height will broaden the perspective on the street.
- The activity of information exchange will not end during this process; it will continue. Once the project is implemented, the desire to participate will increase.

1 PRESENTATION

Short presentation to understand street, street life, opportunities, elements we interact during our daily lifes. The content and its complexity should be adapt depending on the target audience and strategies.

2 GUIDED IMAGERY

Allow audience to dream their street with the specific location, in front of their school/kindergarten. When they dreaming, the specific questions can be asked such as what they are doing, what do they feel, how is the surrounding.

3 ILLUSTRATIONS

Ask children to draw their dream street.

4 SHARE-OUT (OPTIONAL)

Allow some of the participants to explain the reason behind their dream. Main logic is to understand how children think about streets and how the street serve them.



RECOMMENDATIONS

For Small Kids (4-6 years old)
use simple prompts, engage in conversation while they draw. Ask them to describe sounds, colors, elements.

For older kids (7-12 years old)
focus on experiences, ask them to give a name to the street, and encourage teamwork for larger drawings.

For teens (13-18 years old)
connect to real-life challenges and encourage to propose solutions. Ask them to be specific and intentional about the elements they include.

To adapt Parents of children
plan it as a parent-child collaboration activity; thus, while gathering information from children, parental involvement can help to reach different perspectives.

221 The activity is adapted from: Global Designing Cities Initiative (GDCI), *How to Engage Kids in Street Design: Designing Streets for Kids by Kids (2024)*, 74-75.

STRATEGY

HOW WAS THE PROCESS?

The process is not structured well in each phase, as mentioned before. However, the greatest weakness of the TML project was the overlooked temporary design. Closing the street to vehicles at both entrances, leaving only plant boxes, was deemed sufficient, so no other urban elements could contribute to public life. The process continued through local organizations that brought tables and chairs to the area to revitalize public life. They were also responsible for monitoring the street. For a long time, the streets remained the same; only after a few months were small interventions, such as one or two benches, added.

This long, disconnected period, interposed between the initial intervention and the transition to the permanent phase, led to the wearing away of the ground paint, and in the absence of any activity, the street became an empty place. Moreover, it created a far more critical vulnerability: breaking the bond that local organizations have established with the street and losing a sense of belonging.

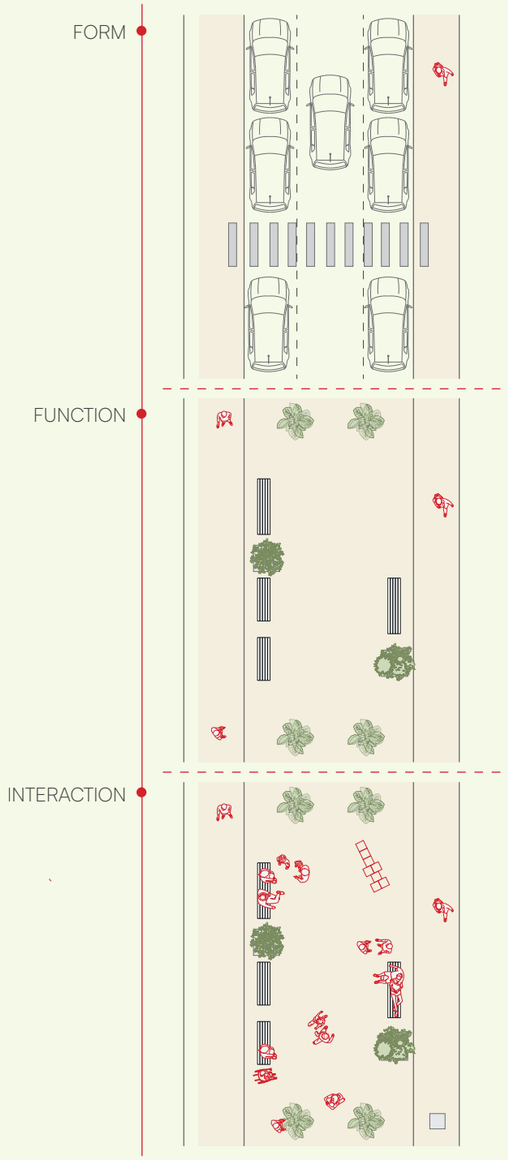
HOW THE PROCESS SHOULD HAVE DONE?



After Monitoring and Evaluating
If necessary, this process can be repeated, or modifications can be introduced at specific steps.

Ideally, a successful experimental phase should keep communication active at each step; it is not something that happens only before implementation; each feedback during and after implementation could have the potential to create a better public life. When the data are collected and the vision is clarified, street-based design strategies and decisions need to be made.

Implementation begins after these steps, which involve sharing the decisions with residents and engaging them in active participation during the implementation phase. These are completed as part of a concurrent process. However, the experimental phase does not end there. Following this process, factors such as the effectiveness of management and maintenance procedures, whether people use the street, and, if so, how they use it, should be observed and evaluated. If the experimental phase is successful, long-term expectations can be established.



The projected streets were used as vehicle roads with parking spaces on both sides, and a narrow sidewalk was present. The form prioritized vehicles over people. The experimentation aims to break this rigid form and the desire to pedestrianize the streets, so that the streets' function will transform radically. However, it is not sufficient on its own. The ultimate result of this transition can only be achieved when the interaction takes effect.

Some steps must be taken into account to boost interaction on the street. Initially, before designing the street, it is necessary to answer the question: "Who uses this street, and who should use it?" User profiles, their needs, and street usage: All contribute to the primary database. The observations and evaluations conducted before and during the research can help identify user groups and the street's potential.

The important step after identifying the profiles is to plan flexible usage scenarios to revitalize public life and bring people here. To accommodate these scenarios, modular and flexible urban furniture should be designed. Urban furniture, during experimentation, adopts a multifunctional approach so it can be modified, repositioned, and gathered to transform the space for different functions.

The experimental phase offers low-cost, quick installations, so the infrastructure remains the same until transitioning to permanent operations. However, some arrangements are needed to define zones and perceptions. Ground painting and graphical arrangements help test the street by working in scheme with other elements.

The street transformation design axis is conceptualized to examine the street's everyday needs, the relational encounters observed, and the design aspects considered with this approach.

STREET TRANSFORMATION DESIGN AXIS

Meet Everyday Needs

Relational Encounters

Design Aspect

keywords

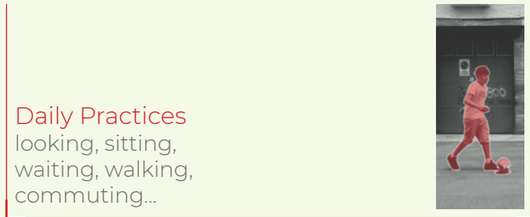
SAFETY

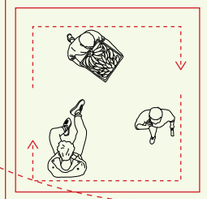
ADAPTABILITY

PLACE MAKING

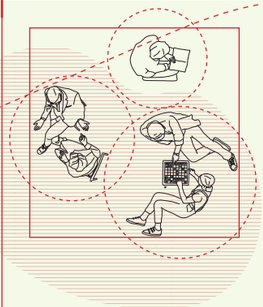
Daily Practices
looking, sitting, waiting, walking, commuting...







Urban Leisure
gathering, playing, lingering, strolling, watching, reading, listening...



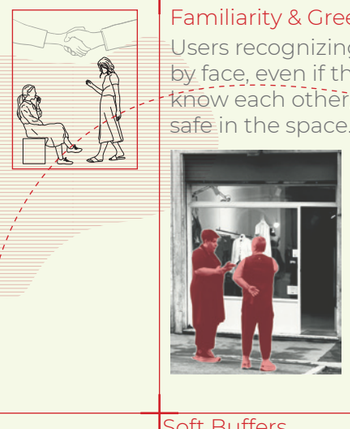
Urban Care
street gardening, multi-species coexistence, sensory pause...





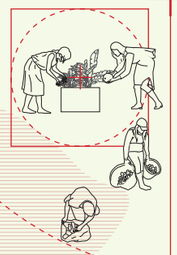


Familiarity & Greeting
Users recognizing each other by face, even if they do not know each other, and feeling safe in the space.



Natural Surveillance
a spontaneous safety network provided through visibility, without a physical barrier

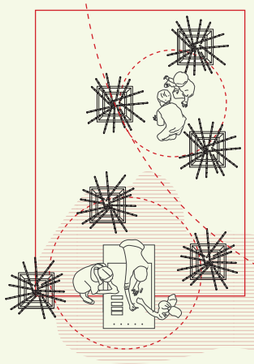


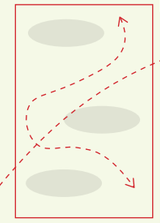


Shared Ownership
street users should adopt an approach that protects the street and shapes it through their activities



Soft Buffers
Permeable and protective boundaries, using ground paintings, plants





Intentional Voids
By refusing to fill the space with furniture, it creates flexibiliy that allow for spontaneous play and activities

Transformable Nodes
Instead of assigning a fixed function to a space, providing flexibility with modular infrastructures according to user needs

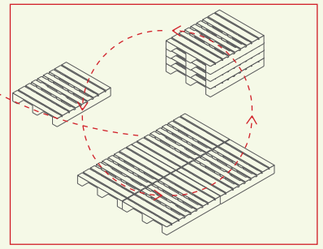


Fig. 5.5. A design matrix defining the social and spatial needs of the street and how these are reflected in the design. Source: Author.

MATERIAL & STRUCTURE

INSTEAD OF FIXED AND COSTLY ELEMENTS, LOW-COST, EASY TO CONSTRUCT AND MODULAR ELEMENTS GUIDED BY A CATALOGUE OF OPTIONS ARE BEING ESTABLISHED.

Information gathered from the case studies and the observed streets serves as a baseline here. Understanding the actions taken under specific conditions, and discerning what proved effective or ineffective in the long run, provides a crucial reference point when considering potential elements for use.

A fundamental factor when testing the street is ensuring that the elements used for its temporary design offer an economical and flexible infrastructure rather than merely an aesthetic one. However, it is equally important that they create an inviting environment. Based on these considerations, an urban toolkit catalog was designed; instead of fixed, singular and expensive elements, it features components that respond to the street's immediate needs and can be manipulated by users.

The catalogue can be categorized under two headings: "ready-to-set-up" and "hands-on" structures. "Ready-to-set-up" elements are pre-assembled but easily portable and can serve either single or multiple purposes.

On the other hand, "Hands-on" elements focus on structures that are easy to construct, low-cost, and practical to implement directly on the street. Based on this approach, timber was selected as the primary structural material. In addition to the main structural material, components such as recycled wooden boxes or textiles can be used either in combination or independently to form elements. The catalogue aims to offer alternatives by demonstrating how various assemblies can be created using basic materials.

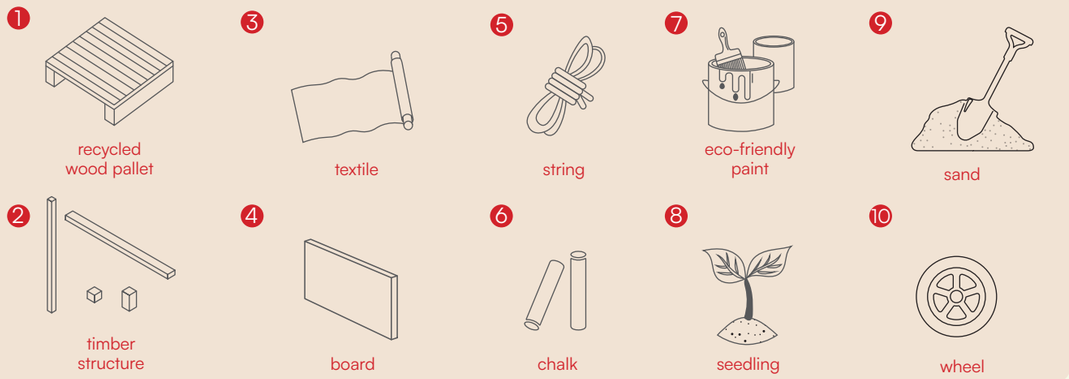
CATALOGUE

toolkit I ready to set up



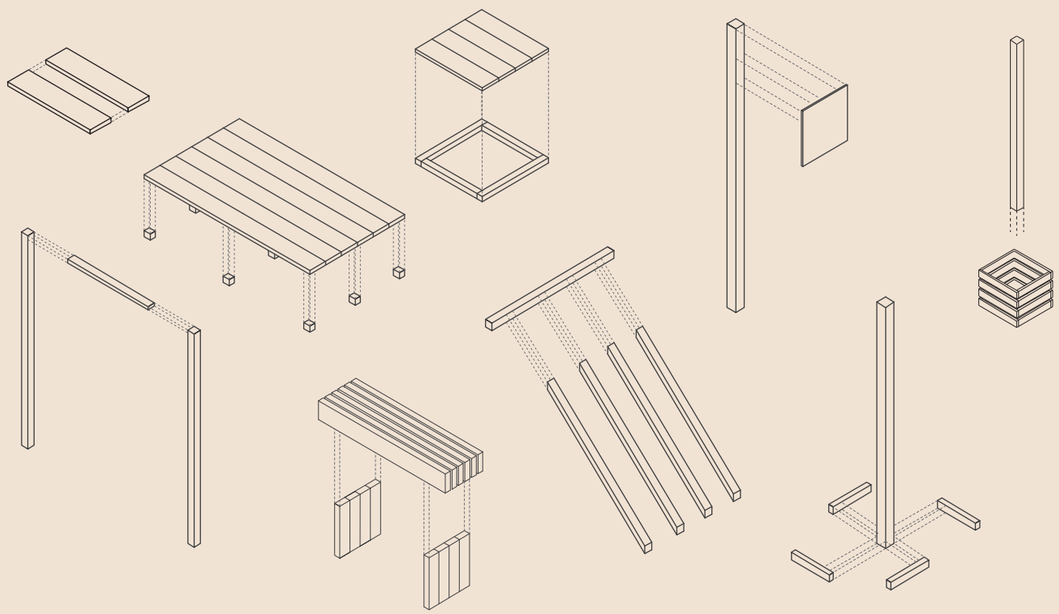
CATALOGUE
materials

phase.3



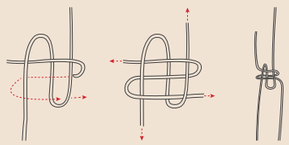
assemble

nailing

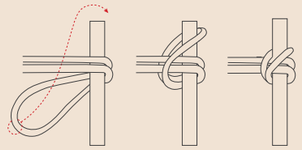


knotting

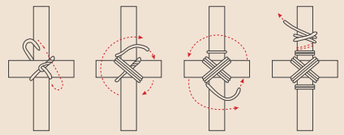
string*string



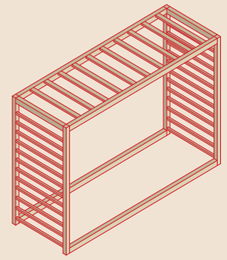
timber*string



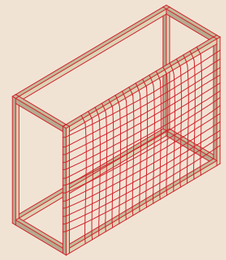
timber*string*timber



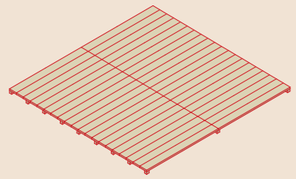
CATALOGUE
toolkit I hands on



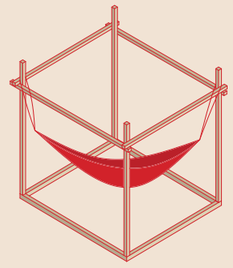
Climbing Bar



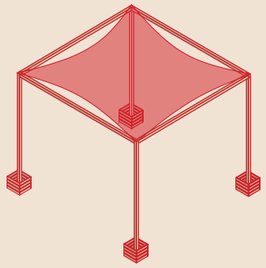
Climbing Rope



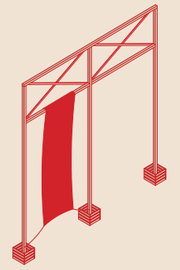
Platform



Hammock



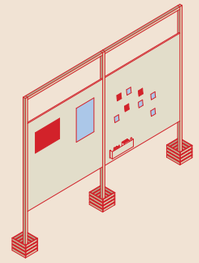
Canopy



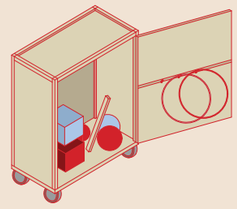
Vertical Banner Frame



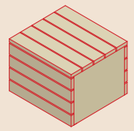
Bike Rack



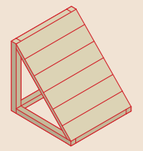
Information Panel



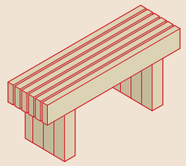
Mobile Equipment Cabinet



Modular Seating Box



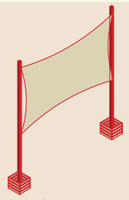
Angled Structure



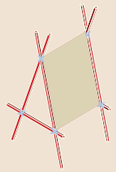
Bench



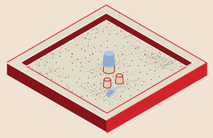
Planter Box



Screen



Signboard



Sandbox



Wayfinding Signpost

IMPLEMENTATION

The limitations of a municipal organization can be evaluated mostly through a top-down approach, which fits within fixed urban facilities and does not allow for imagining what to do or how to do it. However, the temporary phase aims to protect its nature of flexibility to see all possible occasions to reach a better solution and within the existing suitable environment, thereby shifting to bottom-up approaches.

It encourages users by creating a space that allows them to stay and act freely on the street. In doing so, the interventions enable them to easily generate their own spaces. This phase is where all the theoretical part is shifted into the practical. The general timetable and list of stakeholders that are involved in the implementation phase should be decided so events can be built up, regulated, supervised, and broken down again throughout the running time.

The implementation on site will start with build-up: constructing the incoming materials. The stakeholders need to be in coordination in this stage; volunteers who they have a direct relationship with associations will be the main actors; moreover, shopkeepers, residents, and main users of the street should be involved at some points of implementation to raise their sense of belonging.

The phase does not end here since the implementation does not rely on only one planning: it evolves to test the street to find the best option. Coordination of activities after the base implementation will continue to include the stakeholders mentioned above. However, unlike the base implementation, this will be held more as workshops and activities without reassembling; it will use the existing one but will create a variety of options for its needs.

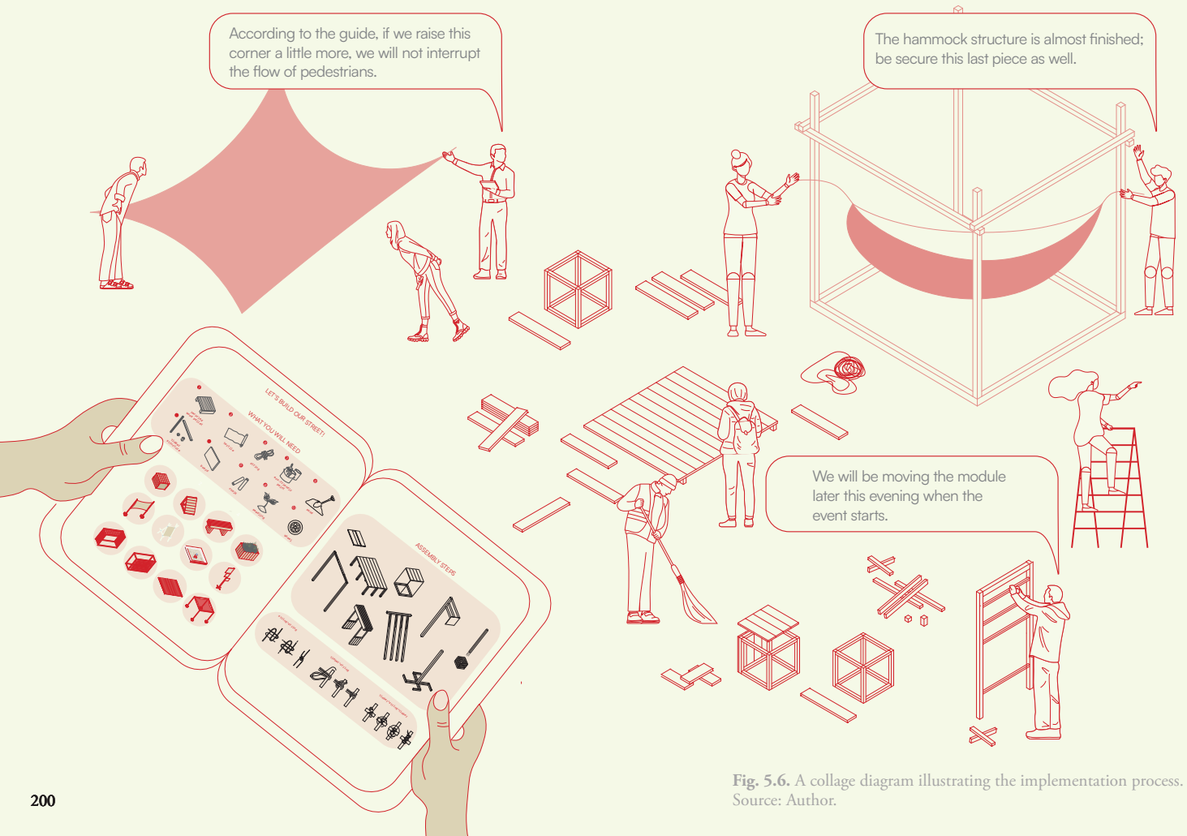


Fig. 5.6. A collage diagram illustrating the implementation process. Source: Author.

THE TIMELINE of implementation

ONE WEEK BEFORE
It is important to inform people beforehand to minimize potential problems that may occur when the implementation starts. The street must be cleared of parked vehicles, so parking restriction signs must be installed, mentioning the period.[222]

DAY 1
The first day of implementation should be held as a meeting with stakeholders to discuss how the process will work and divide the labor. The day can start with a small event; after materials and other needs are delivered, it can continue with planning. Once each section has been finalized, the day could conclude with an event to which all neighbors and stakeholders are invited.

DAY 2
On the second day of implementation, guided by the catalogue, wooden modules and structures should begin to be constructed on site, and pre-assembled elements should be located according to the plan. The assembly process may take the entire day.

DAY 3
Constructed elements can be distributed and positioned. The plants for urban gardening can be started to be planted.

DAY 4
Once all the main structural work for the intervention is complete, small details to engage and inform the public, such as drawings, cards, and information boards, can be added. This day could serve as the official opening event of the street experiment.

FOLLOWING DAYS
To keep the street vibrant, in addition to informing people about the experiment and discussing it with them, various activities that encourage people to spend more time in the street; for instance, musical performances, picnics, and children-focused activities could be organized. For each event, the needings may change; at this time, modular furnitures can be rearranged by volunteers and event organizers.

222 It should be noted that displacing parking spaces from the experimentation area is a critical issue. There is a possibility that the parkings are merely pushed into other neighborhood streets rather than being structurally reallocated or resolved.

DESIGN ASPECT
VIA PRINCIPE TOMMASO

OVERVIEW. Via Principe Tommaso already has regular user groups; however, their level of street usage is low. The presence of a kindergarten during the day is an important fact since the comparison between observed streets shows that the number of users between the ages of 0-14 is considerably higher in Via Principe Tommaso. However, the street's potential is not limited to just a single user group. While the circolo's dominance at night can be linked to social gatherings, the observed significant resident flow hints at the potential for a community-oriented environment to emerge.

USERS.



STRATEGY. "Play" is a very powerful tool to allow people of every age to make space their own and create a subjective sense of place. When the regular users of the street are considered, it is seen that taking play as the main term and given the transitory nature can promote public life in the street and help to understand the street's identity.

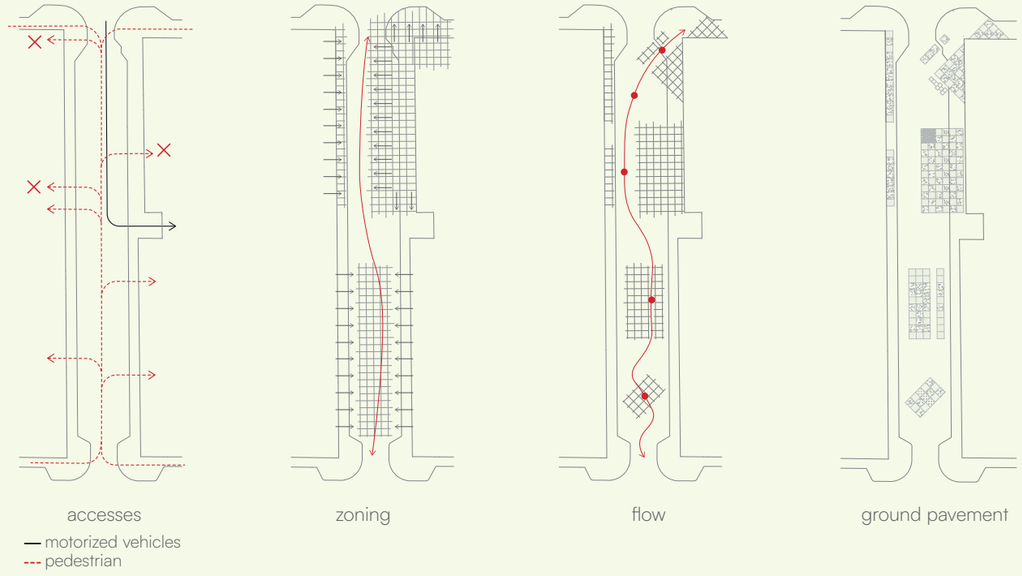
HOW CAN TEMPORARY INTERVENTIONS PROMOTE PLAY? Structures and equipment in the interventions are an important part of the playgrounds and give an environment that stimulates users' minds. The interventions creates its concept under the term of "play", but it does not only refer to children. Play is an inclusive term and starts with imagination. It belongs as much to parents, passersby, the elderly, and animals as it does to children. The interventions are selected from the catalog in the guideline, which is created to serve as a guide for temporary phases. The elements are very basic, but open to interpretation with their modular character. Sandpits, wooden boxes, jungle gyms, stepping bars, ropes: They can all be used in different compositions depending on the needs.

SPATIAL WALKTHROUGH. The first aim is to give the perception to the people that the street is open only to soft mobility. To do that, the entrances on both sides were rearranged to inform people at first sight. The plant boxes and entrance structures work as a soft buffer zone between traffic and the pedestrianized area. Bike racks are located on both sides to promote soft mobility here. Another important thing is the information board, which serves as a platform for programmes, current activities, and feedback, creating interaction between the individual and the street, and also helps improve the site during testing. Observations conducted at different times of the day have shown that the height of surrounding buildings is sufficient to provide shade throughout the day; therefore, taking weather conditions into account, consideration is being given to covering only the platform intended to host longer-duration activities.

The area in front of and around the kindergarten transforms into an active play interface with wooden structures and offers a multi-purpose use, accommodating the kindergarten's needs during the day and the Circolo's social gatherings at night.

The relatively quiet section of the street is being reimagined as an urban gardening area that prioritizes both educational opportunities and collective gardening, aiming to enhance sensory and social potential by placing all user groups at the center. Furthermore, the seating units have been designed in various versions; these adaptable units, which encourage both slowing down and social interaction, offer inward-facing arrangements for group gatherings and outward-facing layouts for individual use.

GROUND AS A CONTEXTUAL REGULATOR. A grid-based approach was implemented for the ground layout while testing the street. Fundamentally, this aims to help users cognitively divide the space into safe zones and form a perception of the area; the grid structure imposes a sense of order and scale while offering defined spaces. However, these defined areas are not governed by rigid rules; users can establish and adapt their own rules. For instance, a child might use this layout as a foundation for creating a game matrix, a game that might sometimes integrate with the modular structures or, at other times, be constructed entirely within the framework of a single grid.



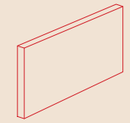


toolkit materials
elements used for experimentation on Via Principe Tommaso

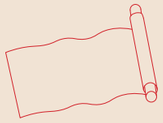
string



board



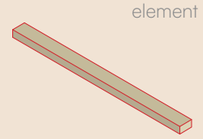
textile



x6
chairs



x120
structural element



x37
structural element



x3
tables

x8
platforms

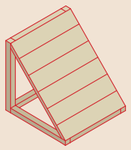
x16
structural element



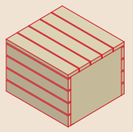
x20
stepping blocks



x6
angled modules



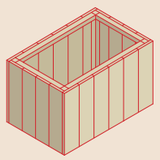
x60
seating modules



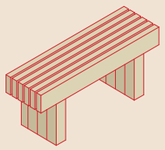
x13
potted tree



x14
planter boxes



x3
benches



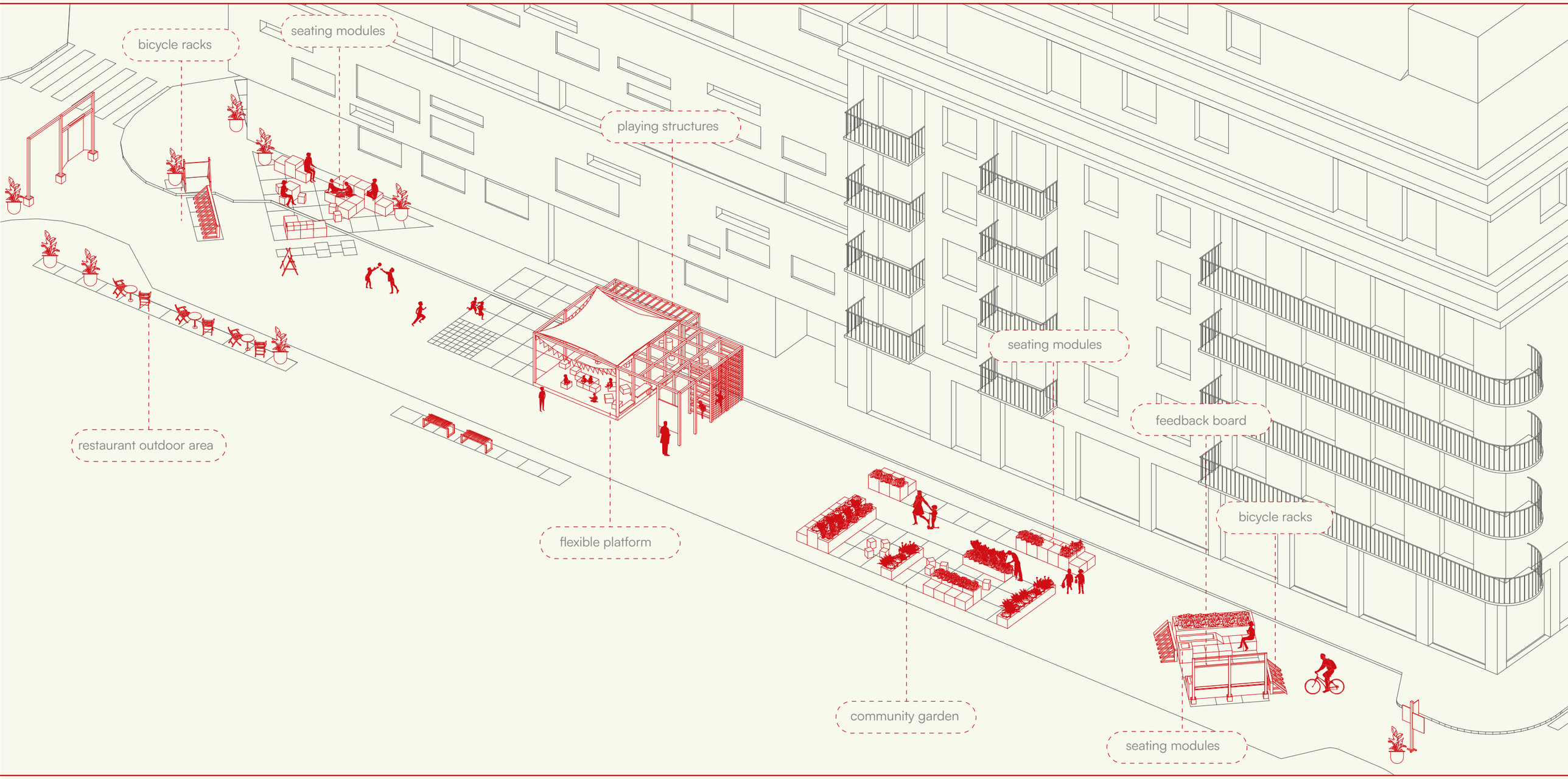
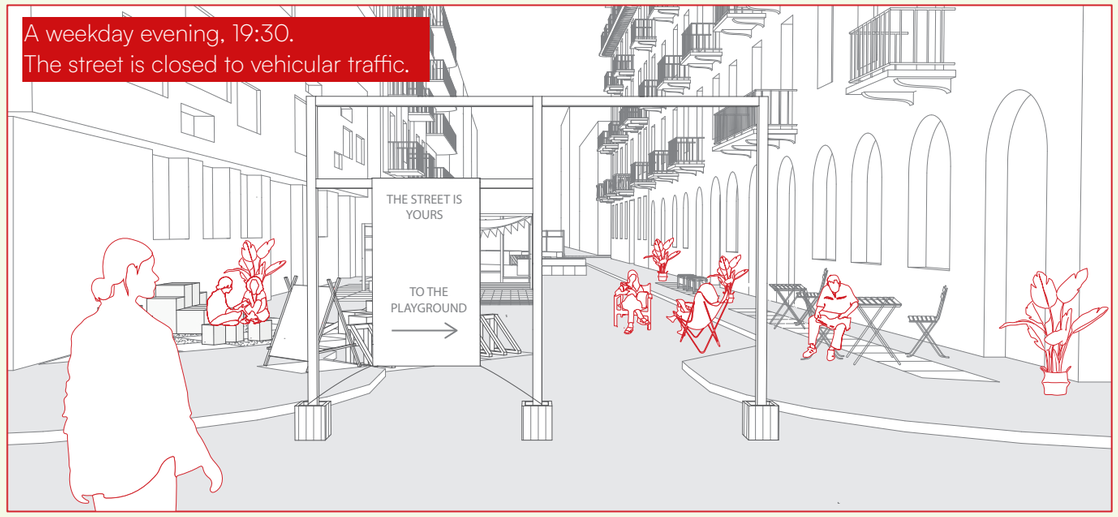
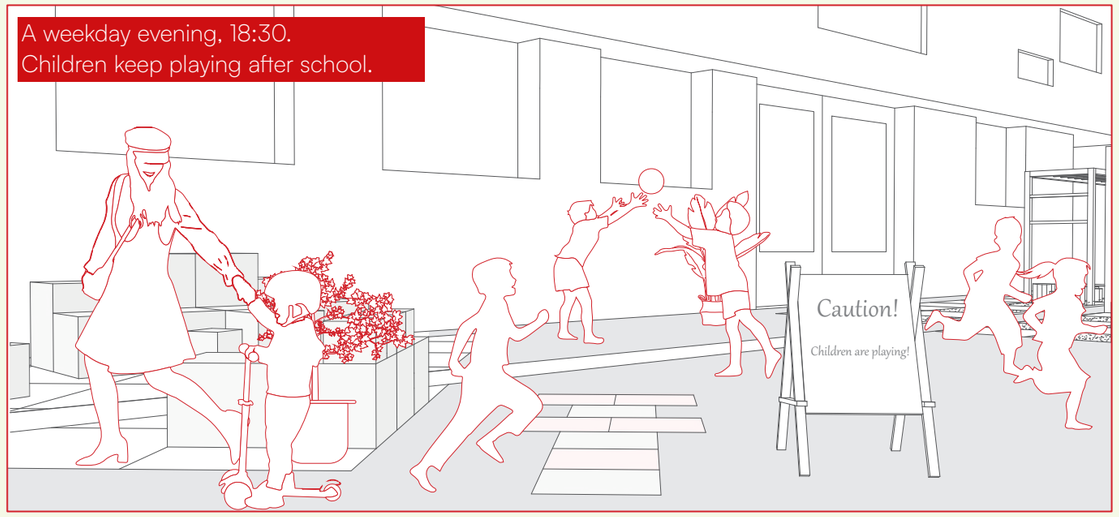


Figure 5.7. View of the proposed street intervention. Base 3D model provided by Alexandra Stankulova (2021); architectural interventions, post-production, and drawings by the author.

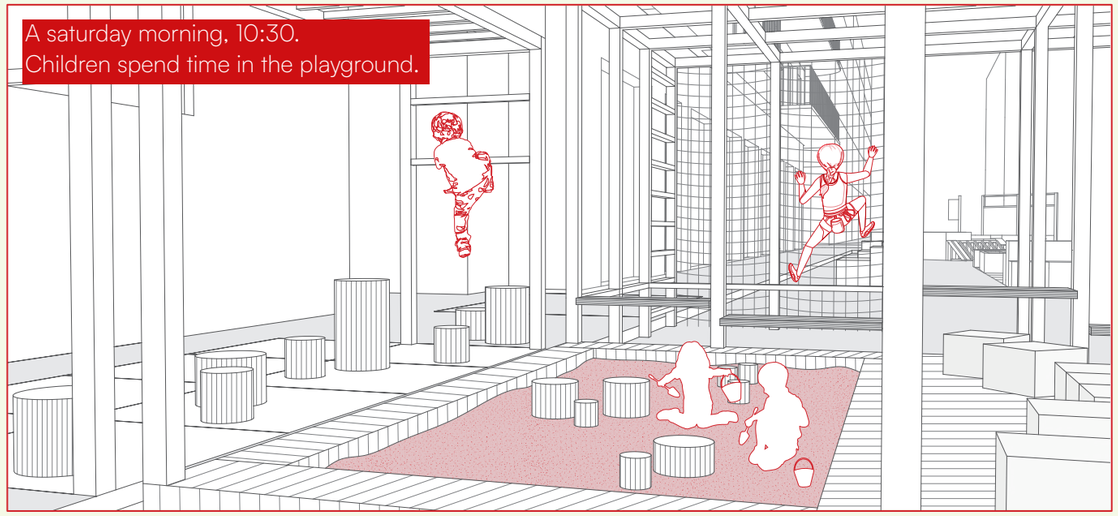
A weekday evening, 19:30.
The street is closed to vehicular traffic.



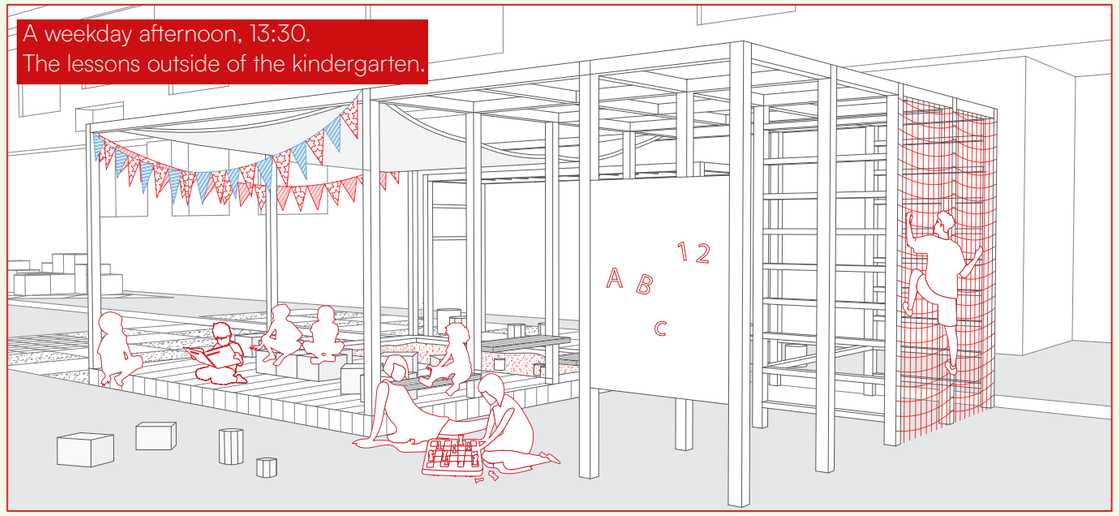
A weekday evening, 18:30.
Children keep playing after school.



A saturday morning, 10:30.
Children spend time in the playground.



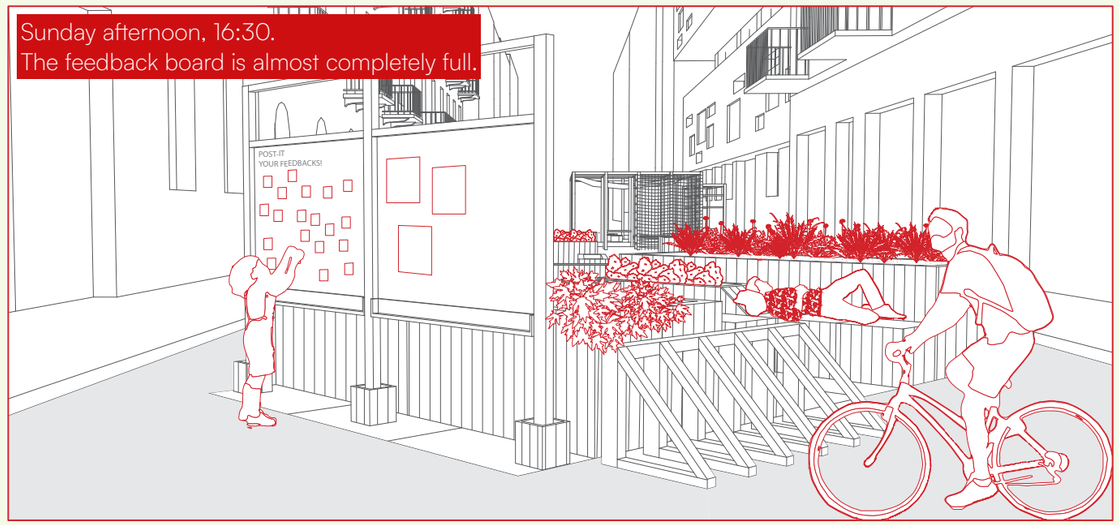
A weekday afternoon, 13:30.
The lessons outside of the kindergarten.



A saturday afternoon, 12:30.
Gardening event with residents.



Sunday afternoon, 16:30.
The feedback board is almost completely full.



DESIGN ASPECT
VIA LOMBROSO

OVERVIEW. The monitoring indicates that public life in Via Lombroso is very low, limited solely to the ASAI and the bar Ciclofficina. The street is divided into two zones; one is fully pedestrianized, and ASAI uses the area as part of the recreational space in the mornings, mostly before and during the course time. The other part allows vehicles to access garages, with its left side largely occupied by Ciclofficina's outdoor area.

USERS.



STRATEGY. The street functions as a dynamic open form. Instead of fixing the activity, the aim is to establish a modular and portable structure that allows theuser to adapt to different times of day and various events such as open-air cinema, exhibitions, sports, or socializing. The aim of this approach is to test whether the flow and duration of activities of existing regular user groups increase, and to observe what types of different users might be seen.

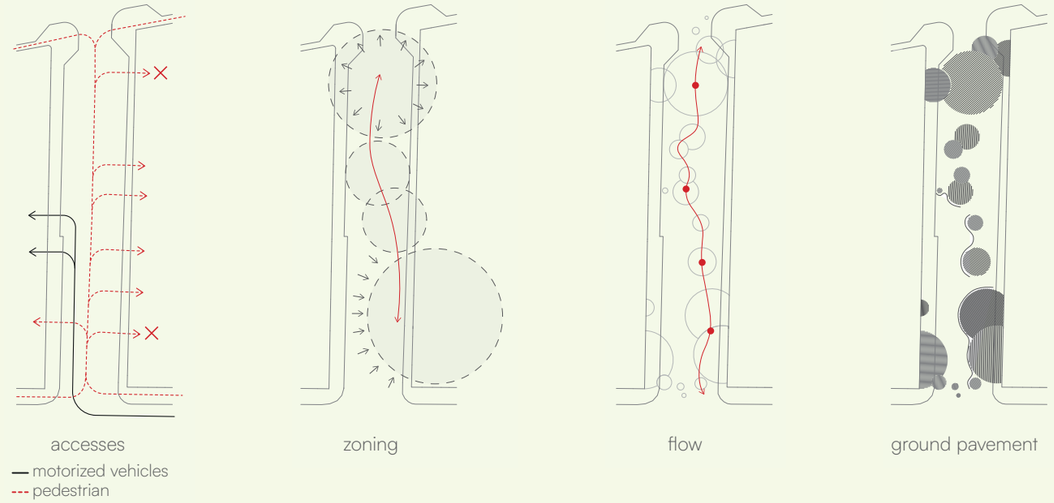
HOW CAN TEMPORARY INTERVENTIONS PROMOTE PLAY? The interventions act as catalysts that encourage the user to appropriate the space according to their own scenario and to reproduce the urban environment. It is supported with existing functions on the street as well as possible programmes to attract people. The interventions are selected from the catalog in the guideline, which is created to serve as a guide for temporary phases. The elements are very basic, but open to interpretation with their modular character. Moreover, within the hands-on structures, some ready-made structures are located in the area, such as portable ping-pong tables. All structures and equipment endlessly recombine in different compositions depending on the requirements.

SPATIAL WALKTHROUGH. The garage access required for vehicles leads to consideration of concepts such as the appropriate approach when planning the experimental phase and how to determine priorities. Modular plant boxes and pavement graphics formed the separation between different mobilities, as the main elements. The wooden gateway at the beginning of the street visually signals to vehicles that this is a pedestrian-priority zone.

Observing that the area in front of ASAI is used for a wide variety of activities by kids paved the way for designing the space with the same perspective, supporting it with modular and portable structures. With this experimentation, it is desired to see if the street can function as a spontaneous playing area, an educational space for the course itself, neighborhood picnics, or exhibitions. The monitoring conducted at night proved that the nearby restaurants have an audible character instead of a quiet neighborhood. Based on this situation, the collective platform is planned to test people's attraction to hosting events such as open-air cinema or mini-concerts.

The outdoor seating area is planned, in front of the bar, by blending standard commercial furniture with modular urban furniture. The primary objective here is to strongly convey the sense that the space does not belong to commercial, open to the public. At the same time, to reveal the bar's bicycle club and rental opportunities, bike racks are distributed along the street, and an information desk that is more visible is located. Zones with long-duration activities have been planned to include canopies and portable umbrellas.

GROUND AS A CONTEXTUAL REGULATOR. Unlike the experiment on Via Principe Tommaso, here the phase on Via Lombroso is structured around circular forms. So, the ground painting reflects an approach of transforming the space through activities. Rather than guiding people along the lines, the design aims to bring them together around these shapes. At the same time, this curved form also regulates vehicle speeds, which need to be dealt with in the area.



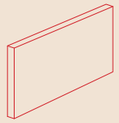


toolkit materials
elements used for experimentation on Via Lombroso

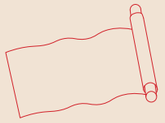
string



board



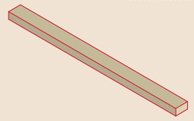
textile



x12
chairs



x100
structural element

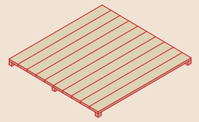


x23
structural element

x5
tables



x9
platforms



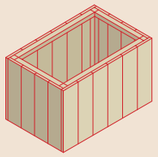
x20
structural element



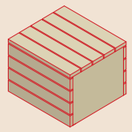
x4
sun umbrellas



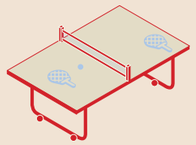
x9
planter boxes



x55
seating modules



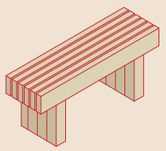
x2
ping-pong table



x22
potted tree



x2
benches



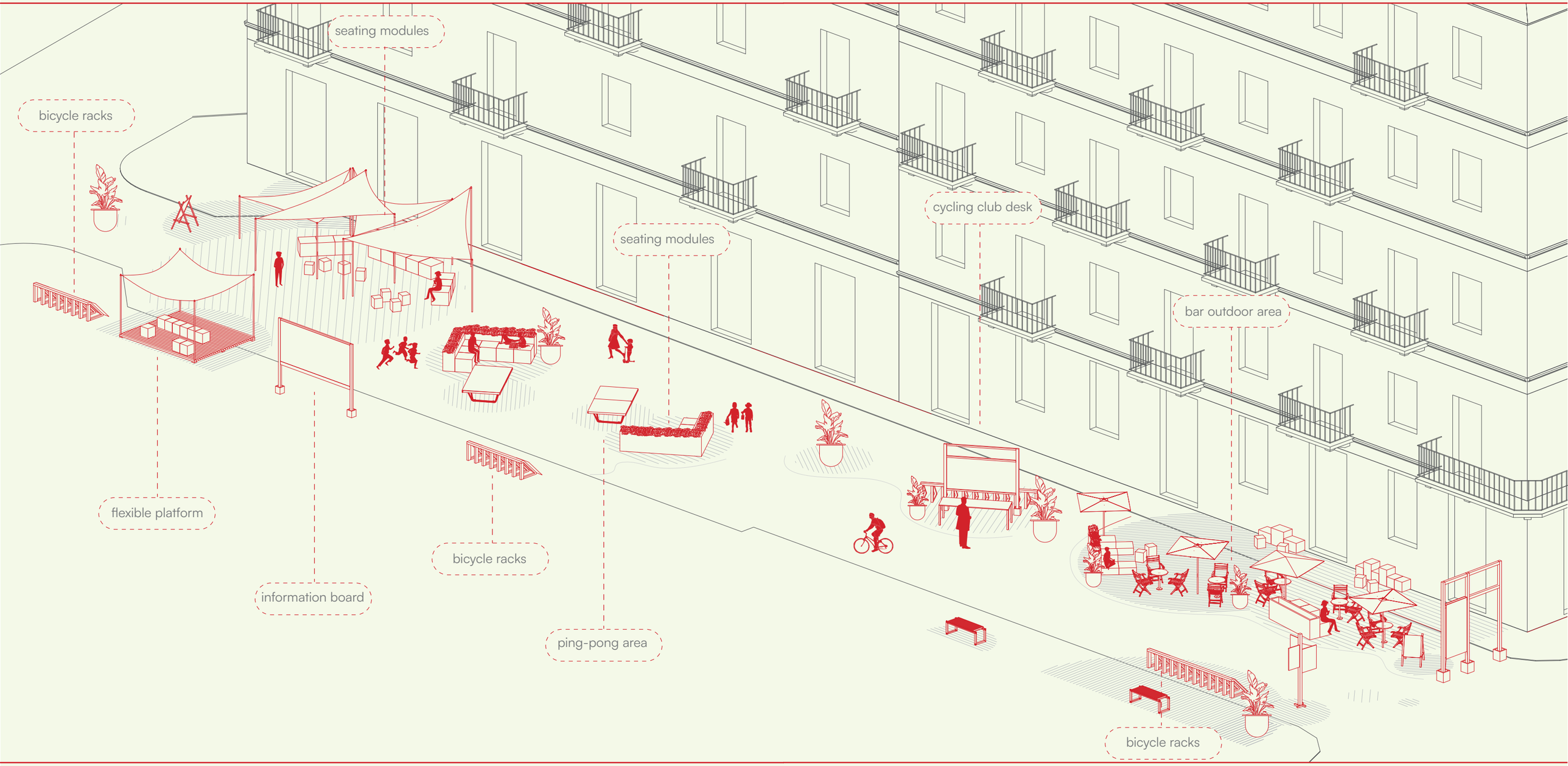
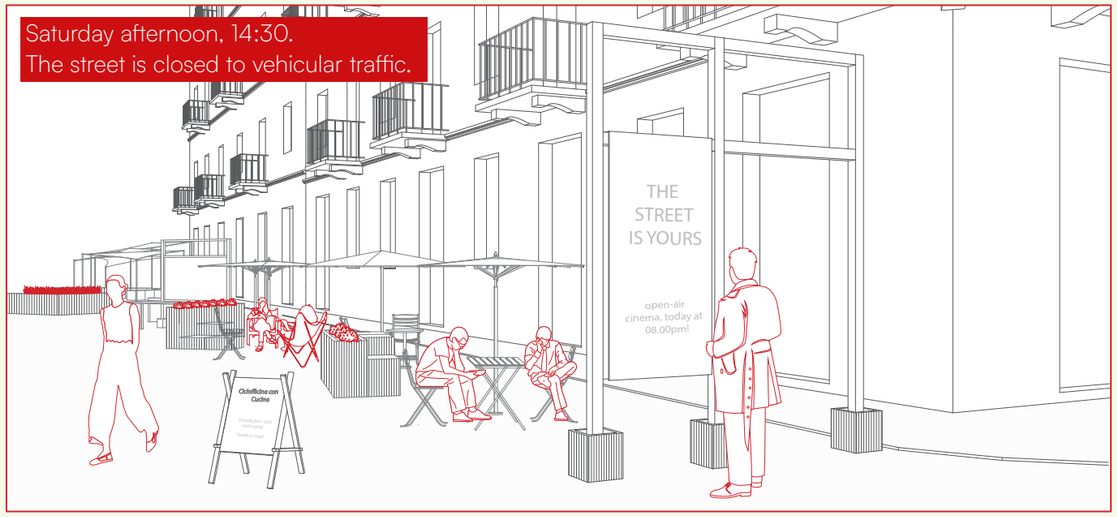
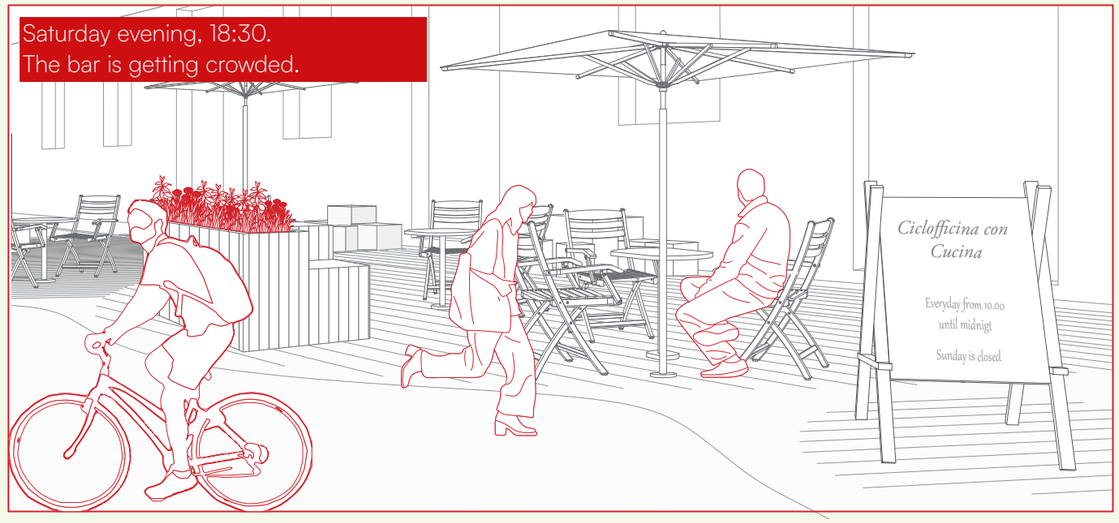


Figure 5.8. View of the proposed street intervention. Base 3D model provided by Alexandra Stankulova (2021); architectural interventions, post-production, and drawings by the author.

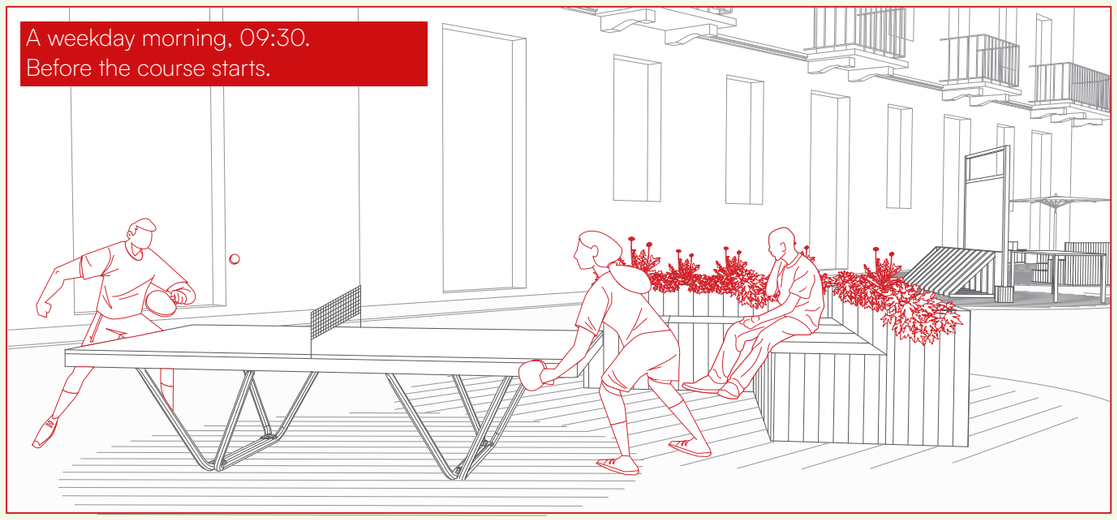
Saturday afternoon, 14:30.
The street is closed to vehicular traffic.



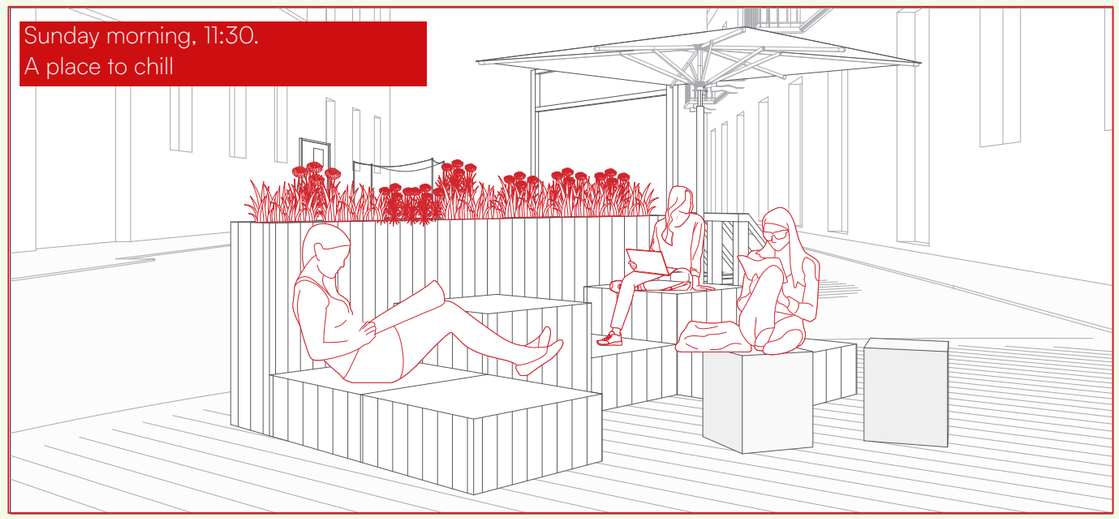
Saturday evening, 18:30.
The bar is getting crowded.



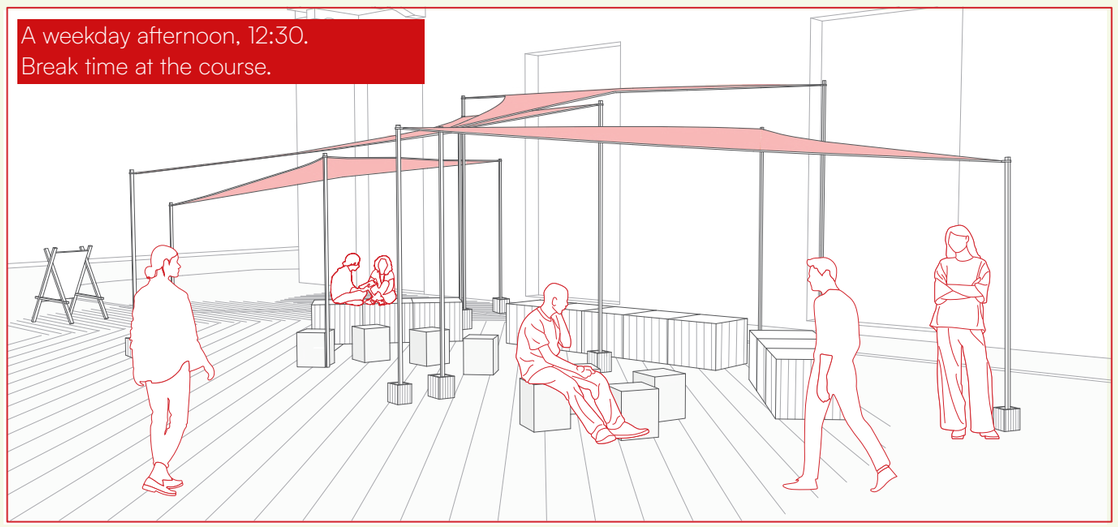
A weekday morning, 09:30.
Before the course starts.



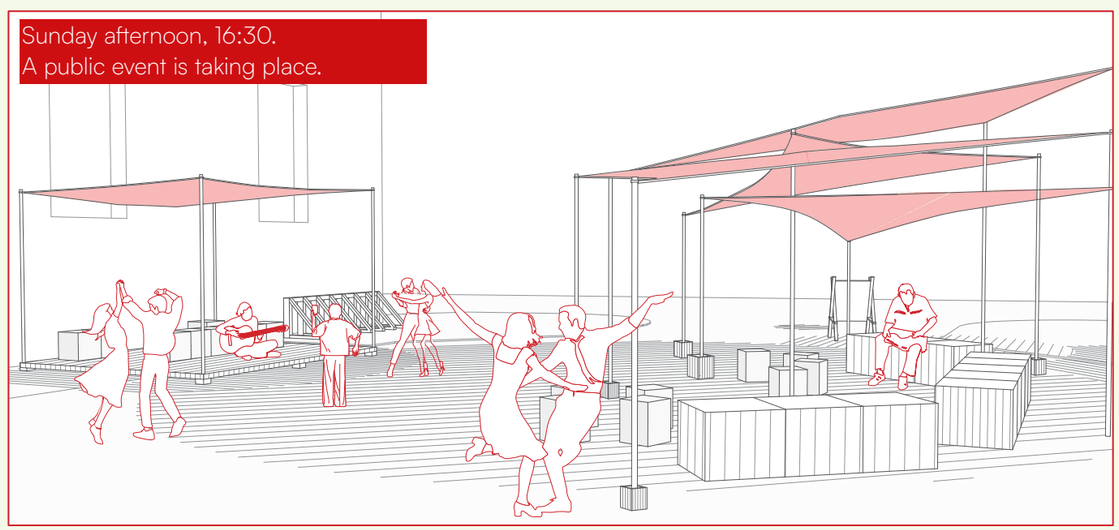
Sunday morning, 11:30.
A place to chill



A weekday afternoon, 12:30.
Break time at the course.



Sunday afternoon, 16:30.
A public event is taking place.



COMMUNICATION

This is one of the key aspects of street experiments; for public life on the streets derives its meaning from the presence of people, and participation shapes this process. Therefore, keeping all interested and involved people in the loop during all phases is crucial to avoid conflicts and enhance acceptability.

Communication should be included in each phase; however, the way of communicating may differ from phase to phase or among the actors involved. For instance, before implementation, the aim is to draw attention to the idea of reclaiming the street (see page x.), while during the experiment it is to involve people in the process and observe what unfolds.

There are a variety of methods; online platforms such as social media and websites are currently one of the primary tools to reach people. Additionally, elements such as brochures, on-site posters, surveys, meetings, workshops, kick-off events, and visitor information kiosks can contribute to the development of the experiment. In this guideline, three potential communication tools to be implemented on selected streets are going to be examined in detail; the study also aims to offer a perspective for other street experiments.

1 LITTLE DETAILS MAKE A DIFFERENCE

Supporting interventions with details to inform and involve people can serve as another tool to strengthen the sense of participation and belonging. In this approach, community gardens are supported with small information cards: some invite people to use the plants being grown, others call on them to join a regular watering schedule, and some explain what is currently being cultivated.





2 FIRST ANNOUNCEMENT

The first announcement regarding the street experiment should be attractive and inform the public about what the project is, why it is being carried out, and how the process will unfold. This announcement might include a collage illustrating what the street will look like, the activities that could take place, the project timeline, and perhaps the specific events being planned.



3 THE WATERING PROGRAMME

To ensure the maintenance of the greenery created through this intervention, a watering programme can be organized among local residents and volunteers. Here, beyond maintenance, the process aims to contribute to community engagement and a sense of belonging. Announcements can be posted on the main and nearby streets to invite people to participate in this initiative.



MONITOR & EVALUATION

This process can essentially be viewed as the same method used to evaluate the streets following their pedestrianization. This method should be repeated through various measurements before, during, and after the street experiment. Based on the results of these observations, the planned implementation for the experiment or the transition to the permanent phase should be revised accordingly.

Once all data has been collected, it should be seen if it meets the project's strategy and goals. Moreover, certain questions should be asked to reach a sort of conclusion. This section is not about deciding whether the street experiment was a success or failure; rather, it is a process for extracting lessons, gathering feedback, and drawing relevant conclusions.

A quick review of monitoring and evaluation methods:

1- Observation *(Public Life Tools by Jan Gehl)*

Counting
Mapping
Tracing
Tracking
Looking for Traces
Photographing
Keeping a diary

Observation Schedule:
Schedule: 3 days per week
Frequency: 3 observations per day
Duration: an hour per session

2- Surveys
3- Interviews
4- Feedback
5- Data

		indicator	method
1	Mobility	walkability	observation, survey
		cyclability	observation, survey
		bycycle parking	observation, survey, interview
		change in mobility behaviour	survey, interview
2	Public Space	activation of street	observation, survey, interview, feedback
		enhance quality of stay	observation, survey, interview, feedback
		module usage	observation
3	Local Economy	density of customers	observation, interview
4	Social Cohesion	participation	observation, survey, interview, feedback
		spontaneity	observation
		acceptance	observation, survey, interview, feedback
5	Pact of Collaboration	sense of community	observation, survey, interview
		physical condition	observation
		civic ownership	observation, survey, interview
6	Environment	care for the plants	observation, survey
		cleanliness	observation, survey, interview, feedback
		noise	observation, survey, interview, feedback

Table 5.3. A table listing the project's goals and the observation methods required to achieve them
Source: Source: Elaborated by author from Street Experiments Tool, SET Guidelines Kit.

MAINTENANCE & MANAGEMENT

Just as each section before and during implementation requires maintenance and management, these processes must be sustained after implementation to preserve the results.

This matter is not only about issues of cleaning and repair; this is how public life is built and how a sense of belonging is maintained. As mentioned before, the interventions can generally be classified into top-down, bottom-up, and hybrid approaches. For the top-down approach, the sense of belonging remains quite weak, and the bottom-up approach can be considered a fragile model due to its inadequate legal and financial infrastructure. To sustain a project, different types of actors are needed. Therefore, a co-management approach based on a stakeholder partnership where responsibility is shared is needed.

PACT OF COLLABORATION

On the streets under study, while examining the relationship among stakeholders, how locals and the municipality can be in relation with each other is questioned to have a mutual one rather than one-sided approach. A "Pact of Collaboration" emerged from this process to ensure that streets are managed better over time. The pact is signed by the municipality, local associations, businesses, schools, and local residents; it does not exclude any street-related actors. It is an urban protocol that determines how events will be managed and how the street will be maintained.

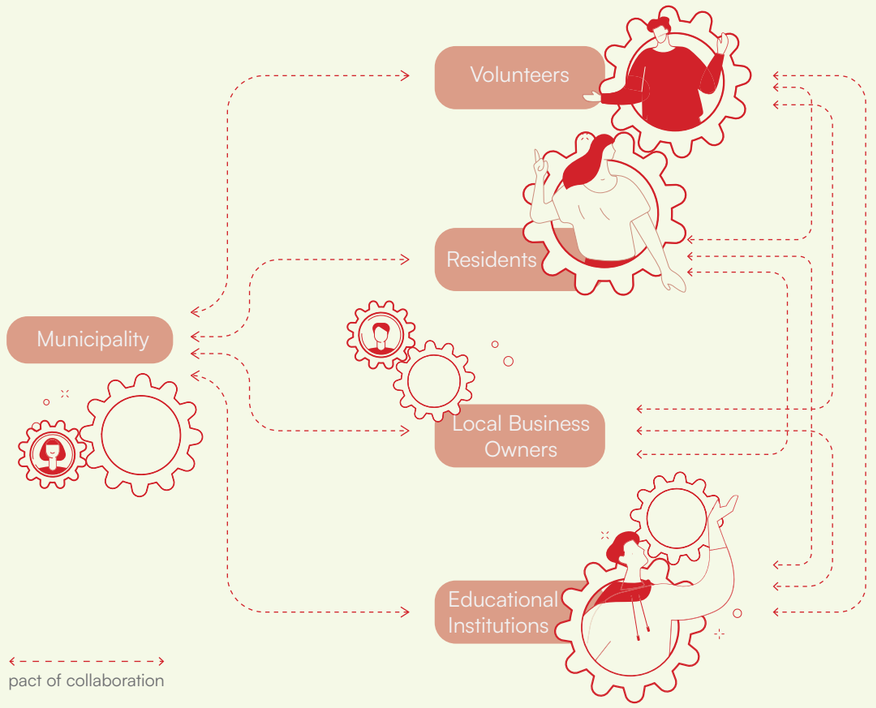


Fig. 5.9. Relationships between the stakeholders who are involved in the "Pact of Collaboration". Source: Author.

LONG-TERM STRATEGY

Street experiments are temporary; however, their potential for transforming the street is long-term. Experiments test the street, examine potential and critical issues to be solved, and aim to involve citizens in the street more and minimize risks arising from the transformation of the street. The results of the experimentation demonstrate the success of the temporary phase and decide whether to continue with permanent transformation and keep the experiment as a reference point to guide larger-scale transformations. The temporary phase does not offer a rigid, final product; instead, it acts as a tool for further transformations.

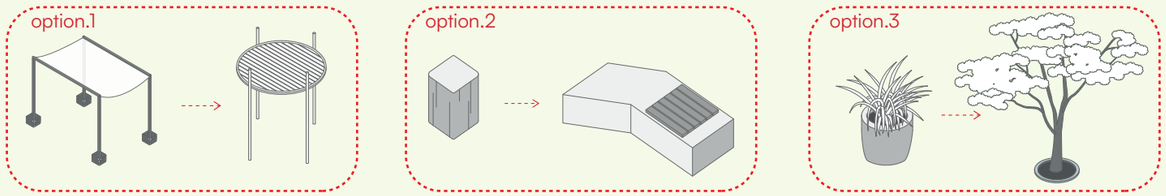
Transition to the Permanent

An experiment has the potential to become permanent when successfully carried out. At this stage, temporary surface paints, signs, and other short-lived elements should be replaced with long-lasting elements. In doing so, the vital thing is not to lose the rhythm of the street captured during the temporary phase.

Certain steps must be taken to rule this transition. For instance, problems that may arise between phases must be clarified through questions while carrying the phase into the permanent one. In this way, the questions can guide the process, and answers can shape them.

1 How does replacing some of the street furniture with more durable materials align with the street's flexible form?

The timber used in the experimental process is not durable due to its low cost and tendency to wear out. When transforming to the permanent phase, it should be replaced with more durable materials to extend the element's lifespan.



This transformation does not stop the street's flexibility; on the contrary, it creates controlled flexibility. With the shift to more durable materials, lockable industrial concealed caster systems or rail mechanisms can be integrated beneath the modules. This allows local organizations or commercial staff to join and separate the modules just as before; however, this movement now evolves from completely unconstrained chaos into a more refined been refined through the use of concealed rails or guide lines in the ground.

2 Thinking ground paintings divide the street into zones and form perception; when it is transformed, permanent infrastructure will be carried out, such as eliminating level differences. How can these surface treatments be reimagined in the permanent phase?

Zoning and directing, initially implemented using low-cost, simple methods during the experimental phase, can be reconsidered through material changes, leveling, texture differentiation, and, again, ground painting.

For instance, vehicle speeds can be reduced by using surface textures, such as curved transitions or rough surfaces, wherever vehicles pass through. Similarly, zones serving different functions can be distinguished by using different colors and materials.

3 Will the pact of collaboration continue after implementing permanent solutions? If yes, how will it continue, considering bureaucratic regulations? If not, what alternative solution can be considered to maintain civic ownership?

The pact of collaboration should continue, as stakeholders are vital during experimentation to maintain and manage the process. If it is left, civic ownership is lost. The pact begins as experimentation; once it is seen how it functions, a better version could be evolved to "Co-management of Urban Commons."

The hierarchy can be shaped as an infrastructural maintenance and a daily one. The municipality takes responsibility for the infrastructural one while daily ones are entrusted to local actors through a formal protocol. The municipality provides micro-grants for these activities.

4 How can planting be integrated into nature-based microclimatic solutions considering urban infrastructure?

Planting uses plant boxes in the experimental phase; however, when considered as part of a long-term strategy, the process must evolve toward more sustainable solutions. While some plant boxes can remain in their existing locations, others could propose nature-based solutions that require permanent soil and can create microclimates and retain water.

Species that are resilient to different conditions are needed, such as Common Dogwood (Cornus sanguinea) for water filtration. Trees that cool the air through evapotranspiration can be added, such as Field Maple (Acer campestre). These methods have the potential to lower the street's ambient temperature by 2-3 degrees. However, during the temporary phase, plant types should be tested, or, while implementing the permanent ones, plants that align with the city's climate should be selected.

Scaling the Strategy

An experiment has the potential to become a reference in a more bureaucratic way, considering a planned catalog and pacts as a model that can be adapted and scaled according to the street. While certain factors differ, the main structure of the guide can direct the process.

In the case of experimentation on Via Principe Tommaso and Via Lombroso, the street accommodates multiple functions simultaneously. However, the main factor to consider was the presence of an educational institute on the street. That is why it is possible that a long-term strategy based on this guide could be proposed for implementation in San Salvario, Turin, and even on streets elsewhere in the world that contain educational institutions such as schools.

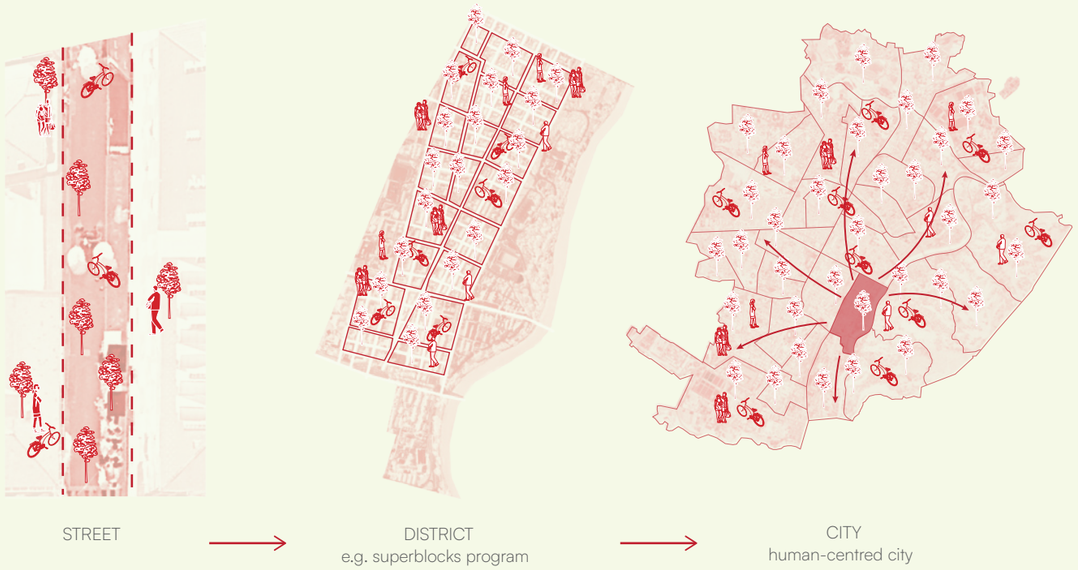


Fig. 5.10. Displaying the scales of possible systemic changes of street experiments. Source: Author.

1 The process can be long and tough, especially when it comes to convincing local residents. What kind of communication strategy, if any, should be standardized for other streets? In what kinds of situations and how might it differ?

The strategy of testing and identifying the best approach should never be abandoned. The fact that an experiment succeeds on one street does not mean it will succeed on every street. For a street with a commercial character, increased pedestrian traffic boosts the number of potential customers. On the other hand, on residential streets, where children can play safely can be crucial. Data gathered at the end of the process must be interpreted within this context, results should be shared with all stakeholders involved with the street, and communication throughout the process must be maintained at maximum efficiency.

2 When modularity and hands-on production move into larger scale, how can local organizations be part of the process, and what kind of different actors and relations are needed?

It does not mean that the process of the experimental phases must change as the scale changes. The street should still be perceived at its own scale and developed according to the process outlined in this guideline; preserving the “bottom-up” approach. Centralized production is not the product of this phase; while each neighborhood has its own actors, users, and organizational structure, its procedural relationship with the municipality should be approached from a distinct legal perspective.

06

DISCUSSION & CONCLUSION

Insights

This research focused on the experimental phase and discussed how to develop an effective process to prevent errors that may arise during the transition to permanent operations. The case study of the TML project helped to address these issues by connecting the theoretical framework with the practical. The pedestrianization project is analyzed, monitored, and compared with the current situation to create a framework over a 5-year period.

Research findings have demonstrated that the pedestrianization itself is not sufficient to transform the space into living public life. The process entails socio-spatial dynamics far more complex than those addressed in the TML project. The comparison of monitoring conducted in 2020 and 2021 with the monitoring of 2025 reveals that the street is not used very actively. The acceleration of the increase in the 5-month period is very close to the total increase recorded in the following 4-year period (2021-2025). Conversely, a decrease is observed in Via Lombroso from May 2021 to 2025, which is even lower than the initial situation (October 2020).

	2020 OCTOBER		2020 NOVEMBER		2020 DECEMBER		2021 MAY		2025 MAY-JUNE	
	people moving count	stationary activities count	people moving count	stationary activities count	people moving count	stationary activities count	people moving count	stationary activities count	people moving count	stationary activities count
VIA PRINCIPE TOMMASO	3,69	8,75	2,53	4,22	2,91	5,78	4,26	28,00	5,77	35,78
CORSO MARCONI	3,70	29,69	0,61	36,56	3,74	30,00	4,56	99,78	6,21	112,22
VIA LOMBROSO	1,64	6,25	2,63	2,89	0,84	2,67	1,76	39,78	1,31	23,78

A review of the literature and on-site analyses indicated that the experimental phase conducted on the streets of San Salvario was very inadequate. Although the process and schedule were established before the project, their management was not successfully executed. Consequently, a lack of interaction remains evident on the streets.

These critical findings from the TML project formed the guideline as the primary output. The guideline presents a methodological approach for each phase that needs to be conducted, starting with the decision-making process. Although the guideline is grounded in the TML project, it does not solely focus on it. For instance, it proposes various communication methods that can be adapted according to the street. Initially, it offers a comprehensive overview of each step, then examines the TML project, and discusses how to avoid errors.

The street can never be a finished product; it constantly evolves. The design principles mentioned in the guideline center this into the methodology and provide solutions that can adapt to different scenarios. The guideline also acknowledges the possibility that initial design decisions may fail on site. Therefore, its iterative nature enables the re-examination of any situation that might weaken public life on the street, making it possible to arrive at a better outcome.

Proposed Paradigm Shift on the Experimental Phase Based on the TML Project

Parameters	TML Project Model	Guideline
The Process	Linear and Disconnected	Iterative, Holistic and Inclusive
Actor Involvement	The hierarchy and structure were not effectively established. Some actors did not involve while some involved late	Structured not as a top-down approach, but as a more mutually reinforcing and inclusive structure. Both decision-makers and users are active
Action Plan	The action plan was not followed, and necessary tasks were not completed on time	A clear action plan including specific points such as workshops and events is structured
Vision & Goals	A shift away from the initial approach. The process continued with an unclear vision and goal	Feasible vision and goals that can be measured through monitoring were established
Communication	One-way information flow, at the beginning of the project	Continuous engagement and feedback from the beginning till the end of the phase
Elements & Materiality	Only planters and one or two benches, still in used	Modular, flexible, and low-cost elements to test and enhance public life
Design & Implementation	Insufficient planning, decided upon between the Municipality and the Superintendency of Archaeology, Fine Arts, and Landscape	A programmable urban surface that allows various function, supported with active participation to implementation processes
Interaction	Limited to the activities conducted within the local associations themselves	Events, organizations to gather people and take attraction is planned
Monitoring	Produced to present data, without contributing to the transformation	Active tool to observe what needs to be done, comprehensive understanding the street
Maintenance & Management	Limited to the activities conducted within the local associations themselves	Pact of collaboration is offered to increase the sense of belonging and support participatory model
Long-Term Strategies	The Superblock project has seen as reference. It remained limited to the pedestrianization of three streets.	The guide is formed to adapt other streets, can be considered with different scales

Limits & Challenges

Although this research provides a structured methodology for the experimental phase, it contains certain limitations and challenges within its long-term impacts. When the experimental design is discussed, the usage of the elements in the street and their long-term durability can be questioned. The flexible modularity is very engaging, allowing people to personalize the place and use it according to their needs. However, it depends on the user's initiative and may remain unprotected against **vandalism**. The pact of collaboration, which aims for continuous engagement during and after implementation, could be a possible solution. However, **the vulnerable nature of volunteering** could arise as another challenge here. Also, **the harsh weather conditions** in winter were added; the street element's durability could be considered problematic.

This is why the transition period from the temporary to permanent phase is vital. When the optimal duration of the experiment is extended, the existing potential could also disappear. Balancing the time period and transitioning the elements according to the challenges and limits, in addition to the outcome, may be one possible solution to prevent the issues addressed.

Street transformation does not only affect the street itself. When the street becomes attractive and liveable, it causes the rise of real estate values, so-called **gentrification**, in the surroundings. This situation may result in the displacement of the commercial and residential users for whom the street was transformed at first. Local policies need to be established in this case.

Future Directions

The thesis offers a retrospective reading; therefore, it possesses a comprehensive approach. However, this should not be limited to just one street. The universality of the methodology can be tested by applying it to other street experiments in the future. Moreover, integration with a digital interface for certain management or local applications can help reach a wider scale.

Further studies may also explore a detailed analysis of which indicators could be replaced, and with what, once the transition to the permanent phase has occurred, assuming the experimental phase was successful.

BIBLIOGRAPHY.

Amati, Marco, Quentin Stevens, and Salvador Rueda. "Taking Play Seriously in Urban Design: The Evolution of Barcelona's Superblocks." *Space and Culture 27*, no. 2 (2024): 156-71. https://doi.org/10.1177/12063312231159229.

American Society of Landscape Architects. "About Park(ing) Day." Accessed March 10, 2026. https://www.myparkingday.org/about.

Appleyard, Donald. *Livable Streets.* Berkeley: University of California Press, 1981.

Augé, Marc. *Non-Places: Introduction to an Anthropology of Supermodernity.* Translated by John Howe. London: Verso, 1995.

Barbin, Pierre. "Le très cher sable de Paris Plages épinglé par la Cour des Comptes." *Le Figaro*, December 11, 2015. https://www.lefigaro.fr/conjoncture/2015/12/11/20002-20151211ARTFIG00132-le-tres-cher-sable-de-paris-plages-epingle-par-la-cour-des-comptes.php.

BBC Bitesize. "Who Were the Indus People and How Did They Live?" January 27, 2025. https://www.bbc.co.uk/bitesize/articles/z9mpsbk#z2shhcw.

Belgian Highway Code (Wegcode). Royal Decree of December 1, 1975.

Beeckmans, Luce, and Stijn Oosterlynck. "Lessons from the Lockdown: Foregrounding Non-Privileged Perspectives into the (Post-)Covid City Debate." In *Global Reflections on COVID-19 and Urban Inequalities: Volume 3: Public Space and Mobility,* edited by Rianne van Melik, Pierre Filion, and Brian Doucet, 35-45. Bristol: Bristol University Press, 2021.

Ben-Joseph, Eran. "Changing the Residential Street Scene: Adapting the Shared Street (Woonerf) Concept to the Suburban Environment." *Journal of the American Planning Association* 61, no. 4 (1995): 504-15. https://doi.org/10.1080/01944369508975661.

Bertolini, Luca. "From 'Streets for Traffic' to 'Streets for People': Can Street Experiments Transform Urban Mobility?" *Transport Reviews* 40, no. 6 (2020): 734-53. https://doi.org/10.1080/01441647.2020.1761907.

Bertolini, Luca. "The Next 30 Years: Planning Cities Beyond Mobility?" *European Planning Studies* 31, no. 11 (2023): 2354-67. https://doi.org/10.1080/09654313.2023.2217855.

Blanchar, Clara. "Una jueza ordena desmantelar el eje verde de Consell de Cent de Barcelona." *El País,* September 7, 2023. https://elpais.com/espana/catalunya/2023-09-07/una-juez-ordena-revertir-la-peatonalizacion-estrella-de-ada-colau-en-barcelona.html.

Bloomberg Philanthropies. *Asphalt Art Safety Study: Historical Comparative Analysis and Observational Video Analysis of Asphalt Art Interventions.* New York: Bloomberg Philanthropies, 2022.

Bou Sleiman, Léa. "Are Car-Free Centers Detrimental to the Periphery? Evidence from the Pedestrianization of the Parisian Riverbank." Working paper, Center for Research in Economics and Statistics (CREST), 2021.

Brovarone, Elisabetta Vitale, Luca Staricco, and Ersilia Verlinghieri. "Whose Is This Street? Actors and Conflicts in the Governance of Pedestrianisation Processes." *Journal of Transport Geography* 107 (2023): 103528. https://doi.org/10.1016/j.jtrangeo.2022.103528.

Buchanan, Colin. *Traffic in Towns: A Study of the Long Term Problems of Traffic in Urban Areas*. London: HMSO, 1963.

Capolongo, Stefano, Andrea Rebecchi, Maddalena Buffoli, Letizia Appolloni, Carlo Signorelli, Gaetano Maria Fara, and Daniela D'Alessandro. "COVID-19 and Cities: From Urban Health Strategies to the Pandemic Challenge. A Decalogue of Public Health Opportunities." *Acta Bio Medica: Atenei Parmensis* 91, no. 2 (2020): 13-22. https://doi.org/10.23750/abm.v91i2.9615.

Carmona, Matthew. *Public Places, Urban Spaces: The Dimensions of Urban Design*. 2nd ed. London: Routledge, 2010.

Cervero, Robert, Olga L. Sarmiento, Enrique Jacoby, Luis Fernando Gomez, and Andrea Neiman. "Influences of Built Environments on Walking and Cycling: Lessons from Bogotá." *International Journal of Sustainable Transportation* 3, no. 4 (2009): 203-226. https://doi.org/10.1080/15568310802178314.

City of Brussels. "Reserve a Street to Play?" August 22, 2024. https://www.brussels.be/reserve-street-play.

City of Copenhagen. *A Metropolis for People: Visions and Goals for Urban Life in Copenhagen 2015.* Copenhagen: City of Copenhagen, 2009. https://www.engageliverpool.com/wp-content/uploads/2015/07/Copenhagen_2008_A_Metropolis_for_People1.pdf.

City Repair. "The City Repair Project." Accessed March 10, 2026. https://cityrepair.org/.

Comune di Milano. "Piazze aperte." Accessed February 16, 2026. https://www.comune.milano.it/argomenti/partecipazionecivica/piazze-aperte.

Cullen, Gordon. *The Concise Townscape*. London: Architectural Press, 1961.

Davidson, Mariko Mura. "Tactical Urbanism, Public Policy Reform, and 'Innovation Spotting' by Government: From Park(ing) Day to San Francisco's Parklet Program." Master's thesis, Massachusetts Institute of Technology, 2013. http://hdl.handle.net/1721.1/81628.

De Boeck, Simon, Jordi Honey-Rosés, Maarten Van Acker, and Thomas Vanoutrive. "Barcelona's Superblocks: An Unfinished Urban Planning Policy Paradigm Shift." Cities 171 (2025): 106710. https://doi.org/10.1016/j.cities.2025.106710.

De la Pradelle, Michèle, and Emmanuelle Lallement. "Paris Plage: 'The City Is Ours.'" *The Annals of the American Academy of Political and Social Science* 595, no. 1 (2004): 134-45.

D'Haese, Sara, Delfien Van Dyck, Ilse De Bourdeaudhuij, Benedicte Deforche, and Greet Cardon. "Organizing 'Play Streets' During School Vacations Can Increase Physical Activity and Decrease Sedentary Time in Children." *International Journal of Behavioral Nutrition and Physical Activity* 12, no. 1 (2015): 14. https://doi.org/10.1186/s12966-015-0171-y.

Engwicht, David. *Mental Speed Bumps: The Architecture of Speed*. Annandale, NSW: Envirobook, 2005.

European Metropolitan Transport Authorities (EMTA). *EMTA Barometer on Public Transport in Metropolitan Areas.* 2025. https://www.emta.com/publications/article-emta-barometer-of-public-transport/.

European Metropolitan Transport Authorities (EMTA). "EMTA Barometer Opendata." 2023. Dataset. https://docs.google.com/spreadsheets/d/135f9rHv04psLBGGpNsrJiV9aCvlfgqdCXpSJX53d0uY/edit?gid=0#gid=0.

Evans, James, Andrew Karvonen, and Rob Raven. *The Experimental City*. London: Routledge, 2016.

Flynn, Alexandra, and Amelia Thorpe. "Pandemic Pop-Ups and the Performance of Legality." In *Global Reflections on COVID-19 and Urban Inequalities: Volume 3: Public Space and Mobility*, edited by Rianne van Melik, Pierre Filion, and Brian Doucet, 25-34. Bristol: Bristol University Press, 2021. https://doi.org/10.2307/j.ctv1t4m1m6.9.

Gehl Architects. "URBAN95 Public Life Data Framework." March 5, 2025. https://issuu.com/gehlarchitects/docs/urban95_public_life_data_framework.

Gehl, Jan. *Cities for People.* Washington, DC: Island Press, 2013.

Gehl, Jan. *Life Between Buildings: Using Public Space.* Washington, DC: Island Press, 2011.

Ghare Beglo, Minoo, and Farnaz Khajeh Saeed. “Woonerf: A Study of Urban Landscape Components on Living Streets.” *Manzar* 10, no. 43 (2018): 42-51. https://doi.org/10.22034/MANZAR.2018.68625.

Gehl, Jan, and Birgitte Svarre. *How to Study Public Life*. Washington, DC: Island Press, 2013.

Gill, Tim. *Urban Playground: How Child-Friendly Planning and Design Can Save Cities*. London: Routledge, 2021.

Glaser, Meredith, and Kevin J. Krizek. “Can Street-Focused Emergency Response Measures Trigger a Transition to New Transport Systems? Exploring Evidence and Lessons From 55 US Cities.” *Transport Policy* 103 (2021): 146-55. https://doi.org/10.1016/j.tranpol.2021.01.015.

Global Designing Cities Initiative (GDCI). Global Street Design Guide. Washington: Island Press, 2016.

Global Designing Cities Initiative (GDCI). *How to Engage Kids in Street Design: Designing Streets for Kids by Kids,* 2024. https://globaldesigningcities.org/publication/how-to-engage-kids-street-design/.

Global Designing Cities Initiative. “Piazze Aperte: How Milan Gave Its Piazze Back to the People.” April 10, 2023. https://globaldesigningcities.org/update/piazze_aperte_report-en/.

Grandel, Gunnar, and Martin Berger. “Pathways From Street Experiments to Transformation: A Systematic Review of Theories of Change.” *Transport Reviews* 45, no. 6 (2025): 924-47. https://doi.org/10.1080/01441647.2025.2523282.

Groundplay SF. “A Look at the Human Impact of Parklets.” Accessed March 10, 2026. https://groundplaysf.org/wp-content/parklet-impact-study/.

Guerra, Max Welch, Abdellah Abarkan, María A. Castrillo Romón, and Martin Pekár. *European Planning History in the 20th Century: A Continent of Urban Planning.* London: Taylor & Francis, 2022.

Hall, Peter. *Cities of Tomorrow: An Intellectual History of Urban Planning and Design Since 1880*. Chichester: John Wiley & Sons, 2014.

Harvey, David. *Paris, Capital of Modernity*. New York: Routledge, 2004. https://doi.org/10.4324/9780203508619.

Hasselmann, Jörn, Valerie Barsig, Sophie Krause, Felix Hackenbruch, and Fatina Keilani. “Berliner Pop-up-Radwege rechtswidrig: Verkehrsverwaltung will Beschwerde gegen Gerichtsentscheid einlegen.” *Der Tagesspiegel*, August 10, 2022. https://www.tagesspiegel.de/berlin/verkehrsverwaltung-will-beschwerde-gegen-gerichtsentscheid-einlegen-5079784.html.

Hass-Klau, Carmen. *The Pedestrian and City Traffic*. London: Belhaven Press, 1990.

Henderson, Kate, Katy Lock, and Hugh Ellis. *The Art of Building a Garden City.* London: RIBA Publishing, 2019. https://doi.org/10.4324/9780429346491.

Hipp, J. Aaron, Amy A. Eyler, and Jill A. Kuhlberg. “Target Population Involvement in Urban Ciclovias: A Preliminary Evaluation of St. Louis Open Streets.” *Journal of Urban Health* 90, no. 6 (2012): 1010-15. https://doi.org/10.1007/s11524-012-9759-6.

Holl, Steven, Juhani Pallasmaa, and Alberto Pérez Gómez. *Questions of Perception: Phenomenology of Architecture*. San Francisco: William Stout Publishers, 2006.

Honey-Rosés, Jordi. “A Review of Field Experiments in Planning and Urban Research.” *Planning Practice and Research* 34, no. 5 (2019): 558-72. https://doi.org/10.1080/02697459.2019.1647394.

Honey-Rosés, Jordi, Isabelle Anguelovski, Vincent K. Chireh, Carolyn Daher, Cecil Konijnendijk van den Bosch, Jill S. Litt, Vrushti Mawani, et. al. “The Impact of COVID-19 on Public Space: A Review and Perspectives.” *Cities & Health* 5, no. sup1 (2020): S263-279. https://doi.org/10.1080/23748834.2020.1780074.

Howard, Ebenezer. *Garden Cities of To-Morrow*. Library of Alexandria, 1902.

Huang, Jingjing. “Urban Street Experiments in Milan and Shanghai: Transforming Streets in a Tactical and Experimental Approach.” Master’s thesis, Politecnico di Milano, 2023.

Jacobs, Allan B. *Great Streets.* Cambridge, MA: MIT Press, 1993.

Jacobs, Jane. *The Death and Life of Great American Cities*. New York: Random House, 1961.

Jonquière, Peter. *Woonerf: An Environment for Man and Transport Together: The Present Aspects*, 1978. doi:10.22034/MANZAR.2018.68625.

Kinigadner, Julia, Benjamin Büttner, Ana Rivas de Gante, and Simone Aumann. “How to Transform Urban Spaces and Mobility: A Framework for Analysing Street Experiments.” *Journal of Urban Design* 29, no. 5 (2024): 536-56. https://doi.org/10.1080/13574809.2024.2320918.

Kostof, Spiro. *The City Assembled: The Elements of Urban Form Through History.* Boston: Bulfinch Press, 1992.

Kostof, Spiro. *The City Shaped: Urban Patterns and Meanings Through History.* Boston: Bulfinch Press, 1999.

Le Corbusier. *The Radiant City: Elements of a Doctrine of Urbanism to Be Used as the Basis of Our Machine-Age Civilization.* New York: Orion Press, 1967.

Le Corbusier. *The City of To-morrow and Its Planning*. New York: Courier Corporation, 1987.

Lefebvre, Henri. “The Right to the City.” In *Writings on Cities*, translated and edited by Eleonore Kofman and Elizabeth Lebas. Oxford: Blackwell, 1996.

Lydon, Mike, and Anthony Garcia. *Tactical Urbanism: Short-Term Action for Long-Term Change.* Washington, DC: Island Press, 2015.

Lynch, Kevin. *The Image of the City.* Cambridge, MA: MIT Press, 1960.

Mancebo, François. “Combining Sustainability and Social Justice in the Paris Metropolitan Region.” In *Transitions to Sustainability,* edited by François Mancebo and Ignacy Sachs, 263-84. Cambridge: Cambridge University Press, 2014. https://doi.org/10.1017/cbo9781139923316.019.

Marshall, John. Mohenjodaro and the Indus Civilization, vol. 3. London: Arthur Probsthain, 1931.

Mellaart, James. Çatal Hüyük: A Neolithic Town in Anatolia. New York: McGraw-Hill Book Company, 1967.

Montero, Sergio. “Worlding Bogotá’s Ciclovía.” *Latin American Perspectives* 44, no. 2 (2016): 111-31. https://doi.org/10.1177/0094582x16668310.

Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects.* New York: Houghton Mifflin Harcourt, 1961.

Municipality of Turin. “Statistiche demografiche.” 2025. https://www.comune.torino.it/schede-informative/popolazione-distribuzione-per-genere-territorio.

Municipality of Turin. “Torino Mobility Lab.” Last modified October 28, 2025. https://www.comune.torino.it/schede-informative/torino-mobility-lab.

National Association of City Transportation Officials. *Curbside Management Strategy*. New York: NACTO, 2017.

National Association of City Transportation Officials. “Shared Spaces.” May 21, 2025. https://nacto.org/publication/urban-bikeway-design-guide/designing-bikeways-for-all-ages-and-abilities/bikeways-on-low-speed-low-volume-streets/shared-spaces/.

National Association of City Transportation Officials. *Streets for Pandemic Response and Recovery.* New York: NACTO, 2020. https://nacto.org/wp-content/uploads/NACTO_Streets-for-Pandemic-Response-and-Recovery_2020-05-21.pdf.

Németh, Jeremy, and Stephen Schmidt. “The Privatization of Public Space: Modeling and Measuring Publicness.” *Environment and Planning B: Planning and Design* 38, no. 1 (2011): 5-23. https://doi.org/10.1068/b36057.

Nogueira, Freddy, Filipe Moura, and Ana Morais De Sá. “The Phase of Experimentation in Public Spaces: The Cases of Milan, Barcelona and Rio De Janeiro.” *Transportation Research Procedia* 72 (2023): 3419-26. https://doi.org/10.1016/j.trpro.2023.11.777.

OECD. “Cities Policy Responses.” *OECD Policy Responses to Coronavirus* (COVID-19), 2020. https://www.oecd.org/en/publications/serials/oecd-policy-responses-to-coronavirus-covid-19_68ccfcab.html.

Parajuli, Ayush, and Dorina Pojani. “Barriers to the Pedestrianization of City Centres: Perspectives From the Global North and the Global South.” *Journal of Urban Design* 23, no. 1 (2017): 142-60. https://doi.org/10.1080/13574809.2017.1369875.

Pollio, Vitruvius. *The Ten Books on Architecture: De Architectura*. CreateSpace Independent Publishing Platform, 2016.

Psenner, Angelika, and Susanne Tobisch. *On Streets: Streets as an Element of Urban Fabric*. Łódź: Wydawnictwo Politechniki Łódzkiej, 2024. https://doi.org/10.34658/9788367934039.105.

Puig-Ribera, Anna, Ignasi Arumí-Prat, Eva Cirera, Marta Solà, Anna Codina-Nadal, Laia Palència, Brenda Biaani, and Katherine Pérez. “Use of the Superblock Model for Promoting Physical Activity in Barcelona: A One-year Observational Comparative Study.” *Archives of Public Health* 80, no. 1 (2022). https://doi.org/10.1186/s13690-022-01005-y.

Rowe, Colin, and Fred Koetter. *Collage City*. Cambridge, MA: MIT Press, 1984.

Samuelson, William, and Richard Zeckhauser. “Status Quo Bias in Decision Making.” *Journal of Risk and Uncertainty* 1, no. 1 (1988): 7-59. https://doi.org/10.1007/BF00055564.

Sánchez-Vaquerizo, Javier Argota, Carina I. Hausladen, Sachit Mahajan, Marc Matter, Michael Siebenmann, Michael A. B. Van Eggermond, and Dirk Helbing. “A Virtual Reality Experiment to Study Pedestrian Perception of Future Street Scenarios.” *Scientific Reports* 14, no. 1 (2024): 4571. https://doi.org/10.1038/s41598-024-55073-x.

Sarmiento, Olga L., Adriana Díaz del Castillo, Camilo A. Triana, María José Acevedo, Silvia A. Gonzalez, and Michael Pratt. “Reclaiming the Streets for People: Insights from Ciclovías Recreativas in Latin America.” *Preventive Medicine* 103 (2017): S34-S40. https://doi.org/10.1016/j.ypmed.2016.07.028.

Sarmiento, Olga L., Andrea Torres, Enrique Jacoby, Michael Pratt, Thomas L. Schmid, and Gonzalo Stierling. “The Ciclovía-Recreativa: A Mass-Recreational Program With Public Health Potential.” *Journal of Physical Activity and Health* 7, no. S2. (2010): S163-S180.

Savini, Federico, and Luca Bertolini. “Urban Experimentation as a Politics of Niches.” *Environment and Planning A: Economy and Space* 51, no. 4 (2019): 831-48.

Schreiber, Franziska. “The Long Road From Urban Experimentation to the Transformation of Urban Planning Practice: The Case of Tactical Urbanism in the City of Barcelona.” *Journal of Urban Mobility* 7 (2025): 100100. https://doi.org/10.1016/j.urbmob.2025.100100.

Semenza, Jan C. “The Intersection of Urban Planning, Art, and Public Health: The Sunnyside Piazza.” *American Journal of Public Health* 93, no. 9 (2003): 1439-41. https://doi.org/10.2105/ajph.93.9.1439.

Sicignano, Giulia. “Milan Before and After: Citywide Placemaking.” *The City at Eye Level*, May 20, 2022. https://thecityateyelevel.com/stories/longread-milan-before-and-after-citywide-placemaking/.

Simon, Gwendal. “Paris-Plages or the Staging of Distance: Tourist Referents in the ‘Everyday’ World.” *Current Issues in Tourism* 23, no. 2 (2018): 153-63. https://doi.org/10.1080/13683500.2018.1479380.

Sitte, Camillo. *The Art of Building Cities: City Building According to Its Artistic Fundamentals.* Westport, CT: Hyperion Press, 1979.

Smeds, Emilia, and Enrica Papa. “The Value of Street Experiments for Mobility and Public Life: Citizens’ Perspectives from Three European Cities.” *Journal of Urban Mobility* 4 (2023). https://doi.org/10.1016/j.urbmob.2023.100055.

Sollier, Anne. “Paris-Plages 2017: Une édition sans sable fin.” *Le Figaro*, May 26, 2017. https://www.lefigaro.fr/sortir-paris/2017/05/24/30004-20170524ARTFIG00236-paris-plages-2017-une-edition-sans-sable-fin.php.

Stad Gent. “Speelstraten.” Accessed January 15, 2026. https://stad.gent/nl/mobiliteit-openbare-werken/mobiliteit/speelstraten.

Stagias, Argyris. “Evaluating Tactical Urbanism Initiatives through the Prism of Placemaking: A Case Study on Milan’s ‘Piazze Aperte’.” Master’s thesis, National Technical University of Athens and Politecnico di Milano, 2023.

Stagias, Argyris, and Israa Mahmoud. “Post-occupancy Evaluation for Tactical Urbanism Interventions through Placemaking Model: Two Case Studies from the ‘Piazze Aperte’ Program in Milan.” *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* (2024). https://doi.org/10.1080/17549175.2024.2381532.

Stankulova, Alexandra. “Pedestrianisation Processes and Public Life: The Case of Torino Mobility Lab.” Master’s thesis, Politecnico di Torino, 2021.

Stardust Project. “How the Covid-19 Pandemic Is Changing Urban Mobility.” Accessed March 10, 2026. https://stardustproject.eu/news/how-covid19-is-changing-urban-mobility/.

Staricco, Luca, Ersilia Verlinghieri, and Elisabetta Vitale Brovarone. “Permanently Temporary: Street Experiments in the Torino Mobility Lab Project.” TeMA: *Journal of Land Use, Mobility and Environment, special issue* 3 (2024): 159-167. https://doi.org/10.6093/1970-9870/10934.

Statista. “Latin America: Longest Traffic Jam Delays by City 2020-2021.” November 29, 2025. https://www.statista.com/statistics/970839/cities-hours-lost-traffic-jams-latin-america/.

Stauffacher, Michael, Thomas Flüeler, Pius Krütli, and Roland W. Scholz. “Analytic and Dynamic Approach to Collaboration: A Transdisciplinary Case Study on Sustainable Landscape Development in a Swiss Prealpine Region.” *Systemic Practice and Action Research* 21, no. 6 (2008): 409-22. https://doi.org/10.1007/s11213-008-9107-5.

Stimmler, Heather. “Everything You Need to Know About Paris Plages 2025.” *Secrets of Paris*, August 28, 2025. https://secretsofparis.com/featured-events/paris-plages/.

“Street Experiments Tool: SET Guidelines Kit.” 2022. https://streetexperiments.com.

Street Plans Collaborative. “Tactical Urbanism Materials and Design Guide.” December 8, 2025. https://tacticalurbanismguide.com/.

SWOV. *Infrastructure for Pedestrians and Cyclists.* SWOV Fact Sheet. The Hague: SWOV, 2020. https://www.swov.nl/en/facts-figures/factsheet/infrastructure-pedestrians-and-cyclists.

Tekeli, İlhan. *Modernizm, modernite ve Türkiye'nin kent planlama tarihi.* İstanbul: Tarih Vakfı Yurt Yayınları, 2009.

TMMOB Chamber of City Planners. “Kent ve Kent Planlama Tarihi - 1.” Featuring İlhan Tekeli. January 14, 2021. YouTube video. https://www.youtube.com/watch?v=yCjKbYOP5Xs.

Toth, Gary. “Where the Sidewalk Doesn’t End: What Shared Space Has to Share.” Project for Public Spaces, August 16, 2009. https://www.pps.org/article/shared-space.

UNESCO World Heritage Convention. “Neolithic Site of Çatalhöyük.” Accessed November 2, 2025. https://whc.unesco.org/en/list/1405/.

VanHoose, Katherine, Ana Rivas de Gante, Luca Bertolini, Julia Kinigadner, and Benjamin Büttner. “From Temporary Arrangements to Permanent Change: Assessing the Transitional Capacity of City Street Experiments.” *Journal of Urban Mobility* 2 (2022): 100015. https://doi.org/10.1016/j.urbmob.2022.100015.

Verhulst, Lennert, Corneel Casier, and Frank Witlox. “Street Experiments and COVID-19: Challenges,Responses and Systemic Change.” *Tijdschrift voor Economische en Sociale Geografie* 114, no. 1 (2022): 43-57. https://doi.org/10.1111/tesg.12542.

Verlinghieri, Ersilia, Elisabetta Vitale Brovarone, and Luca Staricco. “The Conflictual Governance of Street Experiments, Between Austerity and Post-politics.” *Urban Studies* 61, no. 5 (2023): 878-99. https://doi.org/10.1177/00420980231193860.

Zieff, Susan G., J. Aaron Hipp, Amy A. Eyler, and Mi-Sook Kim. “Ciclovía Initiatives: Engaging Communities, Partners, and Policy Makers Along the Route to Success.” *Journal of Public Health Management and Practice* 19, no. 3 (2013): S74-S82.

Zografos, Christos, Kai A. Klause, James J. T. Connolly, and Isabelle Anguelovski. “The Everyday Politics of Urban Transformational Adaptation: Struggles for Authority and the Barcelona Superblock Project.” *Cities* 99 (2020): 102613. https://doi.org/10.1016/j.cities.2020.102613.

