



Department of Architecture and Design Master Degree in Architecture Construction City A.A. 2022/2023

FROM TEMPELHOFER FELD TO **TELTOWKANAL, BERLIN**

Connecting spaces between land and water

Supervisor: Angelo Sampieri

POLITECNICO DI TORINO

Student: Alessandra Murgia

A te, Laura, anche a 1000 chilometri di distanza, sempre al mio fianco.

ABSTRACT

Since its conversion into a park in 2010, Tempelhof, a former Berlin airport located between the districts of Neuköln and Schöneberg, now Tempelhofer Feld, has profoundly marked the transformations of the areas surrounding it. New investments, plans, and projects are changing the characters, densities, and functioning of the neighborhoods around the park, which tend to build increasingly close and continuous relationships with it. The transformation process is particularly noticeable on the north, east and west slopes, less so on the south, where an articulated and dense infrastructure system running in an east-west direction still limits the physical and social relations between the park and the city.

Through a study of current transformations and planning, and careful field research into the economic and social dynamics to which the southern border of Tempelhofer Feld is subject, the thesis elaborates a design proposal for this part of the city with the aim of building a new system of relations between it and the park, as far as the Teltowkanal that runs about 850 m further south. The rehabilitation of a series of industrial facilities along this new connecting axis, and the inclusion of new public spaces and services, is intended to be an opportunity to attempt to articulate and govern the important ongoing processes of densification and the multiple real estate developments to which the entire park's surroundings are subject.

A partire dalla sua conversione in parco nel 2010, Tempelhof, ex aeroporto di Berlino situato tra i quartieri di Neuköln e Schöneberg, oggi Tempelhofer Feld, ha profondamente segnato le trasformazioni delle aree ad esso limitrofe. Nuovi investimenti, piani, progetti, stanno cambiando i caratteri, le densità e i funzionamenti dei quartieri intorno al parco, che tendono a costruire con esso relazioni sempre più strette e continue. Il processo di trasformazione è particolarmente evidente sui versanti nord, est ed ovest, di meno a sud, dove un articolato e fitto sistema infrastrutturale che corre in direzione est-ovest ancora limita le relazioni fisiche e sociali tra il parco e la città.

Attraverso uno studio delle trasformazioni e delle progettualità in corso, ed una ricerca sul campo attenta alle dinamiche economiche e sociali cui è soggetto il bordo sud di Tempelhofer Feld, la tesi elabora una proposta progettuale per questa parte di città nell'obiettivo di costruire un nuovo sistema di relazioni tra questa e il parco, fino al canale navigabile di Teltow che scorre a circa 850 m più a sud. Il recupero di una serie di attrezzature industriali lungo questo nuovo asse di collegamento, e l'inserimento di nuovi spazi e servizi pubblici, vuole essere occasione per tentare di articolare e governare gli importanti processi di densificazione in corso e i molteplici interventi immobiliari cui è soggetto l'intero intorno del parco.

ABSTRACT

TABLE OF CONTENTS



03//BORDERS

01 BORDERS AND POSSIBILITIES 02 THE NORTH BORDER 03 THE WEST AND THE EAST BORDER NEU TEMPELHOF - THE GARDEN CITY NEUKÖLLN – PLACE OF DIVERSITY 04 THE SOUTH BORDER

04//LIMITS AND POTENTIALS

01 THE DISTRICT 02 THE NEIGHBORHOOD 03 THE HYPOTHETICAL SCENARIO

05//FROM TEMPELHOFER FELD TO TELTOWKANAL

CONNECTING SPACES BETWEEN LAND AND WATER

BIBLIOGRAPHY - SITOGRAPHY











"Here you can see the horizon |...| there are no houses, there are no trees and therefore the light, the air, the sounds are completely different from every other part of the city"

- Benjamin Foerster-Baldenius

An investigation of the history of the former Tempelhof Airport in Berlin reveals a series of events that have profoundly affected the entire city, transforming the site into a cultural and historical symbol.

Despite the battles won by the population to preserve the airport as a public space, many issues related to private land acquisition have inevitably emerged, keeping the debate over its future open to this day.

With the opening of Tempelhofer Feld, a series of urban reforms were presented. This contributed to the added value of the surrounding areas, thus witnessing a series of projects along its border. Nevertheless, disconnected situation on the southern front also emerged and it is highlighted by the infrastructure system that marks the boundary with the park.

This thesis work, therefore, presents a design proposal that aims to resolve the disconnected situation south of Tempelhofer Feld. This will be achieved through the development of a connection system between the park and the Teltowkanal.

00//FOREWORD

01// TEMPELHOFER FELD

01 THE MOTHER OF ALL AIRPORTS

02 THE MEMORY BEARER

03 THE LARGE PARK



01 THE MOTHER OF ALL AIRPORTS

"Tempelhof Field [...] an example of complex history entangled with the present political conflicts. Formerly, a symbol of Nazi megalomania, a forgotten site of terror, a witness of the heroic Berlin Airlift, an unprecedented example of a modern civil protest against rapid development and recently serving as the biggest refugee camp in Germany"¹

> Before it became Berlin's distinctive urban space, the park constituted the main airport of mighty Germany, known as Tempelhof Central Airport (TCA). Tempelhof's complex history begins in the early twentieth century, in which a series of complex and troubled events took place, along with a series of social, economic and political processes, to delineate its space.

> Originally the site was land of the Knights Templar in the medieval city, hence the name "Tempelhof", used exclusively for agriculture and farming until the 19th century. From this time, it assumed its main role as a military training camp for the Prussian military, to which was added over time the function of a meeting space for citizens. From the middle of the century, a public debate began concerning the planning of the site, which by then had become an object of interest for several parties. Three lines of thought were developed: the first believed in the integration of Tempelhof within the urban fabric, with an intensification of housing density in the surrounding areas. The second thesis, on the other hand, proposed

the construction of a Luftschiffhafen, an aviation center for zeppelins and airship prototypes. Finally, the third line of thought proposed the maintenance of the field as a recreational and leisure place. In the middle of this debate stood out Reinhard Baumeister, an urban design theorist, who pointed out that the extension of the city with the Tempelhof design would mean a "*lasting loss of public health, national defense power, prosperity and happiness*"².

This debate was interrupted with the outbreak of World War I, a time when Tempelhof was converted into a place for a big sickbay. Once the war was over, in the 1920s, the delineation of a new airport in the city began, larger in size than Johannistal³, mainly to cope with recent technological developments in aviation. Officially in 1922 it was proposed to develop the project on Tempelhof, the choice of which was dictated by the advantage of being centrally located in relation to the heart of Berlin. On October 8, 1923, Tempelhof was officially designated as an airport and construction began. The construction of the old terminal was completed in 1927, becoming the first in the world to have a direct connection to an underground railway, with the "Paradestraße" station.

With the arrival of Nazism, Adolf Hitler came to power of Germany and initiated a series of urban practices for the reconstruction of Berlin, entrusted to the architect Albert Speer⁴, while in 1934 Ernst Sagebiel⁵ was given the commission to build the new terminal at Tempelhof Airport. The design of the new terminal, which was to become the headquarters of Germany's national airline, namely Deutsche Luft Hansa, called for a huge structure of 307,000 sq m.

1. Anna Bijak, Political Aspects of Tempelhof Field, 2018

THE MOTHER OF ALL AIRPORTS

 Baumeister R., Bauordnung und Wohnungsfrage. Städtebauliche Vorträge, Band IV. Heft III. Berlin: Ernst, 1911.

 Johannistal, located 15 km southeast of Berlin, was Germany's first commercial airfield. It opened on September 26, 1909.
 Albert Speer, 1905 – 1981, was Hitler's personal architect and armaments' minister of Nazi Germany.

5. Ernst Sagabiel, 1892 - 1970.



1926, refueling a machine Image: Berliner Flughäfen / Archive



Luft Hansa commences flight operations Image: Berliner Flughäfen / Archive



Germany's national airline, the Deutsche Luft Hansa Image: Berliner Flughäfen / Archive



July 1931, people gather at Templehof to greet the Graf Zeppelin (German navy aircraft carrier) Image: Bundesarchiv, unknown author.



May 10, 1933, people gather at Tempelhof to hear Adolf Hitler speach. Image: Associated Press, unknown author.



A football team assembles in front of a newly painted tailfin showing the swastika Image: Roger-Viollet

The structure of the hangars was reminiscent of that of an eagle in flight, so it was characterized by semi-circular shapes, which reproduced, precisely, the wingspan of the bird. Its construction began in 1936, with the goal of finishing it in 18 months; however, with the outbreak of World War II, it was completed in 1941, resulting in the building that wanted to be a symbol of German power and greatness. The complex was defined by Norman Foster as "*the mother of all airports*" and still today represents one of the largest entities built.

With the start of World War II in 1939 and for concern about possible bombing of airports, German civil aviation was temporarily suspended from September 2 of the same year. All operations up to March 7, 1940, were therefore moved to an airport in Rangsdorf⁶, then returned to Tempelhof until April 24, 1945. In the intervening four years, the Weser Flugzeugbau company,

which was engaged in aircraft production, assembled military instruments and vehicles in some of the halls of the new terminal, motivated by the ease of connection provided by the rail system. The airport building, at this point, converted its function to a weapons industry.

One important aspect is related to the presence of the Columbia -Haus which was one of Berlin's military prisons, active from the late 19th century until the 1920s; its location was, and still is, just inside Tempelhof. In 1933 it was converted into a prison for political opponents, and in the following year a concentration camp, the Konzentraron-lager, was officially established at the airport.

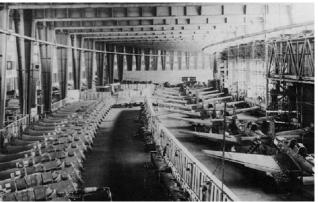


Aircraft production in the hangars Image: ropaganda photo of the Tempelhofer airplane production / Archive EADS, unknown author.



Barracks camp at Columbiadamm, Tempelhof Airport Image: Archive EADS, unknown author.

6. Rangsdorf was an airfield located in Brandeburg, opened in 1936





In April 1945, by now the last moments of the conflict in Europe, the Soviets took control of Tempelhof Airport, despoiling the old and new terminals of everything useful and suspending air traffic. A few months later, the Soviet Union handed Tempelhof over to the American Allies by means of the Potsdam Agreement, through which Berlin, and all of Germany, was divided: on one side West Berlin, with the American, British, and French sectors, and East Berlin, under Soviet power. In early 1946, civil aviation officially resumed on Tempelhofer Feld.

In 1947, the Marshall Plan was initiated, through which the United States of America provided aid for the reconstruction of Berlin, such as economic aid to the German occupation zones, the East Central European states and the USSR. However, the Soviets refused what was offered, further highlighting the division of Germany into two parts.

As a response, moreover, the Soviets between 1948 and 1949, blocked land and water traffic out of areas controlled by West Berlin, triggering precisely the Berlin Blockade. So, the only possible solution was the air corridors, three in total, which were essential especially to supply the citizens with primary goods, thus initiating Operation Vittles. This operation led to the airport carrying a huge amount of air traffic for the sustenance and aid of the citizens, making Tempelhof a symbolic place of freedom and democracy.

"Tempelhof to me is what the Statue of Liberty is to the United States of America. Tempelhof is a statue to the freedom of Germany"⁷



1945, the Big three met at Potsdam to discuss the fate of the world after WW II. Image: National Archives and Records Administration, Office of Presidential Libraries, Harry S. Truman Library



1949, Berlin children with Lieutenant Gail Halvorsen. Photograph: PhotoQuest/Getty Images

 Gail Halvorsen, lieutenant, (1920 – 2022) was a senior officer and command pilot in the United States Air Force, know as "Berlin Candy Bomber" or "Uncle Wiggly Wings" for dropping candy to German children during the Berlin Airlift from 1948 to 1949.



1949, the end of the blockade Image: Berliner Flughäfen / Archive

By 1951, air traffic was officially reopened, giving Tempelhof the title of "The Gateway to the World" because of its extremely high activity. However, between the 1950s and 1960s, the war intensified and access difficulties over West Berlin increased. As a consequence, attempts to flee East Berlin began to increase, leading West Berlin to create a series of laws to be able to take in and support refugees.

In the 1970s, the airport suffered substantial losses, dictated by the weakening of East German border controls and exacerbated by the economic recession. Some airlines, such as Pan Am⁸ and British Airways⁹, moved their operations to Tegel Airport¹⁰, built during the Berlin Blockade in 1948, bringing Tempelhof's commercial operations to a halt, which lasted until 1981.

The fall of the wall in 1989, followed by reunification in 1990, represented a turning point for Berlin, opening the door for a series of urban policies and action plans to be able to seek the identity of the new Berlin. In 1996, it was announced by the Senate that three airports, Tegel, Schönefeld¹¹, and, indeed, Tempelhof, would be closed in the future in order to start the construction of a new, larger one, namely Berlin Brandenburg (BER), the use of which did not begin until 2020.

Tempelhof's operations officially ended on October 31, 2008, despite protests from citizens who, following a referendum enacted on April 27 of that year, failed to stop the airport's closure because turnout was insufficient. Subsequently, a program was launched to redevelop the area.

1961, Frieda Schulze, a 77 year old grandmother from East Berlin, is lowered from an upper floor window helped by West Berlin soldiers on Bernauer Strasse. Image: Axel Springer SE

8. Pan American World Airways was one of the most important and relevanti airway company of the USA, until its collapse in 1991.

9. British Airways is a UK airline, the largest in terms of fleet, flights and number of international destinations and the largest in terms of passengers carried.

10. Tegel Airport was the main airport of Berlin until 2020, located in the north-west area of the city.

11. Schönefeld was the second international airport and it was located in the south-east part of the city. It became the the Terminal 5 of the Berlin Brandeburg Airport.





November 1989, the crowd moving from East Berlin to West Berlin after the fall of the wall. Image: aP Wide World Photos



November 1989, West Germans scale the Berlin Wall before East German guards as the Cold War barrier came down. Image: Hesse, Ullstein Bild

November 1989, people gather near a part of the Berlin Wall that has been broken down after the decision to open borders between East and West Berlin. Image: Carol Guzy - The Washington Post





"Berlin is formerly magnificent, formerly destroyed, presently rebuilt' and this is what sets it apart from the other culture capitals of the world"¹²

The response of the population was a clear rejection toward privatization with the construction of new luxury buildings and industries which would cause a further increase in the prices of the premises. In May 2010, Tempelhofer Feld was officially opened, and thanks to the activism and the pressure imposed by the citizens, all development plans to build inside the park were blocked by the 2014 referendum.

"I believe there's something deeper, something that involves Berlin's whole look and feel and way of life .. Something that speaks with a powerful voice of affirmation, that says yes to this city, yes to the future, yes to freedom. In a word, I would submit that what keeps you in Berlin is love—love both profound and abiding."¹³

 Sean Scully, Irish painting, for The New York Times.
 President Ronald W. Reagan, June 12, 1987.

People walking through Tempelhofer Feld at sunset time. Image: Ole Bader



02 THE MEMORY BEARER

"To recall means to let things appear, to let them emerge from below the surface of the water, to allow them to step out of the miss. It also means turn around and look backward with longing eyes, straining the ear to pick up a tune that has become faint. It means to raise the dead by conjuring up their shadows"¹⁴

> Once the vicissitudes that marked the former airport, particularly in the last century, are understood, it is possible to see the strong symbolic value of Tempelhof, which today constitutes one of the most important parks in the city, but above all it can be identified as a memory bearer, that is, a site that through its traces transmits over time what it was, the events that made the place and the city as such.

> One of the most interesting aspects that emerges is the strong bond that has developed between the people of Berlin and Tempelhof, a place imbued with representative historical fragments that have made it a symbol of freedom. A clear example of this fact is the protests moved by multiple associations when urban redesign proposals aimed at privatizing and reorganizing Tempelhof's space and surroundings were exposed. Let us therefore take a step back.

Following numerous discussions trying to figure out the most appropriate fate for Tempelhof, immersed in the urban jungle and now too small in size for the capital, in 2008 the Senate officially revoked the

airport's operating permit, a decision accompanied by the conversion of Berlin Schönefeld into Berlin Brandenburg International Airport. However, the closure of the airport was only the beginning. Indeed, discussions about Tempelhof's future triggered a series of controversies and mechanisms that in turn led to protest movements by citizens, animated by different ideas about what to do. There was an initial faction insisting on the conversion and re-functionalization of the site, and a faction opposing closure.



14. Ivan Illich. In the Mirror of the Past, 1992, pp 193.

02 THE MEMORY BEARER

2008, after 59 years, aviation activity came to an end at Tempelhof. Image: Markus Schreiber/AP

Among the various associations involved there was the "Bürgerinitiative Flughafen Tempelhof", which in 2008 took the name "Verein Bürgerinitiative flugfreies Tempelhof" (BIFT-Association of Flight-Free City Initiative for Tempelhof): its position was in favor, insistently, of the redevelopment of the former airport. In opposition, however, stood the Interessengemeinschaft City-Airport Tempelhof (ICAT-Interest Group for the Tempelhof City Airport), which as early as 2006 had launched a campaign to collect signatures for a city referendum on the future of Tempelhof.

In 2007, ICAT succeeded in reaching high numbers with the collection of signatures to promote its position and, as a result, BIFT also began to mobilize in order to support its cause, establishing two initiatives, the "NANU THF" and the "Tempelhof Citizens Initiative," with the goal of reopening Tempelhof as a park.

Precisely in March 2008, ten parties and various organizations joined together in the "Alliance for a Flight-Free Tempelhof" following a specific slogan "Nein! zum Flugbetrieb in Tempelhof", or "No! to flight operations in Tempelhof". Among these parties are some notable names on the German political left, such as SPD, Die Linke, Alliance 90/Greens and Environmental Associations "BUND."

On February 28, 2008, the House of Representatives rejected the resolution required by the referendum, so according to Article 62(4)¹⁵ of the Berlin Constitution, the referendum had to be called in order to reach a decision. Thus, on April 27, 2008, the first city referendum to decide the fate of Tempelhof Airport was held and it was the first ballot poll on a specific issue in Berlin.

"But we will go our own way! Many celebrities, artists, architects, entrepreneurs, historians, politicians and athletes are busy at Tempelhof. They all say: we are the majority. We are the citizens. And we decide!"¹⁶

> *"Tempelhof must remain a commercial airport. "The mother of all airports" must remain an airport and not an urban wasteland or become the object of speculation"*¹⁷

*"Politicians must no longer ignore the will of the people. It must not be closed"*¹⁸

"It works elsewhere, too!

Cities like London, Milan, Paris, Helsinki, and Washington, for example, have deliberately maintained or built new urban airports. What does Berlin want to be? District city or metropolis?"¹⁹

15. Berlin Constitution, Section V "Legislation", art. 62(4): "If a petition for a referendum has been successful, a referendum must be held within four months. This deadline may be extended to as much as eight months if that would enable the referendum to be conducted at the same time as an election or other referenda. The House of Representatives may put its own version of a draft Bill or other resolution to a vote at the same time. The referendum shall not be held if the House of Representatives adopts the draft Bill or other resolution proposed by the petition unchanged in its essential contents."

02 THE MEMORY BEARER

16 - 17 - 18 - 19. Multiple slogans to promote the referendum

Following is the resolution, where it is asked whether to agree or disagree.

"Tempelhof City Airport complements and relieves Berlin Brandenburg International Airport. The Berlin Senate is asked to immediately renounce its intention to close and rescind the revocation of its operating license. Tempelhof must remain a commercial airport!"

> However, the outcome of the first referendum was negative. Although 60.2% of the votes cast were in favor of keeping the airport active, these represented only the 21.7% of those eligible to vote. In fact, in order to achieve a quorum, according to the Berlin State Constitution, to approve a referendum it is necessary to reach at least one quarter of the population, so the 25%.

> What emerges from the data, besides a general low percentage of participation at the referendum, is especially the poor participation in districts more peripheral to Tempelhof, while other districts, closely related such as Neukölln or Tempelhof-Schöneberg, showed significantly more active participation.

> Consequently to this series of events, the closure of the airport was officially announced on October 30, 2008, and the official licence expired in mid-December.

36.1% PARTICIPATION

21.7% YES VOTE (ELIGIBLE)

02 THE MEMORY BEARER

Percentages from the first referendum

- 30.9% MITTE
- 30.6% FRIEDRICHSHAIN-KREUZBERG
- 28.4% PANKOW
- 43.2% CHARLOTTENBURG-WILMERSDORF
- 36.2% SPANDAU
- 50.8% STEGLITZ-ZEHLENDORF
- 47.1% TEMPELHOF-SCHÖNEBERG
- 41.7% NEUKÖLLN
- 33.2% TREPTOW-KÖPENICK
- 23.1% MARZAHN-HELLERSDORF
- 24.8% LICHTENBERG
- 43.3% REINICKENDORF
- 18.0% MITTE
- 12.0% FRIEDRICHSHAIN-KREUZBERG
- 09.6% PANKOW
- 31.0% CHARLOTTENBURG-WILMERSDORF
- 27.6% SPANDAU
- 37.5% STEGLITZ-ZEHLENDORF
- 33.0% TEMPELHOF-SCHÖNEBERG
- 30.9% NEUKÖLLN
- 14.7% TREPTOW-KÖPENICK
- 07.7% MARZAHN-HELLERSDORF
- 07.6% LICHTENBERG
- 33.3% REINICKENDORF

Coinciding with the year of the first referendum, the Department of Urban Development presented concepts for the future use of Tempelhof with a project, "Tempelhofer Freiheit", designed using the 1990s plan that already tried to design the regeneration of the former airport. In 1994 the Senate commissioned architects Hentrich Petschniggg & Partner²¹ (Düsseldorf) and local landscape architects Seebauer, Wefers und Partner to prepare a preliminary plan. The proposed design was based on the development of an elliptical-shaped border organized following the central open space and the shape of the building. In the following year, the Senate approved the implementation of the design, accompanied by a group of professionals who, however, judged the proposal negatively because it would have emphasized a sense of monumentality and domination that wanted to be disrupted. For this reason, it was decided to go ahead with a smoother development that could combine more harmoniously with the surrounding urban design.

Moving on, in 1998 the Tempelhof 2020 Future Workshop²² was held, during which planning objectives were analyzed and reworked. It was a real atelier where all the actors could discuss about future ideas about Tempelhof. Thus, a master plan was developed by Swiss landscape architects Dieter Kienast and Günter Vogt, together with Berlin architect Bernd Albers, taking as their main reference the ring boulevard that connected to the city and also developing a land use plan, the "Wiesenmeer meadow sea." The plan used the airstrips as structuring elements of the park, designing areas of woodland, meadow, a spatial counterpoint to the open field and a garden.



The Masterplan proposed by Vogt and Kienast Image: VOGT 1998

 Hentrich Petschniggg & Partner, one of Germany's leading architectural partnerships, founded in Düsseldorf in 1933, active for more than 80 years in Germany and abroad.
 "Zukunftswerkstatt Tempelhof 2020"

02 THE MEMORY BEARER



Following the re-proposal of this project, the analysis of the Tempelhof area was continued and advanced in the following years, initiating, in addition, a process of collaboration with citizens. The public participation process was activated by forming the institution *"THF Tempelhof Forum"* whose main task was to propose and discuss issues related to the hypothetical development of the former airport, combining municipal and city will. The proposed design idea was to allocate most of the area to the function of public park, while reducing its perimeter. In fact, the remaining parts, according to the plan, included the privatization of these same areas, assigning them to new housing developments with a commercial and/or residential function. However, this aspect would have changed, or rather, distorted the idea of Tempelhof as a great social place.

When in 2010 the Senate decided to officially open Tempelhof to the population as a public park, it was a massive success, which at the same time brought to the surface an issue: the opposition to the previously approved 1990s plan. As explained, this plan would have reduced the free area of the park, precisely by about a third, by planning housing developments around its perimeter, and this fact was frowned upon by a good portion of Berliners. Moreover, as a further negative note, the opening caused increased interest from private investors in acquiring pieces of land that, given the location, would have a high monetary value.

From this backdrop came the "100% Tempelhofer Feld" initiative in response to the privatization project, a real opposition to the master plan proposed by the Senate, with the support of the population.





02 THE MEMORY BEARER



Referendum propaganda



Journals for the propaganda to the referendum

The 100% Tempelhofer Feld made a direct intervention by promoting the well-known referendum of May 25, 2014 for the preservation of the park. In this case the outcome of the referendum turned out in favor of keeping Tempelhof as a public park, with a percentage of the 64.3% of votes in favor. The association, to ensure the preservation of the place, proposed a law with specific, non-negotiable points:

- the renunciation of the sale, development and privatization by the State of Berlin;
- the whole area was to be public, without any kind of restriction;
- its use was to remain aimed at recreational activities and leisure at all time, while protecting its function as a habitat for flora and fauna;
- preservation as a historical and memorial site.

"It is important that the state of Berlin involve the Berliners in the implementation of this law and in the administration of the field and develop appropriate procedures for this"²³

> What emerged was a clear majority in favor of the association proposal, leading to a series of protocols to meet the wishes of Berliners, who were closely involved throughout the process. While the people of Berlin showed, and still show a great deal of interest in public spaces and the promotion of sustainability issues in urban areas, the last point signaled represents a key aspect, "*preservation as a historical and memorial site*", affirmation that emphasize the sensitivity to the place.

45.9% PARTICIPATION

63.9% YES VOTE (ELIGIBLE)

23. Excerpt from the referendum law drawing.

02 THE MEMORY BEARER

Percentages from the second referendum

- 45.2% MITTE
- 54.2% FRIEDRICHSHAIN-KREUZBERG
- 46.5% PANKOW
- 52.8% CHARLOTTENBURG-WILMERSDORF
- 39.5% SPANDAU
- 56.2% STEGLITZ-ZEHLENDORF
- **53.2%** TEMPELHOF-SCHÖNEBERG
- 46.3% NEUKÖLLN
- 43.5% TREPTOW-KÖPENICK
- 32.9% MARZAHN-HELLERSDORF
- **36.5%** LICHTENBERG
- 43.9% REINICKENDORF
- 65.2% MITTE
- 77.4% FRIEDRICHSHAIN-KREUZBERG
- 62.4% PANKOW
- 60.7% CHARLOTTENBURG-WILMERSDORF
- 58.8% SPANDAU
- 61.3% STEGLITZ-ZEHLENDORF
- 69.4% TEMPELHOF-SCHÖNEBERG
- 74.2% NEUKÖLLN
- 63.8% TREPTOW-KÖPENICK
- 57.5% MARZAHN-HELLERSDORF
- 60.1% LICHTENBERG
- 55.8% REINICKENDORF

After the Second World War, the need emerged for new urban development plans, which could be the product of Berlin's new identity while maintaining historical value, attempting to remember the dramatic events and give awareness of what made the city such.

Historical events have shaped the site of the former Tempelhof airport, turning it into a symbol of freedom, making it necessary to respect not only the physical characteristics, but also the events accumulated over time. The fragments recounting these vicissitudes have been preserved precisely at the behest of Berliners so that those who did not experienced the events can create their own vision, and with the help of documentation, photographs and stories, continue the process of transmitting the memory of the former airport.

Spaces are becoming more and more interesting, displaying representative symbolism in their (non) boundaries, and the same can be said of Tempelhofer Feld, recognized as a true protected monument and hailed as a symbol of freedom. However, it can be distinguished into two different narratives, which highlight a dichotomy in the identity attributed to the place. On the one hand there is a kind of rejection toward the definition *"the symbol of freedom"* which is considered wrong consequently to the dark events that occurred. On the other hand, however, there is a narrative that places a positive meaning on this definition for multiple elements, such as its great history of civil aviation, modernity and innovations brought forth by fairs, exhibitions, and cultural events. Above all, it represented the connection to freedom, to what was outside the wall. Thus there is the need to investigate the condition of the site, which has evolved, is still evolving and will continue to do so. It is a process that seeks to establish goals for the achievement of a project, but without going on to define the final form. In this way a specific outcome is sought, that is a combination between the continuous becoming and past history, keeping open the possibility of future interventions, but without erasing the traces of history.

In conclusion, Tempelhofer Feld in addition to being a huge green public space for the entire population is a memorial, celebrating the new identity of unified Germany, of a new world finally free.

02 THE MEMORY BEARER

03 THE LARGE PARK

"The Tempelhofer Feld is a non-commercial space that is open to everyone and enables movement, encounter and communication. The appreciation shown this location reveals an understanding of urban development that encompasses more than defining surfaces and determining utilisations. As an urban space in the process of transformation, the Tempelhofer Feld makes clear the significance of open surfaces and open spaces in the city"²⁴

Tempelhofer Feld, as explained before, represents one of the most important parks for the city of Berlin. It has many facets, and one of the key aspects that sets it apart is, precisely, its size, about 350 hectares, which allows the definition of *"large park"* to be used. When we talk about large parks, we are referring *to large-scale complex systems that involve multiple factors in their definition*²⁵. These typologies of spaces have undergone continuous transformations and, over time, continue their evolutionary process in relation to history, culture, economy, ecology... For this reason, compared to small parks, they have a greater impact on urban space, working as infrastructure connectors and linking ecological systems, absorbing the identity of the city, and becoming a symbol of it.

24. Tilmann Heuser, The
Tempelhofer Feld in Berlin. Experiment and Open Space, Goethe
Institute, 2005
25. Julia Czerniak, George Hargreaves, J. Corner, Large Parks,
Princeton Architectural Press,
New York, 2007

These huge parks require great care in the planning process, which must always look to the future and its possible development: it is almost impossible to develop a definitive plan for these large areas because of their mutable character. The focus on design therefore results in complex schemes, and this complexity is dictated by the need to preserve the identity and the role of these sites while responding to contemporary needs. This character makes them extremely fascinating and leads to the development of an approach based on the park's evolutionary process, leading to the development of specific, targeted strategies that vary from case to case.

"To compose today means to create programs. We invent or propose them; we mix them, give them support, denaturalize them... Programs are mutable, transformable in time. We must define programs which [...] can be transformed later"²⁶

Among the most popular wide parks, one of the first people think of is undoubtedly Central Park²⁷, in New York, which is an example of a green lung entirely designed on abandoned land, so we are talking about an artificial park. Different is the case with the Bois de Boulogne²⁸, in Paris, which is a huge forest that has been over time integrated with infrastructure networks to connect the various neighborhoods. Or, moreover, the Tiergarten²⁹, in Berlin, which is a multifaceted park that merges with arterial roads until it joins the Brandenburg Gate.

This whole series of examples represent key places in the urban structure in which they are located, with a great impact socially, culturally and ecologically. Thus, these parks, in addition to their function as large green lungs, work as clusters of enterprises, events and activities.

03 THE LARGE PARK

 Federico Soriano, The Metapolis Dictionary of Advanced Architecture, Barcelona, 2003
 Central Park, New York, 341 hectares, designed by Frederick Law Olmsted and Calvert Vaux in 1856.

 28. Bois de Boulogne, Paris,
 86 hectares, designed by Jean-Charles Adolphe Alphand.
 29. Tiergarten, Berlin, 210 hectares, founded as a hunting area in 1527.



Top view of Central Park, New York Image: Alexander Spatari



Bois de Boulogne, Paris Image: Istok - Agust Avop



Tiergarten, Berlin Image: Getty - Unknown author

03 THE LARGE PARK



Tempelhofer Feld, according to some urban theories of the second half of the twentieth century, can be defined as a huge urban void centered in the urban texture of Berlin. The perception of empty space, in fact, has long been read as problematic, with a negative connotation, defining it as a residue that needs to be filled in order to serve a conventionally useful purpose for society.

Following this line of thought, there is a turning point with the theory developed by Rem Koolhaas together with Oswald Matthias Ungers by means of the metaphor of the "*Green Archipelago*"³⁰, through which he provides an interpretive image of the urbanity of the city. The notion of archipelago is used to develop the metaphor in the urban sphere: archipelago indicates variety, diversity in the parts, in the internal rules, in the relations between parts³¹.

Two types are thus identified, on the one hand all those areas that deserve to be saved, and on the other those that could be demolished. Thus we speak of *"islands"* of architectural value, which are flanked by islands of nothingness, giving rise in this world to the urban archipelago. And it is precisely here that the concept of emptiness completely reverses its meaning: these spaces of emptiness acquire a positive value, in their absence they show stratifications. They are no longer read as limiting places, more importance is given to urban pluralism, to fragments.

According to this logic, the former Tempelhof airport could be defined as a void full of stratifications, rules and, therefore, possibilities and potentials that can be harnessed to give a positive spin to a place.

Drawing by Peter Riemann from the manifesto "The City in the City – Berlin: A Green Archipelago" by Oswald Matthias Ungers (OMU) and Rem Koolhaas (OMA), 1977.

 Manifesto "The City in the City – Berlin: A Green Archipelago" by Oswald Matthias Ungers (OMU) and Rem Koolhaas (OMA), 1977.
 Marialessandra Secchi, Three images of the contemporary city, The Journal of Urbanism, n27, vol.2, Miano, 2013.

03 THE LARGE PARK

City within the City

Urban Island

Housing structure

Back to Tempelhof and in order to make use of its full potential, a bottom-up project was employed, investigating the will of citizens, from which emerged the desire to give importance to the historical aspects, to the traces, to all those fragments from which the essence of the space is sprung. The result is consequently this large urban park, preserved in its original, almost circular shape, surrounded by a dense urban texture with different functions, especially residential.

Through the urban fabric it is also possible to read the building differentiations, which differ from side to side, showing in some places regular grid patterns, while in others more organic systems with always regular patterns. In each case, the design of the built environment is integrated with the forms of the mobility system and open spaces.

Because of the dense construction of a purely residential type, Tempelhofer Feld represents a key space for the physical and psychological well-being of the population of the surrounding neighborhoods giving them the opportunity to disconnect from the metropolitan madness; moreover, its central location in relation to the surface area of the city of Berlin also makes it an attractive and accessible space for the entire population. At the same time, the presence of unbuilt areas can be clearly seen, and instead they represent green areas, both public and private. To be more specific, when we talk about private green areas, we are referring to green spaces dedicated to condominiums or private buildings, thus for the exclusive use of residents or workers.





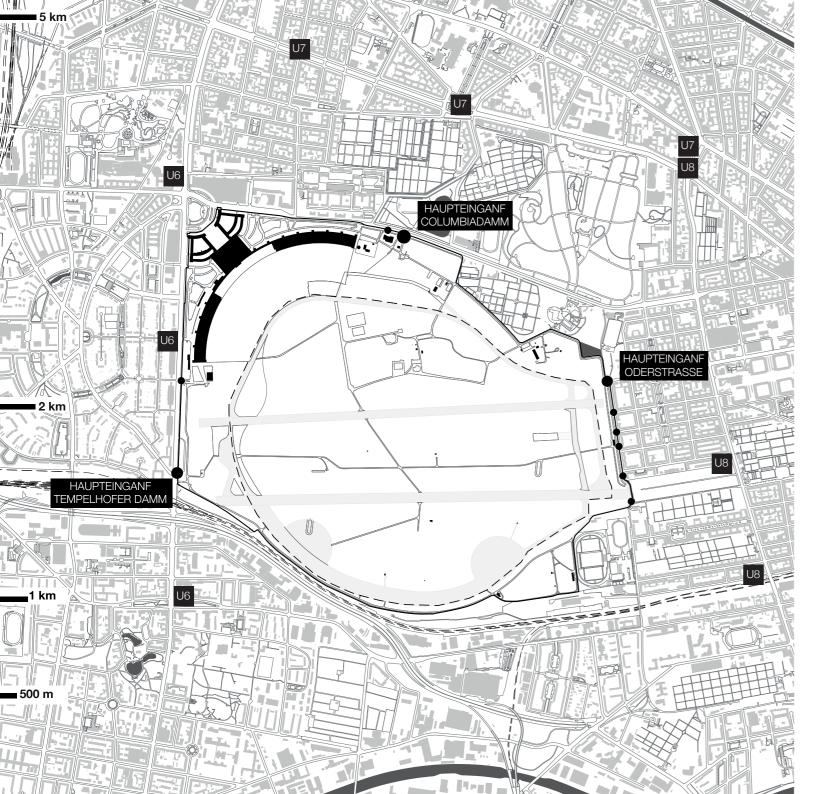
Another interesting aspect that benefits Tempelhofer Feld is the presence of a solid infrastructure network involving multiple public transportation, from buses to the subway to the rail network, which already existed in the 1920s, all of which make for a complete and efficient system. In addition, the presence of bike lanes along much of the park's perimeter incentivizes light mobility, promoting sustainability.

As for buses, there are multiple lines leading to the different points with access which can be divided according to the distance of the stop from Tempelhofer Feld. In order:

- 0.1 km distance: U Platz der Luftbrücke, bus lines N42, N6, 248 and M43;
- 0.2 km distance: Columbiadamm/Platz der Luftbrücke, lines 248, M43, which also stop at Kaiserkorso and Platz der Luftbrücke, respectively;
- 0.5 km away: Berlin, Columbiadamm/Friesenstr. lines M43 and 248, Bergmannstr. lines N42 and N6.

By contrast, as far as the subway is concerned, on the west side runs the U6 subway line, which is the closest compared to Tempelhofer Feld. On the east side is the U8 line, while on the north side, albeit somewhat more peripherally, is the U7 line. However, the fastest way to reach the park is by subway.

03 THE LARGE PARK



Tempelhofer Feld's almost circular shape has the potential to extend in a fragmented manner into the immediately adjacent margins. Consequently, a key aspect is the distribution of access along the perimeter, which must be homogeneous so that communities can converge on all sides and find a point of cohesion. There are a total of ten entrances:

- six are located at the eastern end of the former runways along Oderstraße;
- two, in the western edge, at Tempelhof station and Paradestraße U-Bahn station, respectively;
- the last two, in the northern border, one at Columbiadamm and one at Golßener Straße.

In terms of its spatial organization, the runways dictate the internal structure of the park: these are two parallel runways, oriented eastwest, with an oval runway running around the airport. These are connected by smaller roads and the interstitial spaces created are large expanses of grassland.

The park is the backdrop for many activities carried out throughout, but at the same time there are spaces dedicated to more specific functions: in the northern part, close to the building, an area equipped for sports, scattered areas along the edges for socialization activities, separate areas for dogs, widespread playgrounds. It is also important to point out that Tempelhofer Feld represents a true ecosystem, as a habitat for various plants and animals, particularly endangered bird species.

03 THE LARGE PARK



Paradestrasse stop on Tempelhofer Damm.



The building defined as the mother of all airports.



Secondary access along Tempelhofer Damm in the west border of the park.



View of the orizon from the airstrip.



Observation tower on the grounds

03 THE LARGE PARK



Image: Dagmar Schwelle.

Then, in the northwestern sector is the building complex, characterized by a shape that echoes that of an eagle in flight, with shell-like limestone facades. Its interior today is used for exhibitions, fairs and musical events. The building also received the landmark award for engineering architecture in 2011.

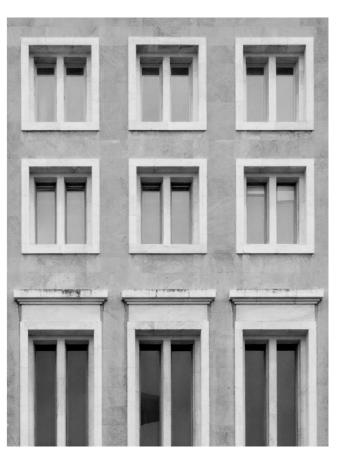
Finally, it is important to highlight the presence of the phenomenon of segregation, which is rather developed in newer or peripheral districts, such as those bordering the park. Tempelhofer Feld, from this point of view, presents itself as a wonderful system for limiting the problem: its impact on the entire city is obvious, but it is even more powerful on its urban edges. The four bordering neighborhoods are characterized by high percentages of foreigners, transforming Tempelhofer into a way to escape from the hectiness of the metropolis, places of dwelling that spur socializing and sharing, a space that unites, regardless of ethnicity, welcoming all that surrounds it.

In conclusion, we could say that Tempelhof Park is a place of great impact on the urban core. It represents from a certain point of view an urban void, but at the same time because of its history and its use, we could also call it a full, with a high potential extended in all the bordering areas and in continuous becoming, just like the city to which it itself belongs.



Detail of Tempelhof airport building facade Image: Fabio Semeraro

03 THE LARGE PARK





Hungerharke, the airlift memorial.



Urban gardening in Tempelhofer Feld. Image: Dagmar Schwelle



Aerial view of the airport. Image: Claudius Pflung



The hangar building along Tempelhofer Damm.

03 THE LARGE PARK



The kite festival at Tempelhofer Feld. Image: Imago/Gora



Herd of sheep at Tempelhofer Feld. Image: IMAGO / Stefan Zeitz

04 THE CONTROVERSIAL PERSPECTIVE

What has been described so far brings us to have an extremely positive view in which the citizenship takes the lead in a difficult fight to defend their principles and ideals, until the desired result is achieved. Apparently, it all seems to be going in a resolutive direction, almost an idyllic situation but in reality the picture is much broader and more complex, involving different controversial aspects that are still being discussed today.

In the time span between 2008, when the former airport was closed to reopen as Tempelhofer Feld, and 2015, the different positions regarding the fate of the site became clear, since the opening of the park until 2014 did not represent a definitive fact. Technically the site belonged to the public as a park, but there was a real shift of responsibility, which saw Tempelhof in the hands of the city planning administration on the one hand, and the finance administration on the other. One figure that stood out in this duality was the *Berliner Immobiliengesellschaft*³², a privatized real estate company engaged in the management of local properties, which refused any kind of opening as public land, insisting on issues related to the risks and costs it would entail. This, of course, triggered the rebellion of the citizens, who instead considered it their legitimate right to use the former airport as a place with a public character.



Ischaft, known by the acronym BIM, is completely controlled by the State of Berlin and is responsible for the appraisal, management and optimization, as well as the leasing and sale of state-owned real estate, including the management of special funds related to state real estate.

32. Berliner Immobiliengesel-

04 THE CONTROVERSIAL PERSPECTIVE

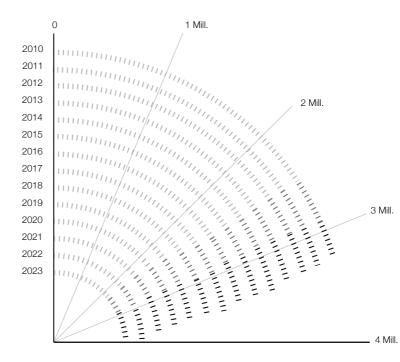
"Let's plan something nice!". Protests along Columbiadamm. Image: Bernd Sauer-Diete

In the middle of these debates, as seen above, the Senate proposed the "Tempelhofer Freiheit" master plan, through which the area of the park would be reduced by about 25%, a percentage earmarked for the construction of residential complexes and related service areas. The Tempelhofer Feld redevelopment plan was closely linked to one issue, namely the paucity of buildings for residential use, a fact that in an increasingly insistent manner was becoming apparent in the city of Berlin due to the increasing influx of people arriving in the metropolis. In fact, in 2010, following the financial and economic crisis of 2007, Berlin witnessed a remarkable increase in population which is today a trend constantly increasing. Along with the increase in population, there was also an increase in house rental prices, which rose to about 68 percent between 2010 and 2015, triggering a real housing emergency. Consequently, that of the Masterplan was, ideally, the most effective solution to buffer the obvious problem. However, the citizens, manifested once again their total opposition, with various protest demonstrations, most notably those led by the Squat Tempelhof³³.

"Is it really acceptable to exploit a public space to allow a few people to earn outsized profits?"34

> In connection with this rejection on the part of citizens, a further aspect can be highlighted. It is interesting to note that Tempelhof is recognized as having an important value in multiple aspects, such that it has led to the founding of associations and protests in its defense.

The risk of the implementation of the project with the consequent loss of the park, a place of escape from the busy-and-crowdy city, was interpreted as a personal attack since it was a privatization of public property, thus a place that, by law, had to be preserved and opened to citizens. The associations, by lobbying on this aspect, reinforced that feeling of belonging, which became even stronger, but more importantly led the citizenry to develop a sense of mistrust of institutions.



33. The Squat movement, literally the occupation of places has been a social phenomenor in which Berlin was involved from the 1980s. In this specific case the association made accusations against the public administration which, according to the movement manifesto wanted to construct luxury homes and creative industries in the park. 34. EXBERLINER, "Why does Berlin keep trying to build housing on Tempelhofer Feld?"

04 THE CONTROVERSIAL PERSPECTIVE

RESIDENTS REGISTERED IN BERLIN BY MIGRATION BACKGROUND

IIIIIIIII German

IIIIIII German with background

4 Mill

Foreigners

From 2006, in fact, the management of housing policies became the responsibility of the Länder, which distribute the funds obtained from local government funding, leading the authorities to act in competition with private partners as market players. As a result, once a project was approved for the construction of housing facilities, the concern was that the agreed conditions regarding land area would not be met. Moreover further concern was the possibility that the type of buildings planned were intended to satisfy mainly clientele in a wealthy economic condition.

Another event that further complicated the housing emergency was the growing number of people escaping from their countries of origin, triggering what is referred to as the "refugee crisis," during which Berlin in particular, took in a large number of Syrian refugees in 2015, larger than other European cities. Ahead of this crisis, the Tempelhof hangars were used as an emergency refuge for more than 2,000 people, who, once the maximum length of stay had ended, could settle at municipal or permanent housing. However, considering that about 85% of the city's residents have a lease, it was even more tricky to find a home. In 2017, about 28,000 of the 80,000 refugees who were registered in Berlin remained without stable accommodation, making the housing situation even more complex.

This set of issues continues to be discussed today despite the law that was passed, protecting Tempelhofer Feld's land. Its area continues to be extremely attractive to private developers, who are always ready for the possibility of a new scenario opening up. General view of shelters in Tempelhof building. Image: Fabrizio Bensch, Reuters/Contrasto

Tempelhof airport used as an emergency refugee shelter. Image: Fabrizio Bensch, Reuters/Contrasto

04 THE CONTROVERSIAL PERSPECTIVE





In the face of such a complex situation of an ongoing need for new residential structures, real estate markets always ready to seize the land, and continuous price increases, questions arise.

Can the bordering areas in Tempelhofer Feld be the residential solution needed? Has the market value increased following the opening of the park?

> Regarding the first question, some thinking can be done. With the February 2023 elections, the people chose as mayor governor Kai Wegner, a member of the Christian Democratic Union of Germany (CDU), who is extremely concerned about the housing crisis. In particular, he places his attention not only on Tempelhofer Feld, but also on its surroundings, believing construction in the borders to be an effective solution to the emergency. In addition, his idea to reintroduce a referendum to use the park's land and convert it to housing has not gone unnoticed. Probably, this last aspect would be a reason for opposition from the public, considering the whole series of protests that have taken place over the past 15 years. But at the same time, one wonders whether the housing situation is so bad that Berliners would give in to compromise. As a consequence to Wegner's point, it is possible to argue that Tempelhof's borders can be a resource, for example by carrying out densification work in the urban fabric, which could compensate for issues related to limited housing availability.

Turning to the second question, it is possible to say that the opening of the former airport as a park for public use has certainly benefited the surrounding areas which have been subjected to a series of operations such as redevelopments, infrastructure system remakes, and new light mobility systems, thus making the area more attractive, especially for households. The combination of the Tempelhofer Feld opening event together with the general increase in rental prices that has affected the entire metropolitan area has caused real estate values to rise dramatically. Still, another phenomenon related to this increase is gentrification, which affects most strongly the Neukölln district, adjacent to Tempelhof in the northeastern border, characterized by the highest percentage of migrants in all of Berlin. The presence of this phenomenon only exacerbates the housing trend.

Taking the case of the Tempelhof neighborhood³⁵ as an example, real estate has been subject to a considerable increase in the price range, which used to be between 500 and 2,500 EUR/m2 but is now in the range of 2,500 to 5,000 EUR/m2. Although the difference is considerable, the housing supply in this part of the city turns out to be extremely advantageous compared to the rest of Berlin, especially for families.

Another case is the one of Neukölln where, already since 2019, housing with a rent of less than 2,500/ EUR/m2 has completely disappeared, to the point that in some strategic locations it has reached a range of between 5,000 and 7,500 EUR/m2. A different situation, on the other hand, is observed in the Kreuzberg district, where even today the housing offer is quite varied, thus holding a wide target population.

04 THE CONTROVERSIAL PERSPECTIVE

35. While Neukölln is located on the north east border of Tempelhofer Feld, Tempelhof covers basically all the rest of the boundary, including the park itself.

TEMPELHOF DATA

EXISTING BUILDINGS

NEW BUILDINGS

Average asking price	Median demand for rent	Average asking price	Median demand for rent
4,430 EUR/m ²	11.20 EUR/m ²	6,390 EUR/m ²	17.95 EUR/m ²
-3.20%	1 +4.30%	J -3.80%	1 +7.60%

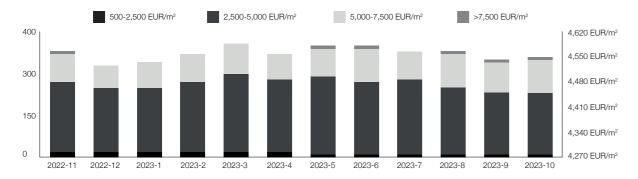
PRICE INDEX TEMPELHOF

EXISTING BUILDINGS

NEW BUILDINGS

	Time period	Median offer price	Index (10 years = 100)	Median offer price	Index (10 years = 100)
	Current trimester	4,430 EUR/m ²	-	6,390 EUR/m ²	-
	1 year	4,580 EUR/m ²	-3.20%	6,650 EUR/m ²	-3.80%
	3 years	3,980 EUR/m ²	11.30%	5,330 EUR/m ²	19.90%
_	5 years	3,100 EUR/m ²	42.70%	4,080 EUR/m ²	56.70%
-	10 years	1,550 EUR/m ²	186.20%	2,590 EUR/m ²	146.30%

PROPERTY PRICES TEMPELHOF ANNUAL CYCLE



NEUKÖLLN DATA

EXISTING BUILDINGS

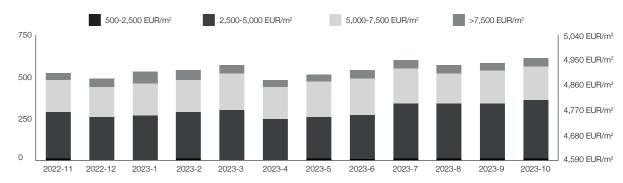
Average asking price	Median demand for rent
4,630 EUR/m ²	11.25 EUR/m ²
-4.60%	1 +5.00%

PRICE INDEX NEUKÖLLN

EXISTING BUILDINGS

Time period	Median offer price	Index (10 years = 100)	Median offer price	Index (10 years = 100)
Current trimester	4,630 EUR/m ²	-	7,030 EUR/m ²	-
1 year	4,860 EUR/m ²	-4.60%	8,760 EUR/m ²	-19.80%
3 years	4,390 EUR/m ²	5.50%	7,150 EUR/m ²	-19.80%
5 years	3,640 EUR/m ²	27.30%	6,070 EUR/m ²	15.80%
10 years	1,820 EUR/m ²	155.10%	2,920 EUR/m ²	140.50%

PROPERTY PRICES NEUKÖLLN ANNUAL CYCLE



04 THE CONTROVERSIAL PERSPECTIVE

NEW BUILDINGS

Average asking price	Median demand for rent
7,030 EUR/m ²	23.25 EUR/m ²
J -19.80%	1 +21.10%

NEW BUILDINGS

In conclusion, the situation revolving around Tempelhofer Feld, seemingly quiet, has a number of facets and controversies that cyclically continue to be discussed. Supporters of the park continue to question why there is continued discussion about a hypothetical plan to build on Tempelhofer Feld land since there has been a victory and the place is constantly frequented. In addition, one wonders why other large parks are not subject to the same kind of attention.

Building on this site would be the easy choice in one sense because of the presence of existing water, gas and electricity systems and an excellent infrastructure system. However, for Berliners it must be the last possible option.

The answer obviously ties in with profit. The private real estate market is always ready to take over if an opportunity to obtain plots of land arises, hoping for the support of the legislature, all to the detriment of the public.



Illustration of Tempelhofer Feld made by Emma Taggart.

04 THE CONTROVERSIAL PERSPECTIVE

02//

PLANS AND PROJECTS

(2008 - 2030)

01 OVERVIEW OF LEGISLATIVE ORGANIZATION

02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

03 COSTELLATION OF PROJECT

INSEK SCHILLERPROMENADE KARL MARX STRASSE REDEVELOPMENT NEUE MITTE TEMPELHOF ATELIER GARDEN FLOATING UNIVERSITY BERLIN



01 OVERVIEW OF LEGISLATIVE ORGANIZATION

The surface area of the city of Berlin is very large and, together with fifty surrounding municipalities constitutes the state of Berlin. Over the past decades it has been characterized by exponential growth, especially in terms of population. This increase in population has necessitated the development of research for the implementation of an urban intervention and social housing plan that could accompany the growth to meet the new consequent needs. Indeed, one of the best-known features of the city is its condition of continuous evolution, which brings the need for continuous interventions that are targeted and, above all, projected onto the hypothetical future scene, thus enabling it to continue to manage the constant change it faces.

Since this is a complex context, in order to understand the methods and strategies that are adopted, it is necessary to take a step back.

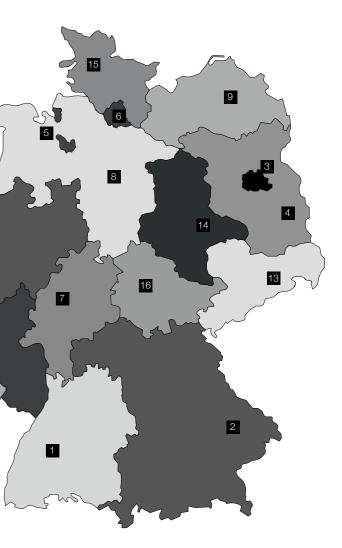
In Germany, spatial planning has a precise and orderly structure, aiming at an equally orderly urban development, always seeking sustainable solutions. The Federal Republic of Germany is divided into 16 Länder³⁶, which are divided in 438 Kreise (districts), counting more than 10,000 Gemeinden (municipalities), all of which share the same general goals of spatial planning.

Consequently, there are predetermined basic concepts and ideals dictated by the governmental administration, which are then specified in the sub-levels.



36. The Länder, singular "land," are the federal states of Germany, thus the political and administrative entities (a total of 16) that form, the Federal Republic of Germany.

01 OVERVIEW OF LEGISLATIVE ORGANIZATION



10

11

12

The central element of this system is the imposed goal, which seeks uniformity in living conditions of the citizen, an aspect that must always be preserved in any type of intervention and which the states must strictly adhere to. So, one speaks of federal spatial planning with reference to the summarized interregional and intersectoral development of the entire German territory.

The generic objectives of programs at the federal level are many but the most relevant ones are:

- Stadtteile mit besonderem Entwicklungsbedarf die Soziale Stadt (social city or socially integrative city), aimed at the social and physical development of neighborhoods (2005).
- Stadtumbau (Urban Renewal) Ost and Stadtumbau West, meaning two programs addressed to the Eastern and Western Länder respectively aimed at leveling out the differences present between the two parts.

Moving down to the regional level, then to the plan of each *Länd*, we see more detail in the goals to be achieved in spatial planning, which, in turn, goes further into specifics in subregional planning. The basic frameworks and guidelines to be followed are constructed, using the Regional Development Plan as the main tool, within which reference is made to the economic, social, infrastructural, environmental and future situation.

As for the planning of cities and municipalities, the situation differs, especially with a distinction between urban development, urban

policy and urban planning. The former refers to organizational work to mediate the specific needs of the city; the latter refers to all construction and urban planning activities provided for municipalities by law; and the last point refers to related planning work. These three aspects are combined by means of municipal regulations, with some autonomy, but always following the basic regulations of the federal state. In this way, the search for solutions consistent with the national will, which meet the specific requirements, is guaranteed. An additional element that characterizes the German system, which

An additional element that characterizes the German system, which is extremely relevant, is the consultation of the population by means of the public participation system. For each planning process, in fact, there is provision for the involvement of a certain number of people from the local population who are interested in future planning measures. They are given the task of evaluating planning proposals and giving concrete opinions on developments by participating in workshops, surveys and various activities. The goal is to obtain feedback useful in formulating solutions so that they can facilitate the quality of life of the population, whose opinion is given great credence.

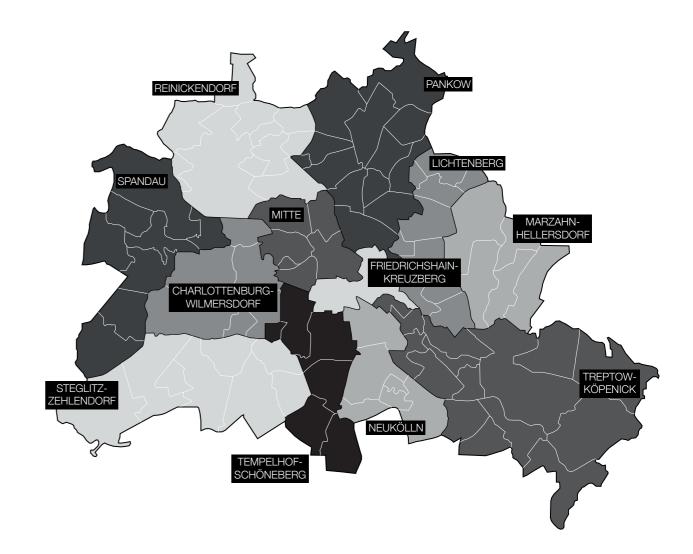
As a support of the cross-cutting competence of planning at various levels, sectoral planning is leveraged, whereby each division specializes on one area, subject to a set of special laws that respond to federal planning.

01 OVERVIEW OF LEGISLATIVE ORGANIZATION

Berlin, as previously mentioned, along with Hamburg and Bremen, is an exception as both a Länd and a municipality because of its considerable size. It includes a number of 12 districts, each of which possesses a population comparable to that of a medium-sized city. The main tool used to optimally regulate the city's development is the *Berlin Spatial Plan* (FNP) which has a general planning framework for the future development of the metropolis and sets as its goal to provide consistent spaces and living conditions.

Spatial planning in Berlin takes place on multiple levels of detail, from those of citywide importance and competence to larger scales, combining federal legislation concerning planning, Berlin-specific regulations, and environmental legislation. The StEP, or *sectoral development plans*, arranges planning guidelines and objectives on the local level, also focusing on specific issues, laying the groundwork for further levels of detail. Linked to this is the StEK, or *strategic development concept*, such as Berlin 2030. This is followed by intermediate area plans, BEPs, for which city districts are directly responsible. These are informal plans in which urban proposals are moved; thus targeted at defined areas of a specific district.

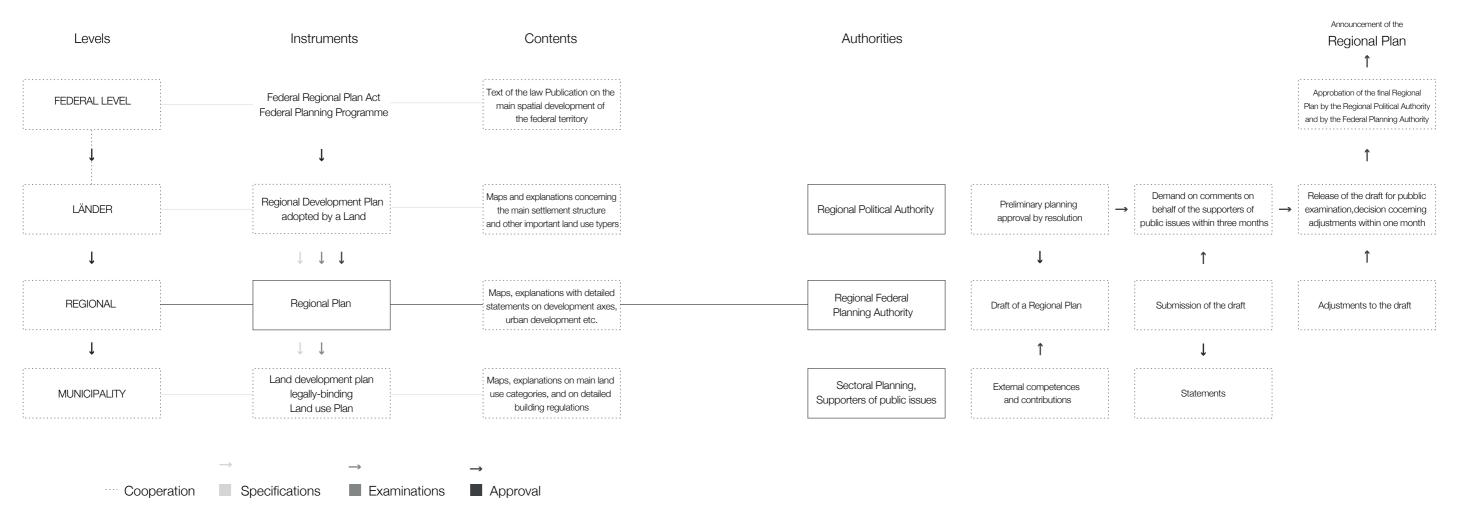
In the case of Tempelhofer Feld, since it is an exceptional site, a special plan is used, which takes into account the historical vicissitudes surrounding the former airport and the conditions developing around it. In addition, following the 2014 referendum, a law, the *"Tempelhofer Feld Conservation Act"* was passed, which protects the park as a habitat to be preserved and a special area, through a complete ban on building and non-building development of its land.



01 OVERVIEW OF LEGISLATIVE ORGANIZATION

Planning levels in Germany

A Regional Plan procedure



01 OVERVIEW OF LEGISLATIVE ORGANIZATION

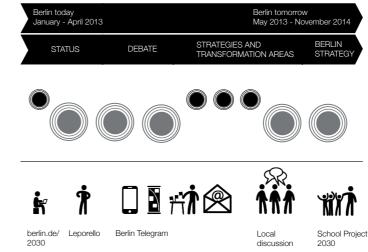
02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

Given the prepared policies that manage the territory starting from the punctual ones concerning the city to the broader level, it is necessary to dwell on the uniqueness of the case of Berlin, which, as previously explicated, covers the role of a city-state, mainly because of its considerable extension. It presents several specific characters that distinguish the whole territory, leading the responsible bodies to the identification of targeted strategies and plans to cope with the continuous and changing needs that arise. In fact, when it comes to Berlin, the distinctive element that stands out, especially, is the condition of continuous evolution and change to which it is subjected, from which a series of closely related phenomena ensue, hence, precisely, the need for integrated solutions to deal with it all in an optimal manner.

From this perspective, we then introduce the BerlinStrategy - Urban Development Concept - Berlin 2030, which is a comprehensive integrated strategic plan, officially initiated in 2014, aimed at the development of the city in a manner consistent with its needs, supported jointly by all Senate departments.

The first date to focus on is 2013, when a report was published in which the picture of Berlin in its current and future perspective was laid out, outlining the hypothetical fields of action and the most suitable strategies for sympathetic, sustainable and cosmopolitan development.

Using pre-existing plans and programs as a starting point, a series of public participation processes were initiated in the time frame from January until April 2013, involving some 2,500 Berlin citizens to expose their visions through the City Forum 2030 platform. The highly targeted local involvement was promoted with great emphasis, starting with an excellent digital communication campaign. The contributions collected by the platform, which recorded about 75 thousand visits per month, were put under analysis, discussed and evaluated, and then incorporated within the strategies. Potential gualities are recognized that make Berlin "special", giving that unique value compared to other European capitals.



02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

Phases

Workshop 2030 Events City Forum 2030

Information and participation

First, Berlin is *a dynamic capital with global reach*. Its strong international character, underscored by the political presence of numerous institutions, make it an open window with great power to influence the rest of the world, a stage capable of offering multiple opportunities.

Berlin is *an innovative economic scientif hub*, thanks to the innovative economic and scientific hub, promoting the dissemination of notions. The close cooperation with the State of Brandenburg helps to convert the city into a real magnet, appealing internationally.

Berlin is *a place for everyone to explore their creativity*. The city is identified as the ideal place to be to express their creativity, a symbol of freedom and tolerance.

Berlin is a caring, inclusive and socially responsible global city. Riots and revolts have become well-known aspects of Berlin, especially when it comes to defending the freedom of the individual and diversity. The great solidarity with different cultures makes it an extremely open city, so much that it prides itself on having very diverse communities.

Berlin is also a green and compact city. In fact, although it is a large city with a multicenter and compact configuration, Berlin has an extremely consistent ratio of open and built spaces.

Finally, Berlin is a metropolis with enormous untapped land potential. One of the most interesting aspects is precisely that it possesses margins that can be incorporated into metropolitan boundaries.



02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

Image from the Brochure of Urban Development Concept: Berlin 2030 first version.

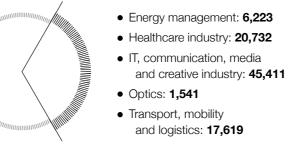
As a result, it is possible to develop an urban development vision for the future, and, therefore, effective in the face of continued population growth. Based on all these assumptions and, above all, on the desire to maintain as the main concept that of a sustainable European city, the eight strategies combining different fields are set out, with the aim of responding to future challenges. These are combined strategies that constitute an integrated approach to urban development.

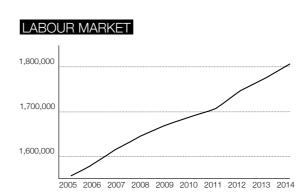
1. Strengthening the economy with smart knowledge.

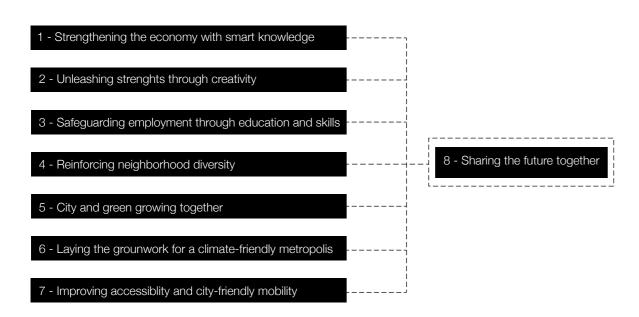
"We will only be able to meet the challenges posed by the growing city of Berlin if we have a strong economy. That's why the most important task of the Strategy for Berlin is laying the foundations for more investment, innovation and new jobs"³⁷

INNOVATIVE POTENTIAL

Every third company in the capital region is active in five region.







02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

37. Christian Amsinck, CEO Union of Berlin and Brandenburg Business Associations

Combined they generate over

€103 billion

in revenue, which is almost the 40% of the total turnover of the capital region's economy.

Berlin's working population benefits from the growing economy.

2. Unleashing strengths through creativity.

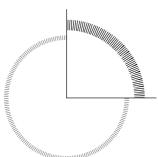
"One important goal for 2030 relates to open spaces for creative and cultural artists and keeping them separate from commercial interests. How can we achieve this? Not just in terms of space, but also intellectually and politically?"³⁸

38. Moritz van Dülmen, CEO Kulturprojekte Berlin GmbH

CREATIVE BERLIN

Following reunification, Berlin has transformed into a cosmopolitan, inclusive, and culturally rich metropolis, attracting creative talents and innovators globally.

At least one-quarter of employment growth in recent years is due to the increase in employment in the creative professions.



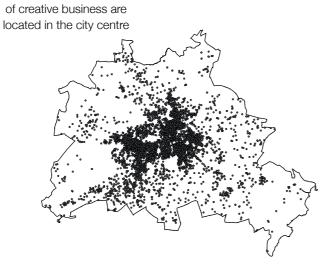
Data from the Brochure of Urban Development Concept: Berlin 2030 first version.

Since 2009, approximately,

30,000 new jobs have been created

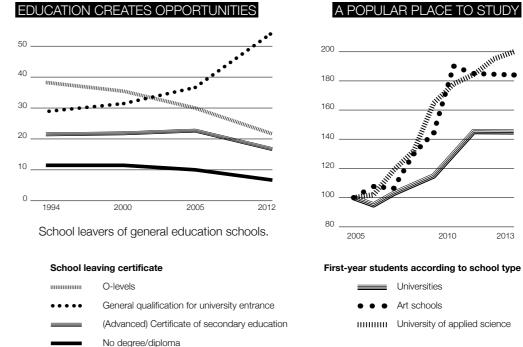
in Berlin's creative industry

78%



3. Safeguarding employment through education and skills

"Jobs are an important way of integrating individuals. It is not simply a question of economics, but also of the groundwork we lay in order to help develop prosperity. It includes family- and child-friendliness and principles for developing a city fit for senior citizens. This is the only way Berlin can remain tolerant, integrated, cosmopolitan and democratic"³⁹



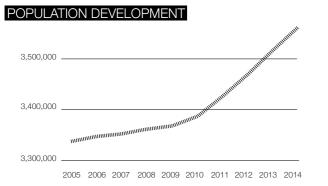
02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

39. Thomas Härtel. Chair of the Berlin Advisory Panel on Family Issues

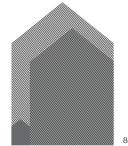
4. Reinforcing neighbourhood diversity.

"In 2030, we will still need a socially mixed city. It's important that there continue to be protected market segments and housing types for all sections in the population in the various neighbourhoods, and that we starting planning for this today" 40

40. Mario Czaia. Senator for Health and Social Affairs



BERLIN IS A RENTAL CITY



Data from the Brochure of Urban Development Concept: Berlin 2030 first version.

15%

In 2014, Berlin grew by 44,700 inhabitants, reaching a total population of 3.562 million on 31 December 2014. Between 2011 and 2014, the total number of inhabitants grew by 175,000.

100%

A total of approx. 1,9 million dwellings in residential and non-residential buildings, including residential homes and hostels.

Together, state-owned housing associations and housing cooperatives manage about a quarte of all Berlin dwellings:

• 10% cooperatively owned dwellings

15% state dwellings

- A large majority of dwellings are located in blocks of flats: • 87% dwellings in blocks of flats
- 10% dwellings in one- and two-family units

5. City and green growing together.

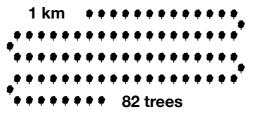
"The 21st century is the century of the city and of green spaces within cities. To a great extent, all the important issues facing us in the future, from demographic change to climate adaptation, can be answered through the appropriate treatment of public spaces. As the owners of these spaces, cities and neighbourhoods are responsible for implementing the Strategy for Berlin and achieving significant benefits for an attractive Berlin 2030 with realistic means" 41

BERLIN IS ONE OF THE GREENEST CITIES

The closest green space for 2.2 million Berliners is no more than 500 m from their own home and can easily be reached on foot.

CITY TREES FOR BERLIN

Each kilometre of the city's street haas approx. 82 trees, for a total of 440,000.



02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

41. Reiner Nagel, Board Director Federal Foundation of Baukultur

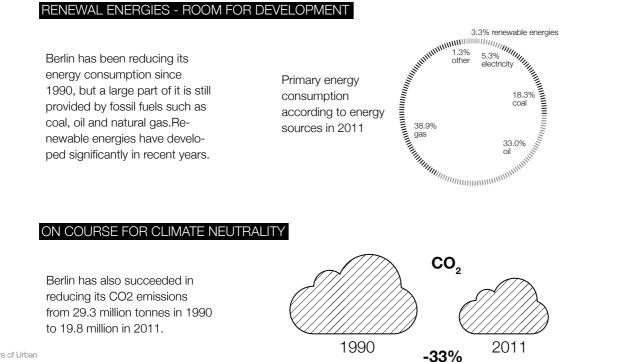
Almost 44% of the city's surface area is made up of woods, farmland, water, allotment gardens, parks and sports ground.



6. Laying the groundwork for a climate-friendly city.

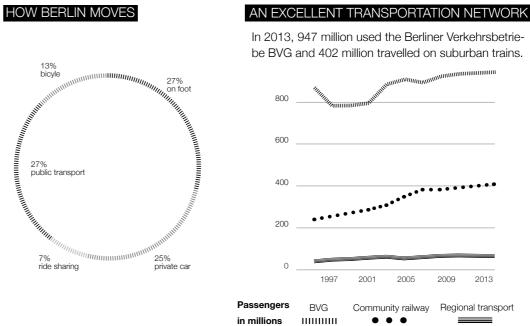
"The scheme to develop Berlin into a modern city with an energy-friendly carbon footprint is very ambitious but well worth it. The scheduled conversion of the energy system alone will require investments which could considerably strengthen the Berlin economy"⁴²

42, Prof. Dr. Bernd Hirschl. Institute for Ecological Economy Research



7. Improving accessibility and city-friendly mobility.

"Berlin stands at the top of the current 'Federal States Mobility Index' and is already a pioneer in sustainable mobility. With the Strategy for Berlin, we are now going to work together to develop an even more efficient and environmentally friendly local transport network for our growing city. We are actively expanding the local public transport network, and green, multi- modal mobility is being improved. So, Berlin 2030 will be an even better place to live" 43



02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

43. Dr. Sigrid Evelyn Nikutta, CEO Berliner Verkehrsbetriebe (BVG)

8. Shaping the future together.

44. Jochen Sandig, Radialsystem V GmbH

"For me, the people are the greatest quality of this city. Shaping the future together means with the people of Berlin, and that's the perfect framework. It all starts with participation as a strategy for achieving goals"⁴⁴

COOPERATION AT ALL LEVEL

Over 4 million people live in area covering nearly 4,000 km2 in Berlin and its surrounding are part of the Berlin-Brandeburg metropolitan region. In addition to the many citizens of Berlin and representatives of its Senate and local authorities, more than 100 associations and institutions from the city and the region of Berlin have an active role in devising the Berlin Strategy.



4,437,187 people 3,743 km2 area

State of Berlin

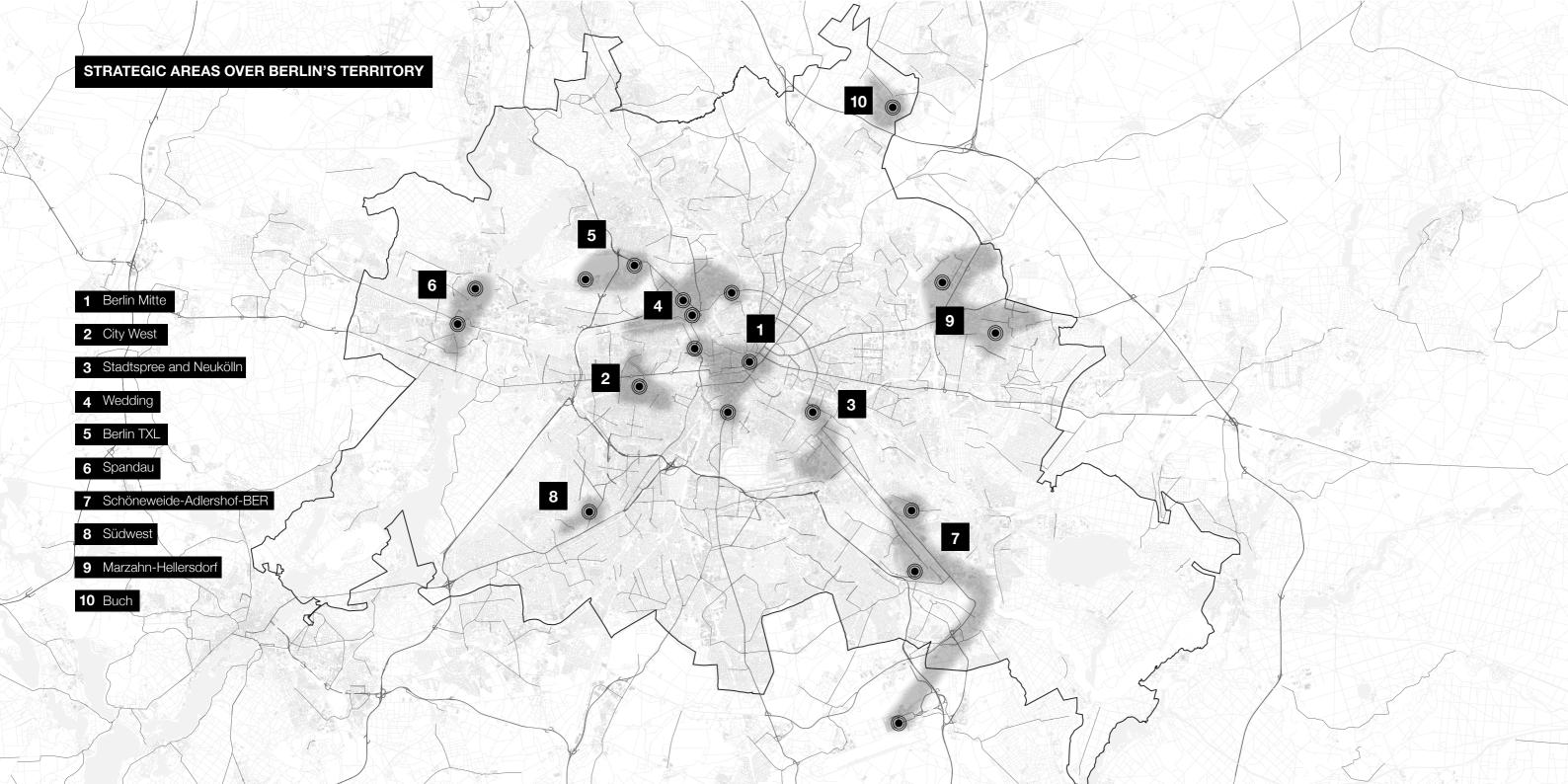
Berlin surroundings

Along with the strategies, a number of areas are identified, precisely ten, located on the surface of the entire city in a scattered manner, which show transformational potential for Berlin's multicenter structure. Each area is subject to the integrated approach that pays attention to the main themes of the plan, thus population growth, economic structure, functions of the city as a capital, social cohesion, climate change, and energy transition. Following, in order, the areas

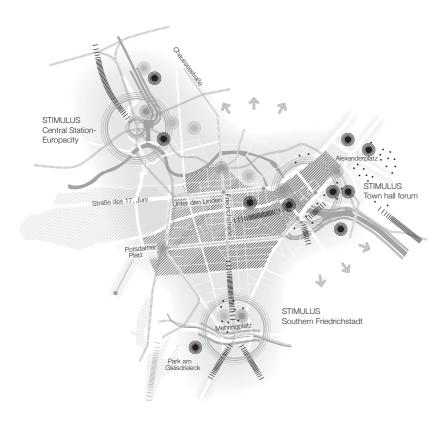
- 1. Berlin Mitte A pulsating centre
- 2. City West A modern, compact centre
- 3. Stadtspree and Neukölln Using diversity creatively
- 4. Wedding Bridges and change
- 5. Berlin TXL Urban Tech Republic
- 6. Spandau Old heart, new urban feel
- 7. Schöneweide-Adlershof-BER Science and innovation take off
- 8. Südwest Excellence creating value
- 9. Marzahn-Hellersdorf Green and technology
- 10 .Buch Local meets global

Development Concept: Berlin 2030 first version.

02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030



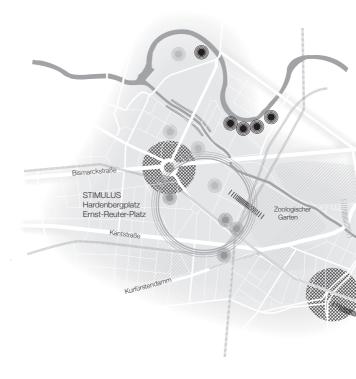
Berlin Mitte – A pulsating centre



The Mitte area runs from Alexanderplatz to Potsdamer Platz, via the Brandenburg Gate, and from Europacity to the southern area of Friedrichstadt, via the Hauptbahnhof central train station. Being a central location, it displays multiple cultural and historical shades, resulting in a balanced blend of history and modernity.

According to Berlin 2030, Berlin Mitte will become the key location of the metropolitan region as well as a hub of economy, science, and culture. In addition, a goal is set to densify building construction, with the aim of providing affordable housing, ensuring services for both the citizen, worker, and tourist.

City West – A modern, compact centre



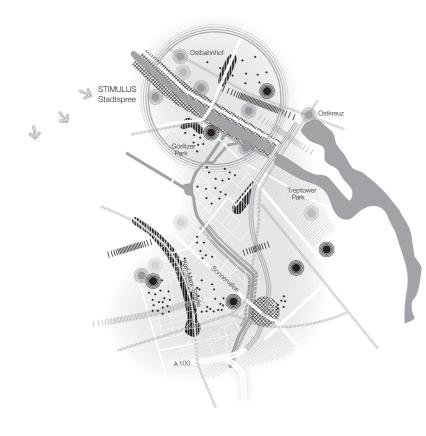
02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

The West City area extends from the Landwehrkanal, Nollendorfplatz and surroundings, via Tauentzien- straße and Kurfürstendamm to Adenauerplatz. From the Zoo Station and Hardenbergstraße, it ends in the northern part of Charlottenburg at Helmholtzstraße. Here it is a portion of the city characterized by multifunctionality, particularly the presence of many universities educational institutions.

Through Berlin 2030, City West will increase its level of popularity, both among locals and visitors, through strong development in technology and creativity, accompanied, again, by new construction of affordable housing.

99

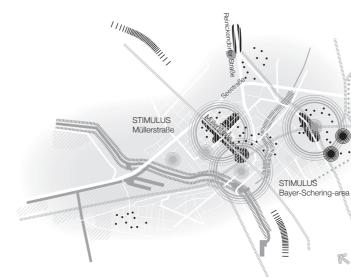
Stadtspree and Neukölln – Using diversity creatively



These two areas are connected by the Spree River, and the transformation area extends from Karl-Marx-Straße and Sonnenallee to Neukölln, via Treptower Park and Berlin Ostkreuz station to Ostbahnhof. They are a great attraction for new artists, welcoming many ethnic groups. They also belong to the city's "green and blue network" offering spaces closely related to open spaces and water. In the case of Neukölln, social issues are present related to the high demand for living and cultural spaces.

In 2030 it is hoped to convert them into controversy-free spaces, for example along the course of the Spree to improve the social mix with integration work, and, once again, to increase living spaces. A further project is to develop the sites close to the A100 to link the neighborhoods together, thus not cutting them off and limiting them.

Wedding - Bridges and change



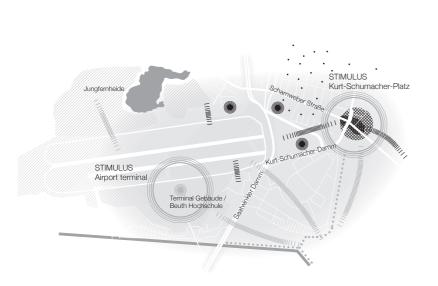
02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

Bornholmer Straße STIMULUS Gesundbrunner

The Wedding project site extends in an east-west direction from Bornholmer Straße, via Residenzstraße to the Verbindungskanal of Charlottenburg in Moabit, involving Europacity to the north along Müllerstraße in the direction of Tegel and Reinickendorf. It is an extremely attractive area from a residential point of view, but at the same time it presents a number of social problems, mainly related to poor integration of different ethnic groups, who choose Wedding because of its affordable costs.

In 2030, the area will reach a good level of integration, promoted by the inclusion of facilities, residential, cultural, educational, etc., which will increase the value of the site.

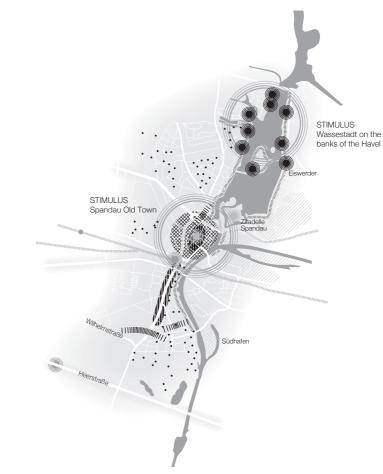
Berlin TXL – Urban Tech Republic



The Berlin TXL area covers part of the site of the former airport, which was still in operation in the plan's launch years and extends eastward to Kurt-Schumacher-Platz. The presence of the airport, with which an efficient public transportation network is combined, brings great potential in the urban development of the area.

The goal of converting Tegel TXL into a center of excellence in urban technologies, particularly automotive engineering, life science, energy, and information and communication technologies, is to be achieved in 2030. In the eastern part, however, a residential, socially mixed area with numerous ecological compensation areas will be located.

Spandau - Old heart, new urban feel

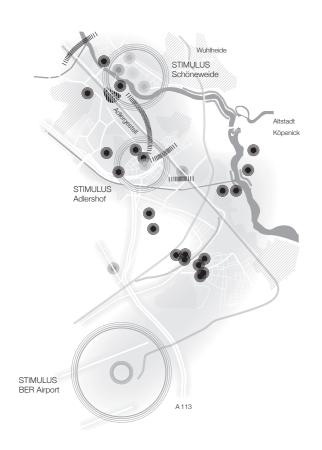


02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

STIMULUS Wassestadt on the The Spandau site extends from the citadel to Zeppelinstraße in the west and moves in a north-south direction along the Havel from the waterfront to Heerstraße.

The challenges to which the 2030 plan responds are related to the complicated social situation and poor urban planning design. Consequently, a new urban renewal plan is promoted, aimed at social stabilization. Alongside this primary goal, industrial and commercial development is promoted in a way that encourages the emergence of new employment positions, a factor that further incentivizes proper integration. Finally, attention is paid to the landscape quality of green spaces.

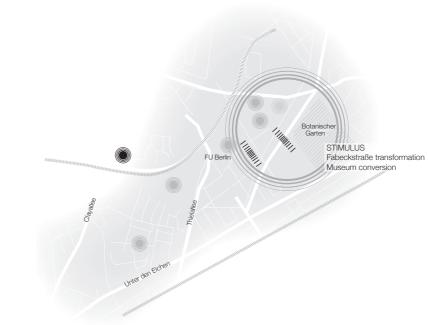
Schöneweide-Adlershof-BER - Science and innovation take off



This transformation area is located in the southeastern part of Berlin, extending from Oberschöneweide via Adlershof and Grünau north to Berlin-Brandenburg Airport. It is a site with numerous high-tech and media companies, with a very strong multifunctional structure, where work, study and living opportunities are closely related. In addition, the presence of the airport, as in the case of Berlin TXL, gives more value.

High standards in terms of urban planning will be pursued in 2030, converting the area into a real economic engine. Adlershof and HTW Berlin's Wilhelminenhof campus will become excellences in terms of research and education.

Südwest – Excellence creating value

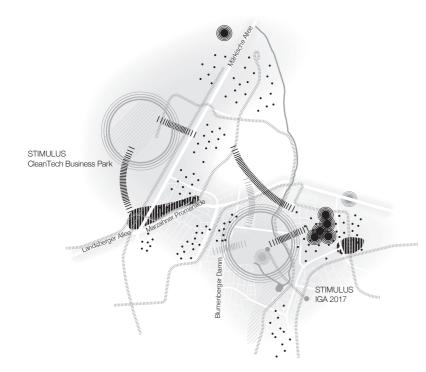


02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

The Südwest transformation site extends from the campus of the Free University, near Podbielskiallee, through Dahlem Dorf to B1 and Clayallee. Here, there is a specific urban design, characterized by villa-style single-family houses, alongside which dynamic and scientifically creative areas stand out, also due to the presence of the University.

In 2030, the area will be converted into an internationally prominent and cosmopolitan area characterized by a clean urban design that pays great attention to the environment.

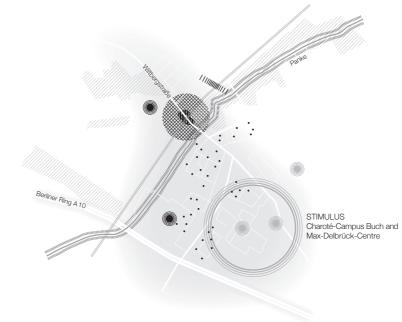
Marzahn-Hellersdorf – Green and technology



The Marzahn-Hellersdorf area extends along Ahrensfelder Chaussee, via Poelchaustraße, to the city boundary at Landsberger Allee. The site's great potential is dictated by an attractive offset of residential developments, urban and open spaces, and industrial and commercial sites.

Accordingly, with the Berlin 2030 plan, the area is aimed at enhancing the area especially in terms of the environmental development plan, for example by improving light mobility systems and increasing the ecological and sustainable solutions adoptable by residents, workers, and businesses.

Buch - Local meets global



02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030



In the northern part of the city is the Buch Transformation Area. which stretches from Campus Berlin Buch via the Charité and the Max Delbrück Center to the former hospital site west of the Buch S-Bahn station. Buch represents an international biotechnology research center as well as filling the important role of a national center for medical care.

By 2030, Buch will be converted into an important example of a suCcessful commercial, research and residential location. Green space will be increased, and cultural and educational services will be improved so that the quality of life can reach a high level.

This plan was officially approved and promoted in 2014 to try to counter and properly model the city's strong growth in 2010. However, due to continued refugee migration in 2015 and a large population influx from abroad, a version of Berlin 2030 2.0 was launched in 2016. A number of point-type updates were proposed, mainly related to the pressing need for new housing to cover the growing influx.

Another update was promoted on April 13, 2021, led by the Chancellery of the Senate, to respond primarily to the crises generated by the COVID-19 pandemic. Here, the qualities and strategies proposed in the original plan are taken up, expanding the future perspective of the condition of the city of Berlin.

The plan for the Berlin Strategy, in conclusion, lays a foundation for addressing the city's continued development through general guidelines, setting the goal of making Berlin a sustainable, community-minded, continually moving European city.



02 URBAN DEVELOPMENT CONCEPT: BERLIN 2030

Photo from Gertraudenstrasse of the Berlin skyline with close-up on the television tower Image by: Gerald Schömbs/Unsplash

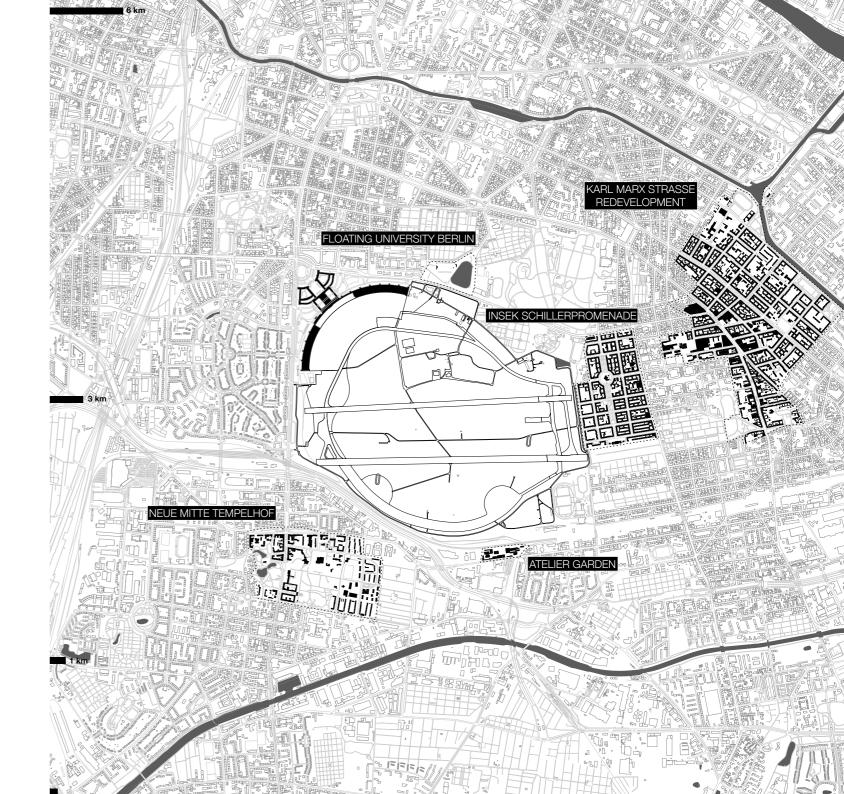
03 COSTELLATION OF PROJECTS

Alongside the Senate-sponsored intervention plan, a number of valuable projects have been implemented throughout the city, but we will look specifically at what concerns the Tempelhof area. Following the reopening of Tempelhof as an urban park, under the name Tempelhofer Feld, a series of urban policies and projects related to it in its borders and peripheral areas were triggered.

With the realization of its great value and impact, starting with private investors who jeopardized its public character, new plans were developed with the objective of redeveloping of a number of neighborhoods marginal to Tempelhofer Feld. Real architectural projects have also arisen that benefit from its presence and distinctive elements.

Thus, a series of projects of special interest that entertain a relationship with the park follow. The projects taken under analysis are as follows:

- ISEK Schillerpromenade;
- Karl Marx Strasse Redelopment;
- Neue Mitte Tempelhof;
- Atelier Garden;
- Floating University Berlin.



ISEK Schillerpromenade

In this case, it is a project funded through money prepared by the "*Lebendige Zentren und Quartiere*"⁴⁵ federal program. The Neukölln district office in 2019 commissioned an integrated urban development plan, INSEK, focused on the area "*Lebendiges Quartier Schillerpromenade*", with the aim of improving living conditions, but above all to encourage integration. Since this is a multi-ethnic neighborhood with an average population age range of mainly 30 to 60 years, it was necessary, especially following the opening of Tempelhofer Feld, to design targeted solutions that could stabilize and strengthen the area, making it attractive to young people and safer for families.

The design basis was developed by means of a careful analysis of the current condition, accompanied by consultation with the neighborhood population through the public participation process. Thus, a division of the design basis into three components is made:

- urban planning mission statement;
- description of development and action goals with fields of action;
- description of prioritized areas and solutions to achieve the set goals.

Along the lines of this initial subdivision, a set of general goals to be achieved are then formulated, which are based on three basic concepts to be followed, namely, inclusion, climate protection and climate adaptation. So, the formulated goals are:

- redesign and redevelopment of public spaces;
- development of citizen offerings;
- maintenance of neighborhood social facilities.

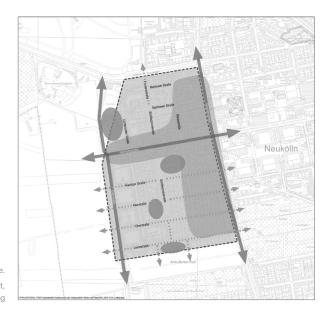
The main interventions include increasing the neighborhood's vegetation, an acoustic survey to improve the pollution condition, redevelopment of the main streets closely connected to Tempelhofer Feld, strengthening public transportation infrastructure and connections, and, finally, supporting cultural and social centers for good integration.



Schillerpromenade at the corner of Okerstrasse. Image by: Senate Department for Urban Development, Building and Housing

Planning area for ISEK Schillerpromenade. Image by: Senate Department for Urban Development, Building and Housing

45. "Living centers and neighborhoods" program aimed at preserving the qualities of centers and developing their functional diversity. It finances the design of public spaces, the qualification of social, cultural and educational institutions.



Karl Marx Strasse Redevelopment

Again, we are in the Neukölln district. In 2011, the key points subject to redevelopment in Karl-Marx-Strasse in the Neukölln district were identified following a series of surveys that confirmed the need for the development of a new urban plan. This is a central area of the district, which has undergone a series of phenomena related mainly to construction, residential and commercial. In this specific case, we are talking about a public investment aimed at the sustainable strengthening of the area through interventions in social and urban infrastructure. However, to facilitate the management and development of the project, additional funding for urban development has been arranged by the federal government and Berlin, through the support and implementation of precise planning, accompanied by extensive public relations and public participation work.

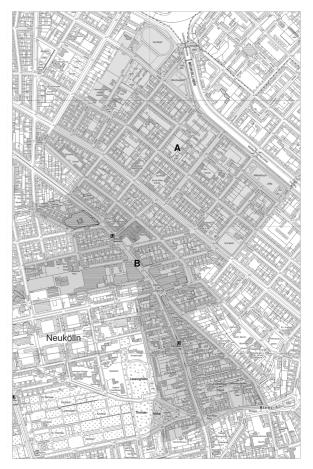
The action plan calls for work to strengthen the area, as it is centrally located and therefore key to the development of the neighborhood, with a focus on social infrastructure. In addition, as it is a site with several historic buildings, more attention is placed in the type of intervention, including working on the renovation and recovery of the building stock. An additional goal that the plan sets is to enhance the public transport system, connecting it more homogeneously with the rest of Berlin, and connections for pedestrian and bicycle traffic, boosted by the presence of green spaces.



Image by: Senate Department for Urban Development, Building and Housing



Alfred-Scholz-Platz after the redesign. Image by: Senate Department for Urban Development, Building and Housing



Planning area for Karl Marx Strasse. Image by: Senate Department for Urban Development, Building and Housing

Neue Mitte Tempelhof

Between 2016 and 2018, analyses were carried out on the "Neue Mitte Tempelhof" area, from which the need emerged to develop a plan that could renew the urban fabric and enhance its future development, thus going on to improve living conditions by making it more attractive. Again, the concept of integrated urban development (ISEK) was used, through which the Senate defined the redevelopment area, comprising about 62 hectares. It is a site that houses within it multiple social facilities, civic buildings and some green spaces, which lend a touch of balance to the rather dense urban fabric. One of its main features is the presence of a real physical cut, caused by the Tempelhofer Damm shopping street. This set of elements does not function optimally because the various elements are not combined to be able to reach a level of use at maximum capacity, the functions do not relate to the street, which actually represents a potential to activate the street. According to the findings, in fact, the area does not fully meet what are the needs of the population, as an official and identity center.

Hence, through the plan for "Neue Mitte Tempelhof", devised in the course of a comprehensive reorganization process of the area between Götz-e Albrechtstraße, which is now underway and will continue for the next ten years or so, this attempt at improvement is being put into action, which sets as its goals more cultural and educational offerings, public services and additional housing. The plan for Neue Mitte Tempelhof. Image by: ff-Architekten PartG mbB with Andreas Schwarz Architect; aerial view by Dirk Laubner (march 2017)

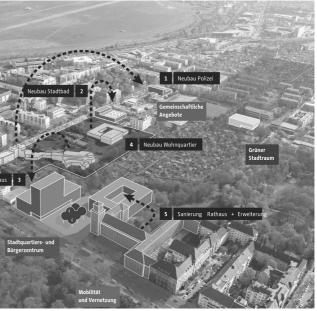
New building for police department
 New building for the municipal swimming pool
 New building for a cultural and educational center
 New residential neighborhoods
 Benovation and expansion of City Hall
 Translation from the left to the right

 New life in Götzstraße
 Community offerings

- Green urban area
- Mobility and networking
- City district and community center



03 COSTELLATION OF PROJECTS



Atelier Gardens

Moving on with projects from the architectural field, one of the most relevant ones is definitely the Atelier Garden. This is a redevelopment project developed on the southern border of Berlin's Tempelhof Airport by the Dutch firm MVRDV, on the building complex the campus of Berliner Union Film Ateliers (BUFA), central to Berlin's film and television industry. The work was commissioned by Fabrix, a vertically integrated real estate investment platform, and was started in 2021, with the goal of completion during 2022.

The project is envisioned as "*a hotbed for social and regenerative entrepreneurship, where we can experiment with innovative solutions to address the cogent challenges of our time, from ecology to technological development to the circular economy*"⁴⁶. The area is arranged with the distribution of five pre-existing studio blocks and ancillary facilities, in which with the new design flexible spaces are placed, ranging from co-working and training environments to event areas. In this way, a true campus is created, with an area of 23,800 square meters. One of the key aspects on which the development of the work is centered is the concept of greenery and sustainability, promoted, for example, through the non-green spaces, which have been transformed into surfaces permeable to rainwater flow, with rainwater collection and recycling, roof gardens and green plazas, which promote biodiversity.

The project, as a whole, is nothing more than a reflection of German urban culture, which is closely linked to sustainability issues, with a tendency for reuse and re-functionalization of spaces.





Atelier Garden. Image by: IMAGETOWN GmbH

46. C. Testoni, Atelier Gardens, TON 1: il progetto di MVRDV a Berlino che cambia il volto di Tempelhof, Domus, October 6 2022.

03 COSTELLATION OF PROJECTS

Render Atelier Garden. Image by: MVRDV



Atelier Garden. Image by: Atelier Garden offcial website

Floating University Berlin

Again, this is an architectural project, with an even broader vision on the theme of reuse and sustainability. The area on which it is developed is located in the vicinity of Tempelhofer Feld, specifically on the northern edge. It is a repurposing of existing structures combined with new ones on a rainwater catchment area that fell into disuse following the closure of Tempelhof Airport.

The project was designed by raumlabor studio, Floating University Berlin, and opened with the public in 2018. However, its elaboration process began as early as 2008, when the fate of the recently decommissioned former airport was uncertain and, consequently, so was that of the dock. This fact led to the formation of a landscape of spontaneous vegetation and new fauna, set, however, within a dense urban context. This gave rise to the actual project, which is a laboratory created to discuss contemporary issues pertaining to the use of public space, architecture and design, promoting educational and didactic activities. It takes the form of a set of pavilions built on water, the level of which rises in alternating stages, flooding the area. Connections are made by means of walkways, leading to the individual structures, each of which serves a different function of use.

One of the most interesting aspects of this project is how the potential related to Tempelhof was immediately captured in order to revitalize a place in a state of neglect.



Floating University Berlin. Image by: Victoria Tomaschko



Floating-University Berlin. Image by: Pierre Adenis

03 COSTELLATION OF PROJECTS



Floating-University Berlin. Image by: Alexander Stumm



Floating University Berlin. Image by: Lena Giovinazzi

03// BORDERS

01 BORDERS AND POSSIBILITIES

02 THE NORTH BORDER

03 THE WEST AND THE EAST BORDER

NEU TEMPELHOF - THE GARDEN CITY

NEUKÖLLN – PLACE OF DIVERSITY

04 THE SOUTH BORDER



01 BORDERS AND POSSIBILITIES

Looking at Tempelhofer Feld, what emerges is its strong impact on the population and the urban system not only in its perimeter, but in the whole of Berlin, encompassing its borders that reconnect with the rest of the city. When talking about the margin, or border, it is possible to exploit the generic definition given to the term, which is, something that is "on the edge, in a borderline position, in a situation that is no more"⁴⁷.

So, adapting the definition to the urban field, it is defined as a space on the edge, contouring another, almost like a frame. The issue of urban border represents a central theme in current events and the contemporary city in relation to growth, change and the urban and social needs that characterize metropolises.

The border is the most extreme part of a place, so one of the actions it can take is that of trespassing, that is, stepping outside those boundaries by encompassing what surrounds them. And it is specifically here that the main controversy emerges, given the fact that the concept of border, in the common habit, is immediately associated with a negative meaning. However it is possible to use a different point of view by making two opposing considerations.

Starting from a point of view that consider its value in a negative sense, the border represents an interstitial space separating two places, characterized, in this case, by a state of degradation. This aspect is closely related to the fact that frequently marginal spaces, as such and because they are generally more peripheral to the focus of the site under consideration, tend to convert into places with a high crime rate or low social value.

Taking, on the other hand, the positive meaning, the border can represent an incredible potential for the community, taking on the role of a transitional place for the shift from one part to another, opening up more of its boundaries, which then dissolve and amalgamate more evenly over the urban fabric. So, we can observe two completely opposite views.

"[...] marginality as more than just a place of deprivation [...] indeed the exact opposite, that is [...] a place of radical possibility, a space of resistance. [...] to a place to inhabit, to remain attached to and faithful to, because our capacity for resistance is nourished by it. A place capable of offering us the possibility of a radical perspective from which to look, create, imagine alternatives and new worlds"⁴⁸

According to what we saw in the previous chapter, running through the metaphor of the Green Archipelago by Rem Koolhaas, we can consider a situation characterized by the presence of closed or open islands. These islands can have relationships of any kind with each other, thus acquiring the designation of open, or, conversely, they can be completely disconnected, thus closed.

47. Definition from Treccani

01 BORDERS AND POSSIBILITIES

48, bell hooks, Elogio del margine, Razza, sesso e mercato culturale Feltrinelli Milano 1998

Since this is an extremely broad and complex topic, we make use of what has been expressed by Danilo Palazzo⁴⁹ who states how it is possible to adopt different strategies to deal with urban borders, precisely by making a cataloging divided into six strategies:

- Crossing: this first strategy considers porosity and fragmenta tion, which become the potential elements to connect and relate different resources, exploiting precisely the interstitial gaps. It sets the goal of a dynamic, connective design and as a result mobility plays a key role, with which the new design must perfectly align. An example of this is the Carles I Park, in Barcelona, designed by Josep Zuzurca (1989-1992) where mobility and the principle of crossing are central characters.
- Role: the proposed strategy sets as an objective the search for specific recognition, therefore, for a role to be assigned to the place, specific functions, dilating and amalgamating the margin along the urban fabric. An example that can potentially be considered is the new Milan Rho-Pero fairgrounds, by Massimiliano Fuksas, built between 2003 and 2005.
- Density: this strategic typology examines one of the main characters of the margins, namely porosity. Observing cities, one notices the presence of "empty" spaces, the terrain vague, places whose function has dissipated, converting them into unused, abandoned, degraded places. The solution involves the conversion of the borrder into an urban fringe, on which a process of densification can be initiated without the consumption of new land. An example is Hedebygade, developed

in the Vesterbro neighborhood in Copenhagen at the behest of the municipali ties in cooperation with SBS between 1995 and 2002. This was an urban renewal intervention, which was to be converted into a pilot project of applications of technigues for energy conservation and sustainable sources.

- Drawing: here the design action of drawing the margin is proposed as a strategy to distinguish and signal physically, but also symbolically, the change from one condition to another, making it clear and legible. In this way, links, relationships between the parts are created. An example of this is the pedestrian railway footbridge in Turin connecting Lingotto with the former General Markets and the Olympic Village, designed by Hugh Dutton and Benedetto Camerana between 2005 and 2006.
- Belt: certainly, represents one of the most popular strategies, best identified as "green belt." Green belts respond to two models, one that regulates or interrupts the flow of urban growth, placing the focus of analysis on the city, and another that responds to the preservation of agricultural and natural resources, thus with the focus on the concept of preservation. A planning example here is in London, namely the Greater London Plan, developed by Patrick Abercrombie beginning in 1944, which set as its goal the preservation of the undeveloped area of countryside, making it more accessible to Londoners.

49. D. Palazzo, Responsabilità progettuale e paesaggio dei margini urbani, Ri-Vista Ricerche per la progettazione del paesaggio, Università degli Studi di Firenze, n 6, pp. 14 - 31, 2006

01 BORDERS AND POSSIBILITIES

• *Waiting*: in the latter strategy, the edge and what makes up the edge are regarded as resources in their own right. Consequently, this typology is nothing more than a future perspective of what the place can become; it is projected to the near, near or far future, considering possible adoptable solutions that open at the same time to near prospects.



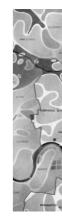


Crossing - Carles I Park, Barcelona. Image by: Ajuntament de Barcelona



Role - Rho-Pero fair, Milan. Image by: Moreno Maggi

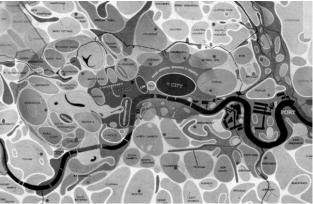




Drawing - railway footbridge, Turin. Image by: HDA-Hugh Dutton Associés

01 BORDERS AND POSSIBILITIES

Density - Hedebygade, Copenhagen. Image by: unknown author



Belt - the Greater London Plan. Image by: University College London

Analyzing the case of Tempelhofer Feld, it is possible to find a situation of marginality along its edges. The park has marginalities that differ from one another: since it is a large space, it appears as a huge place of potential, around which a range of possibilities revolve. The urban fabric that characterizes the area makes the park a place of respite from the thick density of the settlement matrix to which additional open spaces are attached at the same time, extending into the areas surrounding it. The whole space outside the former airport has a delineated, clear urban pattern, which is the result of historical vicissitudes, but above all social issues, and, among them, the demographic increase of Berlin's population in recent decades, given, above all, by the arrival of foreigners and different cultures.

The result is the need to implement the construction of residential areas, attempting to integrate these new communities with each other and within the city of Berlin. So, there emerges the need to combine spaces with the population that moves around daily, to push for a sense of community, outlining forms of integration, and in this the park represents enormous potential.

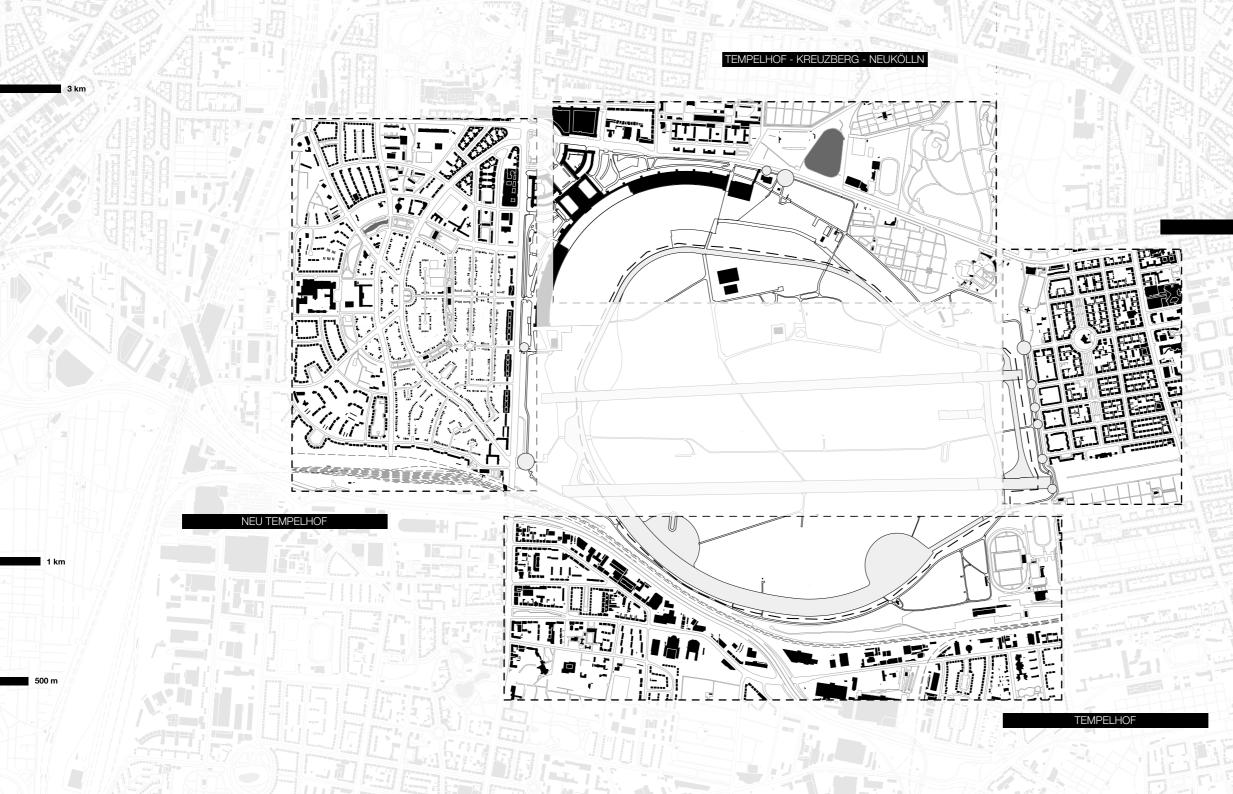
Tempelhofer Feld's elliptical shape is further characterized by the piecemeal type extensions along the borders. Consequently, the distribution of accesses seeks one so that communities can converge on each side and find the green space as a point of cohesion.

Resuming the strategies proposed by Palazzo, it is possible to use more than one typology in the case of the former airport of Tempelhof while achieving a positive result. Certainly, design is an open option, which can combine with what is the park boundary, creating a combination of these two elements that the author sets in opposition. Or even crossing, through a system of light mobility that relates interior and exterior together with nonplaces. Thus, different combinations are possible, yet not hypothetically necessary on each side.

As previously noted, a total of ten entrances are arranged along the perimeter, six are located in the east along Oderstraße, two, in the western edge and the last two, in the northern border, one at Columbiadamm and one at Golßener Straße. Immediately, it becomes apparent that there are no entrances along the southern edge of the park, which is mainly due to the presence of infrastructure that limits and closes the continuity with the space. Therefore, let us try to analyze the different urban phenomena and characters acting on the borders of Tempelhofer Feld, following a scheme that divides them into three types.

The first type includes the area located north of the park, where there are additional green spaces that create a kind of continuity, extending the feeling of well-being, of breathing clean air. The second, on the other hand, gathers both the west and east sides, and is characterized by residential areas. Finally, the last typology includes the area to the south, where there is a more critical situation, with a barrier given by the infrastructure system.

01 BORDERS AND POSSIBILITIES





NEUKÖLLN

02 THE NORTH BORDER

The first typology taken under analysis is the one positioned in the northern border of Tempelhofer Feld, an area that includes a space belonging to the Friedrichshain-Kreuzberg district, namely the Alter Luisenstädtischer Friedhof cemetery, a residential area on the westernmost slope, service areas, and other spaces belonging to the Neukölln district, namely the Lilienthal Tischer cemetery, the Volkspark Hasenheide and the Columbiadamm cemetery. In this case, since it is a situation characterized mainly by open spaces and places dedicated to the public, the associated action is breathing, referring to nature and clean air.

The two districts involved, or rather, the two parts of the district that are involved, have as a peculiar characteristic that they are extremely attractive to the Berlin population, particularly the younger population. They have become extremely attractive and affordable, especially after 2008, years when rents were reasonably priced, and therefore, even more appealing to students and artists. Another relevant point to note, moreover, is that Kreuzberg represents one of the most culturally advanced and innovative districts in Berlin, and the North Neukölln area has consequently had a reflection of this attention on itself.

Looking at the border, the perimeter of Tempelhofer Feld is interrupted and other green lungs develop, creating a system of continuity.

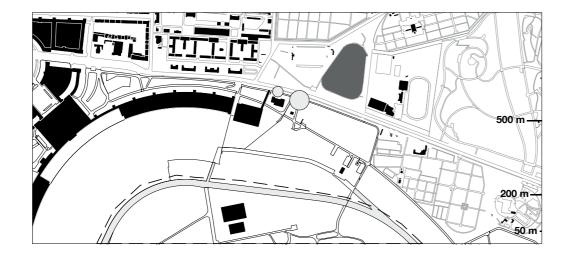
However, as much as it almost appears to be an all-together system, it is actually discontinuous because of the presence of the former airport fence, to which the other green spaces are then hooked. On the residential side, on the other hand, this feeling is missing, which is dictated by the fact that this part corresponds to the building complex with Sagebiel architecture. The Tempelhof fence is itself bordered by a bike path, which then enters the adjacent parks, leading all the way to the western edge. Thus, we see a loosely woven building fabric with a condition of open spaces, which expand the feeling of well-being and the perception of being in nature.

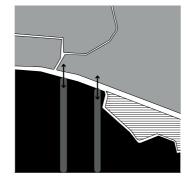
Going into more detail about what spaces are present and what the uses are, there are three cemeteries, which represent the most species-rich type of green space:

- Alter Luisenstädtischer Friedhof (Kreuzberg): this is a cemetery complex built in the 19th century which is now extremely well cared for to protect the flora and fauna that live there.
- Lilienthal Tischer Cemetery (Neukölln): a cemetery within which there are numerous graves of German soldiers and civilians who fell in World War II.
- Columbiadamm Cemetery (Neukölln): a Turkish cemetery.

Linking the cemeteries together is the Volkspark Hasenheide, in Neukölln, along the perimeter of Kreuzberg, which covers an area of about 47 hectares, within which there are different types of landscape, such as meadows, wooded areas and punctual spaces.

02 THE NORTH BORDER





The first question that immediately arises is what effects and possible phenomena may be generated. Their presence could somehow restrict the population from using the former airport, thus going to pose a threat to Tempelhofer Feld. Or, on the contrary, they may represent potential elements: rather than considering them as "green *walls*"⁵⁰, which create a boundary or a barrier with respect to the main park, it is perhaps more appropriate to evaluate them as real magnets, attracting communities that are different from each other, both socially and economically, strengthening the green system.

This point of view is supported in the homogeneity that is created by the system, in the continuity of greenery: it appears as a kind of extension that aims to encompass a part of the city. Further accentuating this concept and enhancing the prospects for social activities are the edges of the edge, in which spaces are distributed dedicated to sports activities and with equipped areas, which facilitate the conjugation of places.

According to what has been observed and analyzed, it is possible to say that the edge north of Tempelhofer Feld can be read with a positive, coherent meaning, going outside the physical boundaries, creating a situation of continuity.

02 THE NORTH BORDER

50. P. H. Gobster, Urban parks as green walls or green magnets? Interracial relations in neighborhood boundary parks, vol. 41, Issue 1, 1998, pp. 43 - 45



Corner Columbiadamm-Golßener Strasse. Image: Mahmal KZ Columbia





Volkspark Hasenheide. Image: Bastian Thiery



Platz der Luftbrücke.





Entrance and reception building, Columbiadamm Cemetery. Image: onnola/flickr

138

02 THE NORTH BORDER



Columbiadamm. Image: Stacey Lewis

03 THE WEST AND THE EAST BORDER

According to Zanirato, architecture is defined as "the art of forming usable spaces to urban needs"⁵¹, so it represents "the thought form of delimitation par excellence"⁵²: consequently, the built can be described as a form of border. However, the border can also be nonphysical. For example, it could be a social or cultural barrier, invisible to the human eye, that actually creates a sharp line of separation between the two parts.

The first typology taken into analysis in this part refers to the residential areas that define two borders of Tempelhofer Feld, the west border, with the Neu Tempelhof neighborhood and the east border, with the North Neukölln neighborhood.

In this case we are dealing with two distinct situations characterized by different social and cultural conditions. On the one hand, one observes a residential development with a well-defined pattern, with single dwellings, characterized by a family environment, while on the other hand, an extremely mixed residential neighborhood, a fact to which social problems are linked. However, the two areas are united by the function of living, and by the fact that specifically their differences related to social and cultural phenomena give the neighborhoods a definite identity.

Neu Tempelhof - The Garden City

Inside the Neu Tempelhof district is the Fliegerviertel, or "garden city" which is a residential complex in Tempelhof within the Tempelhof-Schöneberg district, defined as such because of its history and urban design. In fact, its construction is inspired by the English garden model; it began in 1911 but was temporarily halted due to the two world wars, which prolonged its completion until the 1960s.

It consists mainly of single-family houses and townhouses, originally intended for the middle-class population, whose main character is dictated by the presence of gardens scattered along the surface. Consequent to the intended use sought for this suburb, it is still inhabited mainly by the elderly, settled years and years earlier, when economic conditions were more favorable, or by families, attracted by the presence of green spaces, ideal for their lifestyle.

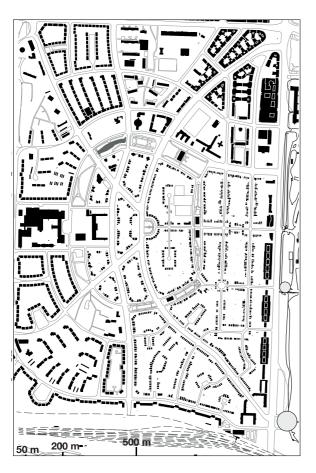
The separation between Neu Tempelhof and the park is delineated by an important infrastructure, the Tempelhofer Damm, a main road that runs north south, serving as an entry and exit link into Berlin. One of the emblematic aspects is the fact that crossing the threshold of Fliegerviertel, for example from the Manfred-von-Richtofen-Strasse entrance gate, one enters a new world. The impression one gets the moment one enters its streets is that of being transported to a place outside the metropolis and the contemporary, away from the hustle and bustle of the main street. According to a seminar developed by AKQF⁵³, this feeling is much more strongly felt by young people, who would not live within the neighborhood, as opposed to respondents with an adult or advanced age.

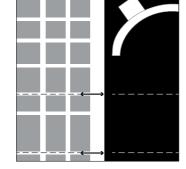
51. Definition of "Architecture" in Treccani.

52. C. Zanirato., I limiti della città moderna, in Nuovi confini e limiti delle città. In Crisi e rinascita delle città - Crisis and rebirth of Cities, Lo Piccolo F., 2017, pp.114-118.

03 THE WEST AND THE EAST BORDER

53. AKQF, or AK Quartiersforschung, is a network of scientists and research experts.





This ties in closely with the origins of this suburb, which was supposed to be a truly idyllic world for prominent or upper-class personalities. Over the past decades, as real estate prices have risen throughout the city, this phenomenon has continued to manifest itself, thus remaining a neighborhood that could be described as elitist.

Although the impression is that it is a place closed in on itself, the presence along the entire border of Tempelhofer Feld of the bike path and several crosswalks make the connection between the two parts easily usable. Moreover, the connection is even easier since, due to the urban structure designed in Neu Tempelhof, the streets perpendicular to Tempelhofer Damm are wide and enriched with greenery, creating a pedestrian system that amalgamates all the way to the park.



Secondary entrance to Tempelhofer Feld from the garden city



Manfred-von-Richtofen-Strasse entrance gate



Requalification of a single-family house.. Image: Hirschmüller Schindele Architects

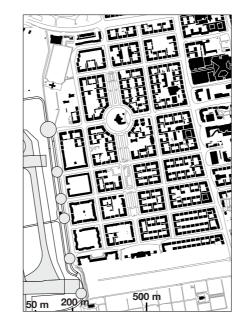


Corner Manfred-von-Richthofen-Strasse and Kleineweg

Neukölln – Place of Diversity

As for the eastern border, on the other hand, we move on to North Neukölln, a neighborhood in the Neukölln district that has experienced a several number of social and cultural phenomena essential to the development of the urban structure of the entire city area. Reference is made here to the northern part of the district, that is, that portion of space located on the border with the southeastern part of the Kreuzberg district. As on the western border, we find a very dense urban fabric, devoted almost entirely to residential buildings. However, the pattern of building complexes on the site, with a structure composed of rather regular axes, is given by the historical events of divided Germany and the influences of the period, to which are added the phenomena of social mixing and gentrification.

Neukölln, until 2008, was considered a place with a high crime rate, characterized by a population with different ethnicities that, due to cultural barriers and lack of targeted policies, tended to have poor living conditions. This is why it was often described as a place of decline, with an urgent need for redevelopment through the implementation of a plan that could conglomerate different cultures together. And this is precisely what has happened in the last decade: a series of urban policies have been initiated, with a focus on social issues, with the aim of transforming the neighborhood into a welcoming, serene and, above all, integrated place. Today, in fact, it represents, thanks in part to the influence of Kreuzberg, one of the most sought-after areas in Berlin, especially by young people and artists.





Considering the redevelopment work, therefore, public spaces have turned out to be fundamental as a useful means of incentivizing socializing and sharing. In this respect, North Neukölln has always had a great advantage dictated by the presence of three former cemeteries, which have been converted into usable green spaces and urban gardens for the use of neighborhood citizens. But turning the tide even further was the opening of Tempelhofer Feld, which generated a greater incentive in frequenting the places, expanding even beyond the boundaries, that is, within the park itself. In addition, redevelopment work has been initiated on the street that delineates the border between the park and the neighborhood, namely the Oderstraße, on which a light mobility path has been included.



Entrance of Tempelhofer Feld from Oderstrasse.



Point of view to Emser Strasse.



Private garden with playgrounds in Herrfurthstrasse.



Secondary access to Tempelhofer Feld from Oderstrasse.



Residential buolding in the corner of Kienitzer Strasse.

Based on what emerged from the analysis of the two borders, a number of features in common between them are evident, such as the exploitation of interstitial spaces as public green spaces for the specific use of the neighborhoods and its inhabitants, and the presence of an infrastructure that acquires greater prominence in response to the opening of Tempelhofer Feld. Two patterns are created, which in turn give rise to a new system through these elements that allow for the reconnection of the urban fabric, reviving issues of spatiality and the concept of space itself described through the dichotomy of physical space and inhabited space.

In conclusion, again a positive meaning can be attributed to the east edge and west edge, as they do not represent a barrier limiting the use of the former airport, but on the contrary make the area permeable, extending the benefits of Tempelhofer Feld to its neighboring neighborhoods.



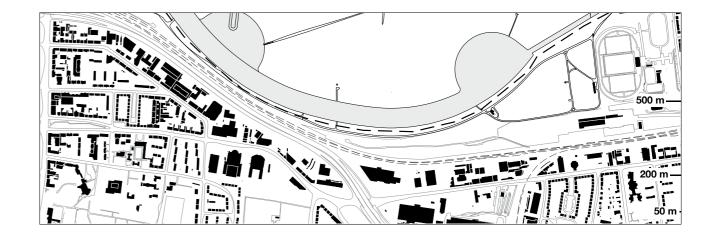
04 THE SOUTH BORDER

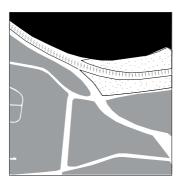
The last border that contours Tempelhofer Feld is the one located to the south, which has some elements that make it very different from the others analyzed.

The first observation concerns the fact that there is no access of any kind to Tempelhof Park in the southern area, despite the presence of residential areas. In fact, delineating the boundary of this edge are two elements: the railroad tracks, used for both the urban and suburban systems, and a major infrastructure, the A100 highway, which runs along the southwest side, then diverting its course south to the easternmost side. It is clear, then, that the main feature of the southern edge is to show a real physical barrier.

The second one can be made regarding land use. The strips of land bordering the infrastructural system in the most central area are mainly devoted to industrial production complexes, going to create a further condition of detachment between the park and the residential area below. In fact, in the southernmost part and on either side of the industrial area, there are residential neighborhoods, belonging to the Tempelhof-Schöneberg district, which turns out to be completely disconnected from the former airport.

The district is characterized by numerous buildings for residential use, with the frequent exception of the ground floors, which are often devoted to commercial activities or private offices.





04 THE SOUTH BORDER

At the most central point of this area, there is a system of green spaces, cemeteries and public parks, aimed at the community. However, precisely because of the arrangement of these places as the central heart of the neighborhood, it results in the development of an urban design with a built network surrounding them, thus without having a real homogeneous public green system propagating throughout.

By means of these observations, it is possible to say that in this case the edge does not attribute value to the spaces, but has, instead, a negative meaning, dictated by the fact that it results in a real closure, which completely blocks. Conceptually, infrastructure represents an architectural typology related to the connections that branch off in the city and has specific characteristics that build on the pre-existing urban design, thus allowing it to take on a character of adaptability. Despite this, in many cases, as in that of Tempelhofer Feld, it is possible for the infrastructure to become a rift in the urban system.

The infrastructural design is characterized by the presence of a causeway, which is connected to the A100 highway, creating a block system with different heights. So, pedestrian passage from one side to the other turns out to be impossible, the road becomes an impassable barrier. One of the consequences of this structure is the formation of a variety of residual spaces, often abandoned or at any rate with poor social quality, which go on to accredit, in contrast to the taken edges analyzed earlier, the negative conception as unstable and limiting places.

The interstitial spaces that form on this area completely lose their gualitative value, despite the fact that the presence of Tempelhofer Feld is a source of potential for what surrounds it.

This series of elements leads to the assumption of a negative point of view of the southern border and consequently completely blurs the concept of public space as a place of collectivity toward a condition of impossibility of integration.



Industries along Oberlandstrasse

Highway overpass on Tempelhofer Damm.

04 THE SOUTH BORDER





Highway from Tempelhofer Damm



Residential building in Alt Tempelhof.



Residential buildings in Neue Mitte Tempelhof.

04 THE SOUTH BORDER



Highway access from Oberlandstrasse.

04// LIMITS AND POTENTIALITY

01 THE DISTRICT

02 THE NEIGHBORHOOD

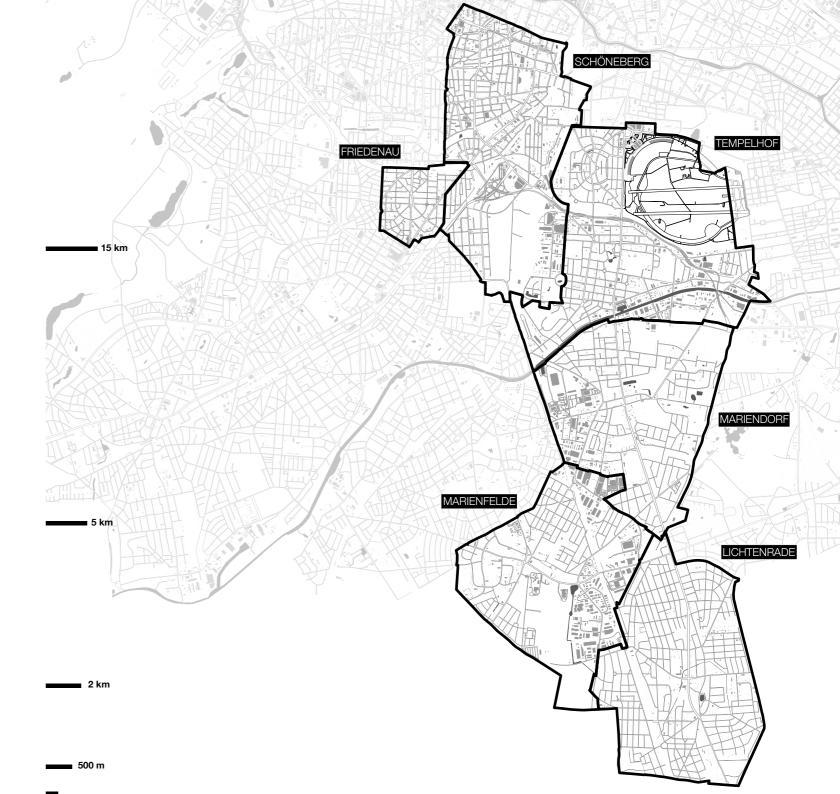
03 THE HYPOTHETICAL SCENARIO



01 THE DISTRICT

The chosen project area is located along the southern border of Tempelhfoer Feld, included within the Tempelhof neghborhood, which in turn is included in Berlin's seventh district, Tempelhof-Schöneberg. The district is located in the city's southern area, and bordered to the north by Mitte and Friedrichshain-Kreuzberg, to the west by Charlottenburg-Wilmersdorf and Steglitz-Zehlendorf, and to the east by Neukölln. It has a great historical value, officially created on January 1, 2001 as per the law "Gesetz über die Bildung einer neuen Stadtgemeinde"⁵⁴, by which the districts of Tempelhof and Schöneberg were incorporated, including a total of six neighborhoods: Schöneberg, Friedenau, Tempelhof, Mariendorf, Marienfelde and Lichtenrade. Prior to this date they were separate districts: Tempelhof included Mariendorf, Marienfelde and Lichtenrade, while the others belonged to Schöneberg. These six were small rural municipalities or small independent towns, a very common occurrence in the outlying areas of the city until 1920, when they were annexed to Greater Berlin⁵⁵.

54. Groß-Berlin-Gesetz: law on the formation of a new municipality
55. In German Groß-Berlin, created in 1920 by the law of the same name, through which 7 cities, 59 rural municipalities and 27 agricultural districts were incorporated into the Berlin city area. It is a multicultural district known for many important sites such as Tempelhofer Feld in the first place but also Park am Gleisdreieck and Natur-Park Südgelände, whose peculiarity is their construction sites were industrial sites. In fact, it has been the object of interest of multiple industrial and commercial companies because of its strategic location between the city and the countryside.



With about 347.000 inhabitants, Tempelhof-Schöneberg represents one of the most populated districts in Berlin, and it is growing steadily by about 0,81% per year. It is also one of the most densely populated areas in the entire city, with its 6537 inhabitants per square kilometer.

One aspect that makes Berlin unique is its multicultural and multiethnic character, an aspect that is also reflected in this district, which welcomes people from different cultural backgrounds, encouraging the formation of new communities and their integration. According to 2022 data, about 21% of Tempelhof-Schöneberg's population is foreign, which include people coming from Europe, nearly the 14%, and from outside the EU, about 7%. However, the percentage increases to about 39% when considering migration background⁵⁶, a factor that broadens the field. Among the different communities, the most prominent is definitely the Turkish community, which covers a high percentage and has had a strong impact on the development of the neighborhood over the years, also contributing to commercial activities, especially in the culinary field.

Other ethnic minorities present include as countries of origin Poland, former Soviet countries (Russia, Ukraine, Azerbaijan...), Yugoslavia, from African states, to which are then added those from other European countries.

The multi-ethnic character has led to the organization of various events and fairs celebrating diversity, to the creation of cultural centers and to the birth of associations aimed at the successful integration of different nationalities.

DEMOGRAPHICS

346,799 ii ↓	nhabitants ↓
Male	Female
48.5%	48.5%

72.999	72.999 foreigners					
Ļ	Ļ					
EU	ExtraEU					
14%	7%					

Age	MALE		FEMALE		TOTAL	
	(n)	%	(n)	%	(n)	%
0-2 years	5,477	3.26	5,345	2.99	10,822	3.12
3-5 years	5,443	3.24	5,307	2.97	10,750	3.10
6-11 years	9,577	5.70	9,357	5.23	18,934	5.46
12-17 years	8,744	5.20	8,512	4.76	17,256	4.98
18-24 years	12,114	7.21	12,310	6.89	24,424	7.04
25-34 years	28,280	16.83	28,846	16.14	57,126	16.47
35-44 years	25,860	15.39	25,531	14.28	51,391	14.82
45-54 years	22,097	13.15	22,079	12.35	44,176	12.74
55-64 years	22,159	13.18	22,975	12.85	45,134	13.01
65-74 years	14,130	8.41	17,173	9.61	31,303	9.03
75+ years	14,182	8.44	21,336	11.93	35,518	10.24
TOTAL	168,063	100.000	178,771	100.000	346,834	100.000

INCREASE THROUGH THE YEARS

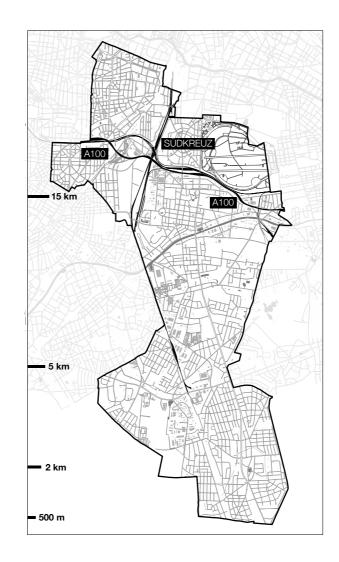


56. Migration background, calculated with respect to the total population, is a non-fixed characteristic of the population register, derived from multiple factors. It is first based on national guidelines and then adapted to the specific case, and the following are included: people who are not German, thus without citizenship; people with a country of birth other than Germany or with dual citizenship; and people under the age of 18 with no migratory characteristics of their own, but with birth outside Germany.

01 THE DISTRICT

Tempelhof-Schöneberg develops vertically, following a north-south direction, from the city center all the way to Berlin's legislative border. Due to its peculiar shape it has developed an excellent network of connections, served by means of the main infrastructure, the A100 highway, and the Südkreuz train station, which makes it extremely attractive from multiple points of view. First, the district has an industrial and commercial character: its history, in fact, is closely linked to the development of the secondary sector, so much so that it has become one of the most developed poles in this sector to date. The current urban fabric already began to take shape in the 19th century, with industrial developments to which a series of urban redesign operations were linked so that the needs associated with factories could be met. As the years went by, development continued to be a growing trend, with some spaces being converted into industrial production sites: chief among them Tempelhof Airport, which was used as an aircraft production site for years.

Following World War II, and thus the spatial division into East and West Berlin, work had to be done to adapt to what was the new economic sector, leading up to the fall of the Wall. After the reunification, several manufacturing industries moved to other countries, causing a negative impact on the city, which in response attempted to implement the emergence of new creative industries alongside urban development work to boost the commercial and residential building sectors. The result of these events has led to the development of an extremely diverse district involving retail, manufacturing, culture and housing, with business entities of all sizes.



01 THE DISTRICT



Dennewitzstraße, 1905 Image: Unknown Author



Storch Schöneberg iron mineral mine installations, around 1900 Image: Peter Weller

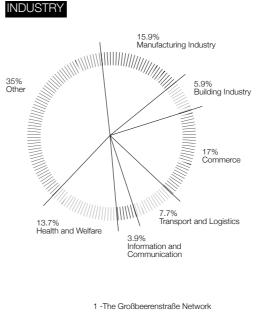
The district, in its variety of land use, has an area of 541 hectares, so 10.2% of Berlin, entirely occupied by active industrial and commercial sites. It can be divided into three industrial macro-areas: Großbeerenstraße, Teltowkanal and Motzener Strasse.

The Großbeerenstraße area is named from the street that runs from the city center and crosses the Kreuzberg district and the Schöneberg district, with further connections to the A100 highway. It is a large industrial area and a home to many companies, including some of the oldest manufacturing plants.

The Teltowkanal area, on the other hand, is located in the Tempelhof district, precisely in the project area of interest. The infrastructure connections are extremely efficient and the industries have a broader panorama, ranging from the electrical engineering field to the medical and technological fields.

Finally, the Motzener Strasse area in the southernmost part of the district stands out as a real business and industrial park that attracts a large number of companies.

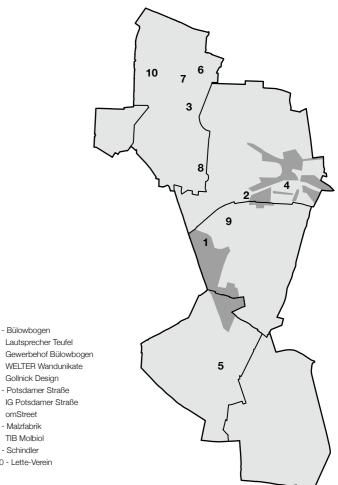
Alongside these three main areas there are other important production hubs, such as the EUREF Campus district in the westernmost part of the district (which houses companies and businesses related to sustainable development), or the Bessemerstraße - Südkreuz - Naumannpark commercial zone in the Schöneberg district, which is highly connected with other areas thanks to the presence of the Südkreuz station, where there is a commercial mix.



Mercedes-Benz Plant in Berlin Pepperl+Fuchs 6 - Bülowbogen Ruksaldruck FAPACK 2 - Tempelhof Harbour Fashion Gallery Berlin 3 - Business Location Südkreuz 7 - Potsdamer Straße EUREF-Campus System 180 4 - Industrial Location Teltowkanal 8 - Malzfabrik ZINKPOWER Protecter & Gamble 9 - Schindler 5 - The Motzener Straße Network 10 - Lette-Verein INDIA-Dreusicke Klosterfrau

Selux

01 THE DISTRICT



Lautsprecher Teufel

WELTER Wandunikate

IG Potsdamer Straße

Gollnick Design

omStreet

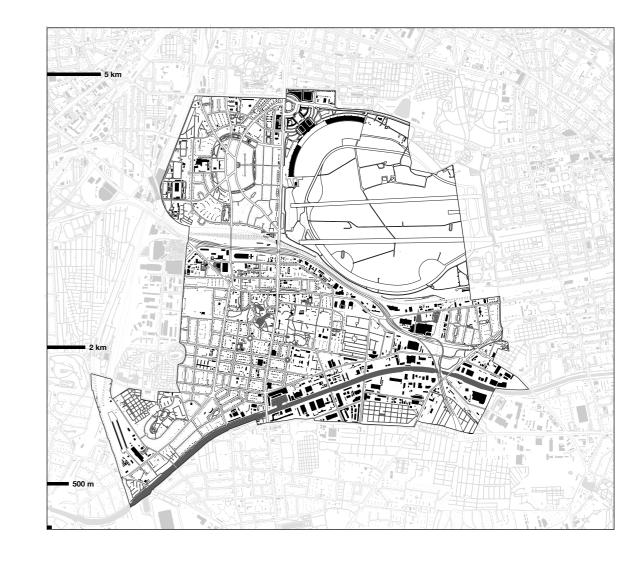
TIB Molbiol

02 THE NEIGHBORHOOD

Entering into more detail, the neighborhood of interest is Tempelhof, whose popularity has exponentially increased across different age groups, thanks to the transformation of the former airport into a city park. While the Tempelhof-Schöneberg district's history is closely tied to the prosperity of the secondary and tertiary sectors, functioning as a true economic epicenter, the situation in Tempelhof presents peculiar dynamics, especially when observing the division between north and south, strongly influenced by the significant presence of the former airport.

Examining the neighborhood's layout, covering an area of approximately 12 square kilometers, a clear distinction emerges in the urban fabric between the northern part — dominated by the orderly residential block of Neu Tempelhof, also known as Fliegerviertel and the southern part — characterized by a variety of green spaces, residential zones, commercial and industrial areas.

The latter, in particular, precisely defines its boundaries, which are clearly marked by the A100 highway and the course of the Teltow Canal.



02 THE NEIGHBORHOOD

The Fliegerviertel, or "aviators' quarter," owes its name to the intricate events associated with Tempelhof Airport. As explained in *Chapter 03//*, this area has a unique charm due to the architectural style which reflects the construction period of the 1920s and 1930s, coinciding with the airport's expansion.

Despite undergoing multiple transformations over the years, including the conflicts of World War II and the division of Berlin, it has undergone targeted redevelopment, serving as a true witness to Tempelhof's history. Evidence of its past is reflected in the urban landscape, capturing every fragment that has shaped the neighborhood over time. Faced with these challenges, the garden city has preserved its sense of identity and, with the airport's closure, entered a new phase of evolution. The community has thrived excellently, demonstrating its adaptability and integration of new dynamics while remaining faithful to its historical roots.

The section of the neighborhood outlined by the infrastructure system is called Alt Tempelhof, a name evoking the Altbau architectural style. These residential buildings, mostly constructed between the late 19th century and the early 20th century, bear witness to Berlin's grand and tragic events. Ornamental facades, high ceilings, and craftsmanship details lend an elegant character to the area, absorbing and reflecting changes in Berlin's urban and German history. Alt Tempelhof is characterized by the presence of historic buildings, punctuated by parks and public green spaces. Not only do these green spaces contribute to the well-being of residents, but they also also create an aesthetic continuity that harmoniously breaks up the built fabric. An intriguing element is the presence of private land plots dedicated to gardening and community cultivation, connecting the neighborhood's history to a widespread contemporary practice in Berlin. Completing the picture, small restaurants and commercial activities are evenly distributed, adding vitality and comforts to the daily life of the neighborhood. Despite the strong industrialization, especially in the extreme eastern part with its mix of commercial and industrial functions, Alt Tempelhof maintains a dynamic balance between its history and present-day needs.

The mobility system further contributes to the neighborhood's prestige. In addition to the highway, the railway and metro system, including the U6 line, the significant infrastructure of Tempelhofer Damm connects the entire district to Mitte, the heart of Berlin. This connectivity is essential for maintaining the economic and social vitality of the neighborhood. As highlighted in *Chapter 02//*, Alt Tempelhof has been the subject of strategic development plans to address new urban needs while preserving historical character and quality of life. The willingness to balance modernity while respecting history testifies to the community's resilience and long-term vision.

02 THE NEIGHBORHOOD

In conclusion, Tempelhof's transformation from an airport center to an urban paradise has significantly influenced the perception and experience of residents and visitors. Fliegerviertel, with its organized residential complexes and tranquil atmosphere, represents a fascinating counterpoint to the more varied and industrial dynamics of the southern side. The presence of green spaces and recreational areas at the former airport, combined with the precise delineation provided by the highway and canal, gives the neighborhood a rare cohesion and remarkable visual identity.

Furthermore, the intersection of industrial history and lush nature embodied by the Teltow Canal flowing through the southern zone adds a unique element to Tempelhof's complex tapestry. This coexistence of industrial, residential, and recreational elements highlights Tempelhof's versatility, which, though historically rooted in industry, has embraced a new era of urban regeneration and social inclusion.

Corner between Alt-Tempelhof and Fuhrmannstrasse

02 THE NEIGHBORHOOD

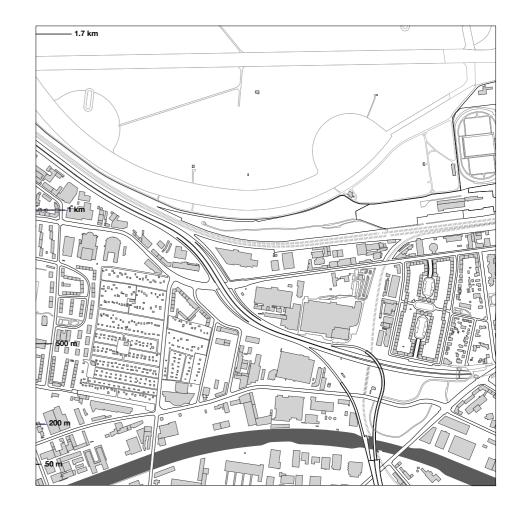


03 THE HYPOTHETICAL SCENARIO

At this stage, we move to a site that has limitations, mainly infrastructural in type, and potentials. This space is located along the southern border of Tempelhofer Feld, and extends from the park's northern boundary in a southerly direction to the Teltowkanal, an artificial canal built between 1900 and 1906 to facilitate the transport of goods.

The area is traversed by Oberlandstraße, a road that continues the course of Alt-Tempelhof which connects to Germaniastraße within Neukölln. It runs parallel to the park, outlining a connection and, at the same time, a physical barrier. In the core of the area, the important infrastructure of the A100 highway runs through the urban fabric, acting as a divider between the opportunities that extend along the route. Despite the proximity between this circumscribed space and the park, there is currently no significant relationship between the two parts. This lack of connection is noticeable firstly by the lack of direct access to the park, and secondly by the boundary defined by the tracks of the railway system.

The railway, which runs below ground level by about 4 meters, creates a sort of physical barrier, which sharply interrupts the direct dialogue between the two places. Despite these obstacles, the area represents a place full of potential: its strategic location, the proximity to the park and the presence of key infrastructure offer useful spaces for future development.



03 THE HYPOTHETICAL SCENARIO

The area between Tempelhofer Feld and the Teltowkanal presents a diverse urban fabric with a purposeful distribution. The central section is predominantly devoted to buildings of a commercial and industrial nature, showing a concentration of economic activities that are fundamental not only to the area, but to the entire district. These buildings are often characterized by massive structures, developing horizontally rather than vertically. Their height rarely exceeds three to four levels, although there are exceptions consisting of structures developed vertically as well.

In the extremes of the area the destination is predominantly residential. Here, housing types are mainly composed in blocks, or wide sleeves, defining a residential structure that contrasts commercial activity. A unique aspect of this residential area is the presence of spaces dedicated to urban gardens, currently recognized as special protection areas. Not only do these areas add a sustainability component, but they are also a key element in promoting community activities.

The residential buildings, organized in a fairly orderly manner, give the neighborhood a sense of community, with a pleasant variety of buildings blending with the central structures of the area, creating an urban setting rich in nuance and contrast.

In terms of urban planning, this diversification in the use of space can be an excellent strategy for balancing economic activity, sustainability and residential comfort. What is a limitation, however, is not the distribution of the type of uses on the land but more the physical location of each.





03 THE HYPOTHETICAL SCENARIO



Indeed, a first observation is related to the positioning of the industrial and commercial blocks, which constitute an obstacle in two respects. First, the marked separation between Tempelhofer Feld and the surrounding context immediately stands out, creating a tangible obstacle between the park and the Teltowkanal. Along the block that follows the waterway, industrial buildings rise up, transforming the front into a place inaccessible to the public and depriving it of the potential arising from its proximity to the water. Moreover, the highway crosses the site at its most central point, with an elevation varying along its course between 2 and 8 meters, further complicating communication between different areas, contributing to a spatial organization that seems to hinder rather than facilitate interactions. Second, this arrangement also creates a significant obstacle in the interactions between the two ends, which, as previously noted, are primarily for residential use. They appear more as isolated blocks that do not communicate with each other, rather than as integral parts of a larger context.

In conclusion, the site under consideration presents a complex intersection of infrastructural limitations and as yet unexpressed potential, thus revealing a number of interesting challenges that impact the cohesion and usability of the space. In order to maximize the value of the area, a possible solution could be related to the reevaluation of the positioning of the buildings, attempting to foster cohesion, usability, and synergy among the different components of the urban context; at the same time, however, it is essential to respond to the need for a connection between Tempelhofer Feld and the Teltowkanal by means of a new connection system.

03 THE HYPOTHETICAL SCENARIO



Limits.

04//LIMITS AND POTENTIALITY



Corner between Alt-Tempelhof and Fuhrmannstrasse.



Industrial building Teilestrasse.







Industrial scenario from Teilestrasse.

03 THE HYPOTHETICAL SCENARIO



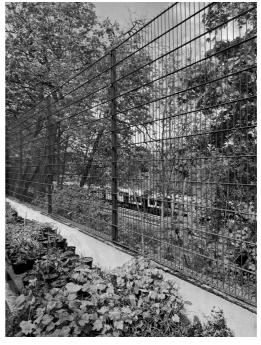
Highway from Teilestrasse.



Emergency stairs of abandoned industrial building on Teilestrasse.



Green area next to the urban gardens.



Railways from the Atelier Gardens.

03 THE HYPOTHETICAL SCENARIO



Parkanlage Teilestrasse.

05//

FROM TEMPELHOFER FELD

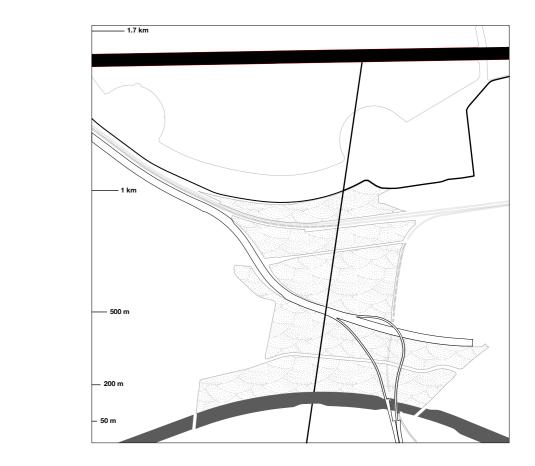
TO TELTOWKANAL

CONNECTING SPACES BETWEEN LAND AND WATER

THE STRATEGY

The proposed project is the result of a series of reflections arising from the research regarding Tempelhofer Feld and, above all, its relations with its surroundings. The goal is to develop a system of connections between the park and the Teltowkanal, located about 850 meters further south.

Through the identification of the spatial and infrastructural signs that characterize the area, a new axis is placed which runs in a north-south direction, starting from the runway of the former airport to the waterway. Between the starting and ending point of the line, which follows the diagonal course of the Atelier Garden buildings, a series of blocks are hooked, which in turn are incorporated into the connection system.



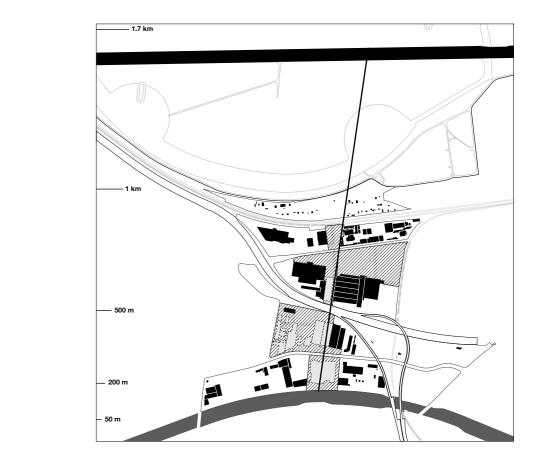
Tempelhofer Feld

Railways
Blocks
Highway

Teltowkanal

The next step is to evaluate the buildings and spaces that are touched by the new connection. Regarding the built area, the axis runs perpendicular to the Atelier Garden and the industrial buildings on the next block, but crossing the highway it intersects two structures.

The first one it meets is a commercial building divided into four parts, which is linked to a series of smaller constructions placed on its side. The second one is a larger structure characterized by a functional mix of secondary and tertiary sectors. The choice is to remove these parts of edifices in order to increase the square footage of open spaces that would balance the built urban fabric.



New axis

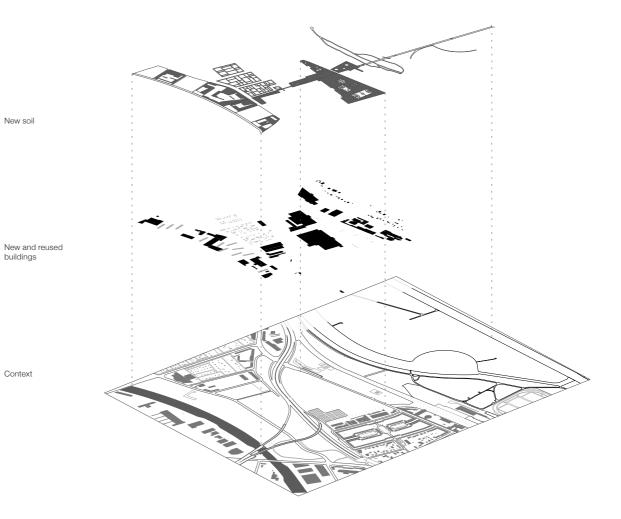
New spaces

Potential building Cutted buulding

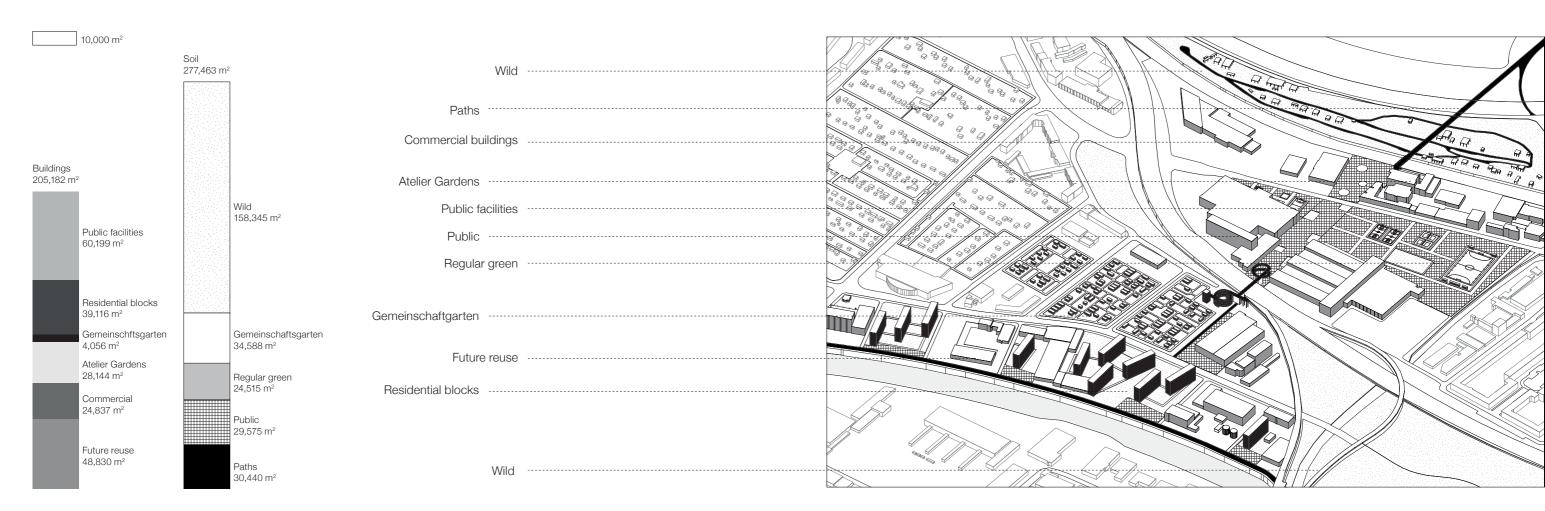
LAYERS

Through this approach, the new axis creates an integrated system that incorporates different spaces and buildings, working together synergistically to optimize the continuity and fluidity of the route. An important element of this operation is the attention given to the organization of the soils, which behave as extensions of the axis. Not only do these spaces serve as places for interaction and rest, but they also actively interact with the built structures, which undergo a transformation in their intended use according to the system, creating a harmonious combination.

With regard to the functional program, a distinction is made between built-up area and soil, a differentiation that allows for a precise definition of the functions of the spaces involved, helping to shape a coherent and dynamic environment. In this context, the design of the soils is configured as a fundamental element to foster meaningful interactions and optimal flows within the integrated system.



PROGRAM



05//FROM TEMPELHOFER FELD TO TELTOWKANAL

THE MASTERPLAN

The Masterplan is developed as an articulated system that runs a distance of about 850 meters, from Tempelhofer Feld to the Teltowkanal. The beginning of this route, located on the northernmost slope, begins with a new access to the park nestled in a wooded area marked by small artifacts. The path to the new access blends harmoniously with the ground pattern of the former airport.

Proceeding southward, one comes across a series of urban plazas, the second of which is characterized by a punctual system of vegetation, interspersed with facilities for the public.

Considering the changes in elevation caused by the presence of the tracks and the highway, small connecting bridges are inserted. In particular, the bridge over the highway is distinguished by a system of circular ramps that connect the two parts, which in turn are relieved by the presence of an additional green lung that balances the artificial landscape. The presence of urban gardens along the west side, characterized by a funnel shape, suggested an intervention aimed at extending the system by inserting new ones.

Finally, in the last block near the Teltowkanal, a design proposal aimed at exploiting the interstitial spaces between the industrial buildings is conceived. This solution includes the placement of residential slabs that break the urban fabric. In addition, pedestrian paths leading to the promenade along the waterway are organized, further enhanced through the implementation of platforms for public use.









05//FROM TEMPELHOFER FELD TO TELTOWKANAL



The outlined design proposal aims to develop a connective system based on an approach derived from a careful analysis of the territorial and infrastructural signs present in the area, culminating in the conception of a new axis that runs from the runway of the former Tempelhof airport to the Teltowkanal.

The implementation of this axis creates an integrated system through an articulated sequence of elements, in which spaces and buildings work together synergistically to ensure continuity and fluidity in the route, adapting to the urban fabric.

In conclusion, the work not only addresses "the immediate need," but also aspires to develop a vision that leaves open the possibility of a future urban scenario. This vision aims at the harmonization and cohesion of nature and urbanity, seeking to create an environment in which the city and nature coexist in balance, thus promoting urban development focused on well-being and quality of life.

BIBLIOGRAPHY

Beckmann G., et. al., (2000), Urban Development and Urban Policy in Germany, Bundesamt für Bauwesen und Raumordnung, (report Urban 21), Bonn

Copley C., (2016), Curating Tempelhof: negotiating the multiple histories of Berlin's 'symbol of freedom', Urban History, 44 (04), pp. 698 - 717

Czerniak J., Argreaves G., (2007), Large Parks, Princeton Architectural Press. New York

D'Albergo E., (2009), Le politiche urbane degli stati europei. Francia. Germania, Regno Unito e Spagna a confronto, Anci, Roma

Giovansana S., Zanolin G., (2020), Gentrification e urban gardening a Berlino. Riflessioni da Tempelhofer Feld e Prinzessinnengärten, GEOGRAPHY NOTEBOOKS Vol. 3, No 2, pp. 259 - 285

Genz C., (2015), The Wide Field of Participation. An essay on the struggle for citizen participation and the future of the Tempelhofer Feld, Journal of Urban Life, Toronto

Gobster P. H., (1998), Urban parks as green walls or green magnets? Interracial relations in neighborhood boundary parks, Landscape and Urban Planning 41, pp. 43 - 55, Chicago

Huning S., Schuster N., (2015), Social mixing or gentrification? Contradictory Perspectives on Urban Change in the Berlin District of Neukölln, International Journal of Urban and Regional Research, Vol. 39, pp. 738 - 755

Koçak D. Ö., (2020), An "empty" space among plans, borders and utopias: the Tempelhof Field, Journal of Cultural Studies, Vol. 7 (1), pp. 88 - 106

Mertins G., Paal M., (2009), Regional Planning in Germany. Institutional Framework, Instruments and Effectiveness, Investigación y Desarrollo, Vol. 17, N. 2

Palazzo D., (2006), Responsabilità progettuale e paesaggio dei margini urbani, Ri-Vista Ricerche per la progettazione del paesaggio, anno 4, n. 6, pp. 14 – 31, Firenze

Pugh E., (2014), Architecture, Politics & Identity in Divided Berlin, University of Pittsburgh Press, Pittsburgh

Russi N. P., (2019), Background. Il progetto del vuoto, Quodlibet Studio, Macerata

Sanz Merlo A., (2021) La regeneración de infraestructuras abandonadas en la ciudad contemporánea. Provectar el futuro del aeropuerto de Tempelhof en Berlín, Cuaderno de notas, n. 22, pp. 182 - 193

Schmid C., Stanek L, (2016), Urban Society and Its Projects, from Urban Revolution Now: Henri Lefebvre in Social Research and Architecture, Routledge, pp. 283 - 297, London

Schrijver L., (2006), The Archipelago City: Piecing together Collectivities, in Urban Formation and Collective Spaces, OASE, N. 71, pp. 18 - 37

Secchi B., (2005), La città del ventesimo secolo, Laterza, Bari

Secchi M., (2013), *Three images of the contemporary city*, Planum. The Journal of Urbanism, N. 27, Vol. 2, Milano

Thierfelder H., Kabisch N., (2015), *Viewpoint Berlin: Strategic urban development in Berlin – Challenges for future urban green space development*, Environmental Science & Policy, Elsevier, Vol. 62(C), pp. 120 - 122, Berlin

Villa M., (2018), *Città Globali e la Sfida dell'Integrazione*, Ledizioni, Milano

Ward S., (2016), *Urban Memory and Visual Culture. Framing the Asynchronous City 1957-2012*, Amsterdam University Press, Amsterdam

https://www.thf100.de https://www.thf-berlin.de

https://www.berlin.de/ba-tempelhof-schoeneberg/ Berlin Municipality: https://www.berlin.de https://www.wipperfuerth.de/index.html https://www.kms-sonne.de https://www.kms-sonne.de https://www.schillerpromenade.berlin https://www.schillerpromenade.berlin https://www.berlin.de/sen/sbw/ https://www.tempelhoferfeld.de https://www.nachhaltige-erneuerung.berlin https://www.destatis.de/DE/Home/_inhalt.html

Where not specified, images are made by the author.

SITOGRAPHY

CREDITS

Dicembre 2023

Un particolare ringraziamento va al Professor Sampieri, che è stato una guida preziosa lungo l'intero percorso che, nonostante le difficoltà riscontrate e i momenti di sconforto, è stato sempre fonte di incoraggiamento, offrendomi supporto in ogni momento. Grazie.