





Tomáš Rausz 2024

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Carpathian - Gateway - Bratislava

Three Following challenges for architecture and urbanism have been omnipresent in 2023:

The need to inhabit the planet in ways responsible to the natural ecosystem, global climate and humanity. Creating a mind-shift from comfortably-traditional to innovatively-sustainable. The emergence of global crises that rapidly require revamping of the environments we are creating for work, education, commercial and social life. A large IT company is establishing its Headquarter Campus on a former military hospital ground at the gateway between the city and the natural reserve around Kamzik mountain. The campus will house more than 1000 employees together with a mix of residential, commercial, event and sport programs. The ambition to create one of most innovative and sustainable campuses is envisioned to bring benefits not just its occupants but also wider public.

The large investment is seen as a highly beneficial development which will bring life to a quiet part of the city, but as a result will present new challenges to the surrounding area ranging from extra footfall to traffic overload in an already overstressed district. The popular recreation area Zelezna Studienka, which is in effect the Small Carpathian gateway, already struggles with recreational crowds. Visitors traditionally come by car (which is the most convenient yet most polluting form of transport). Eventhough the City tries to shift this preference towards public transport, by creating TIOP Zelezna Studienka, at this moment it has barely been seen as a viable replacement. The popularization of this area has to be carefully planned in order not to overload its facilities and disrupt its environment.

We propose to explore a brief from two directions:

Half the program is a real physical project, dealing with the challenges of connection between the site and adjacent recreational area with the city and wider context. In this respect it will be necessary to re-visit they current amenities and functions within the area and suggest solutions for enabling creation of world class recreational gateway.

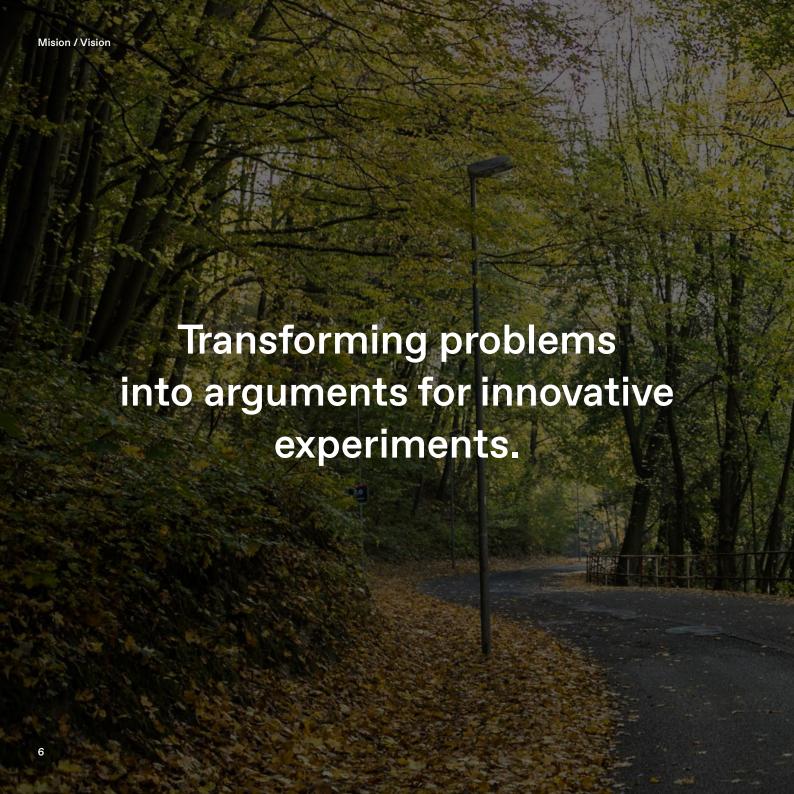
The other half would contemplate an ideal connection scenario within the realm of alternative reality. Students are to imagine that cars have never been invented and people have never experienced a need for this mode of transport. The task would be to explore possibilities and impacts on local urbanism and how those learnings could be implemented into the real world.

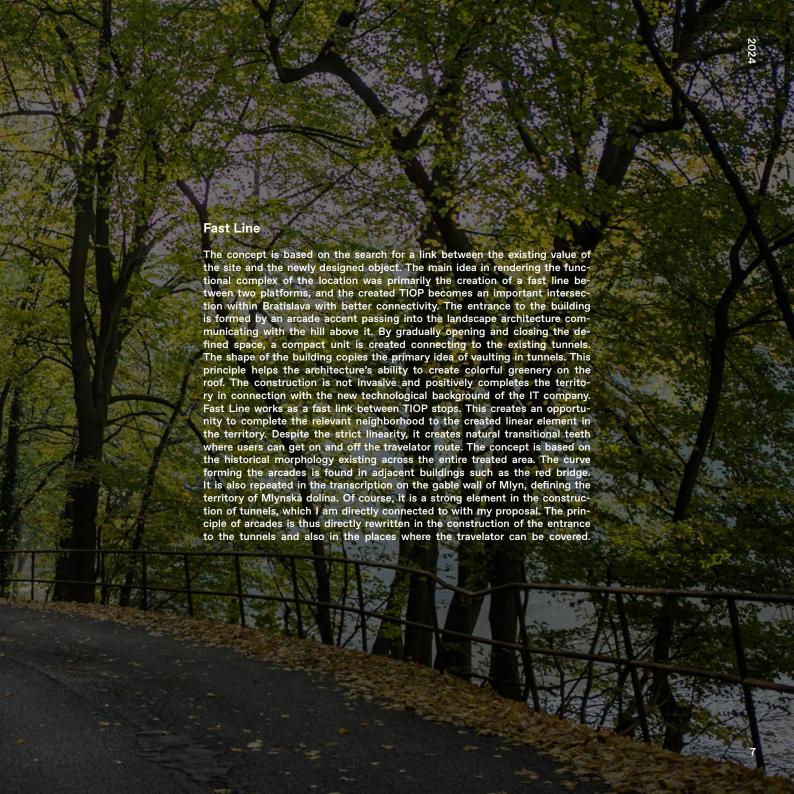
The studio will be run together with a representative of Bjarke Ingels Group BIG:

Matthew Oravec, Ioanis Gio

And supported by INFLOW

Jan Baska, Michal Rachela, Andrej Boros





Project Description

The mass is formed by the expansion and subsequent division of the basic shape of the tunnel. The operation functions as a stop for tiop users. It starts with a shelter and crossing at the Lamač road. It continues as a long line crossing the territory towards the entrance to the tunnels.

It contains primarily four functions. Prvov is a bakery that directly communicates with the function of the cafe opposite. Two separate areas ensure the differentiation of the offered products and overall speed up the waiting time when ordering goods. As part of the operation, takeaway also operates on the principle of mobile ordering. In the entrance part of the tunnel, there is an entrance to the museum with a shop.

Subsequently, the building branches into three wings of tunnels. In the west wing there are leasable warehouse spaces. There is an escalator route in the central corridor that connects the area with TIOP platforms. In the eastern part, the branch turns into a continuous museum communicating with the route of the proposed travelators. The topic was transport solutions. The investor has been fighting for a long time with the possibilities and potential of creating a high-quality TIOP within the territory.

Bratislava has high-quality transport hubs. The connection of the train station, bus, and trolleybus can be very beneficial as it creates an intersection between three different types of transport. The vision of the Innovation District necessarily requires a significant traffic point to ensure accessibility.

ANALYSIS



History

Patrónka

Patron - bullet - This area was named after old Juraj Roths bullet factorry and it had been called Westend or Westende by germans until 1940-50.

Mlynska dolina

In the past small river Vydrica defined this part of city. It is named by 9 water mills which worked until 1960. These days only some of those exist and one had been changed into villa by Enea Lafranconi. This area has become home for majority of the students studying in the city.

Surrounding Cities

Prague - 329km Northwest Warsaw - 678km Northeast Vienna - 78km Southwest Budapest - 161km Southwest



DUBRÁVKA





SHOPPING

MOKROHÁJSKA SCHOOL

> SAV CAMPUS

BRATISLAVA

ŽELEZNÁ

STUDIENKA

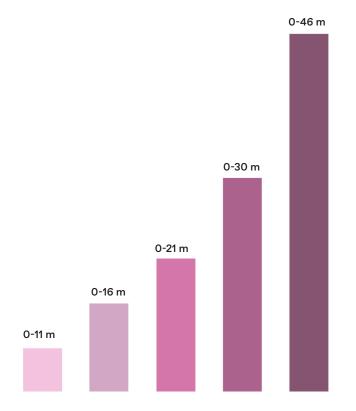
CAMPUS

STUDENT HOUSING MLYNSKÁ DOLINA

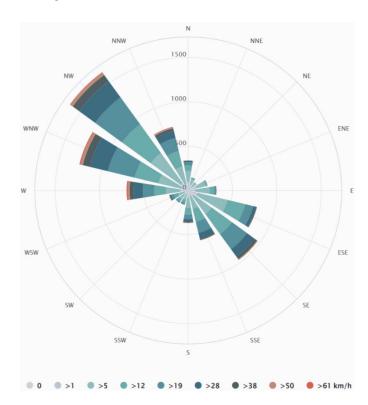




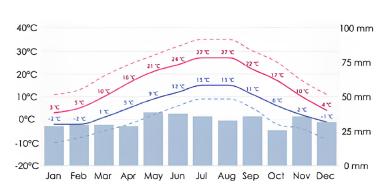
Height Desription



Prevailing Winds

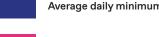


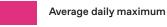
Climate Details











Carpathians

Geomorphologically, the Little Carpathians belong into the Alps-Himalaya System, the Carpathian Mountains sub-system, its province Western Carpathians, and its subprovince the Inner Western Carpathians.

Cold nights

Hot days



Land Relations + Demographics

LEGEND

(_)

Key Plots



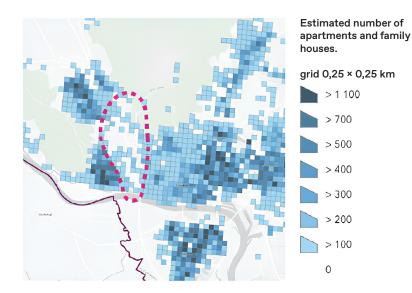
Private



Natural Barriers



Others (SR, UNIVERSITY, ESET)



Demographics

According to the 2001 census, the city had 428,672 inhabitants (the estimate for 2005 is 425,459).

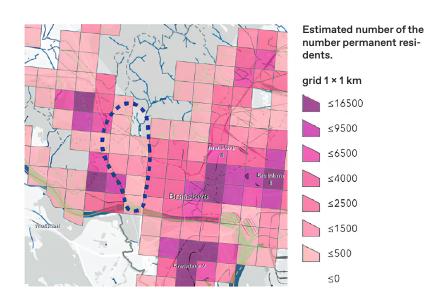
The average population density was 1,157 inhabitants/km2 (2,997/mi²).

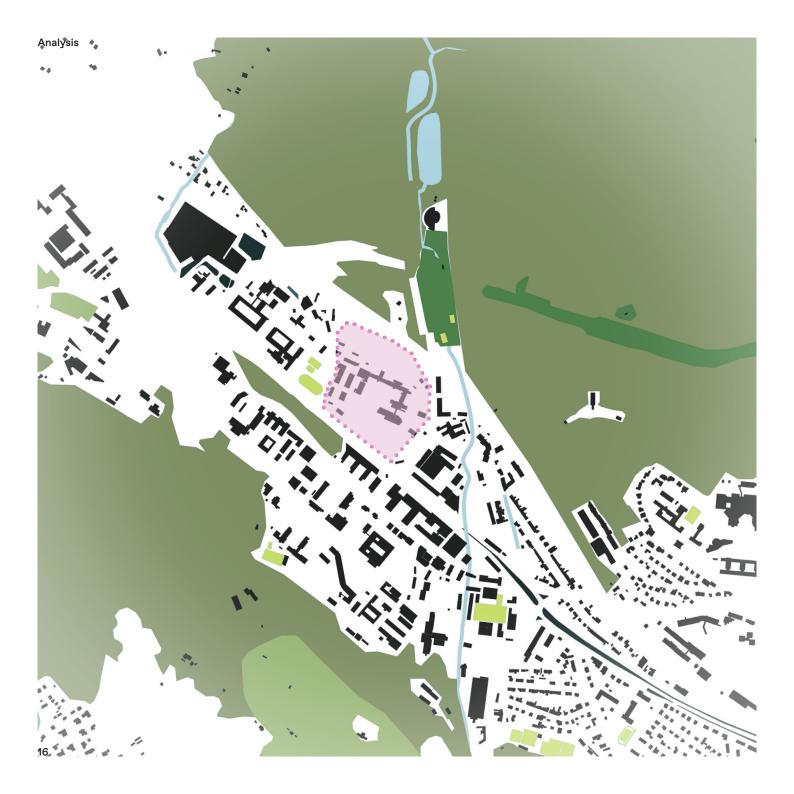
Population

The most populous district is Bratislava V with 121,259 inhabitants, followed by Bratislava II with 108,139, Bratislava IV with 93,058, Bratislava III with 61,418 and Bratislava I with 44,798.

The largest ethnic groups in 2001 were Slovaks with 391,767 inhabitants (91.37% of the city population), followed by Hungarians with 16,541 (3.84%) and Czechs with 7,972 (1.86%).

Other ethnic groups are Germans (1200, 0.28%), Moravians (635, 0.15%), Croats (614, 0.14%), Ruthenes (461, 0.11%), Ukrainians (452, 0.11%), Romani (417, 0.08%), and Poles (339, 0.08%).





forest, city greenery, zoo, recreation, sport, water elements

Areas



Forest



City Greenery



ZOO

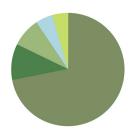


Recreation / Sport



Lakes and Rivers

Summary



70% For 10% C 8% Z

Forests City Greenery ZOO

ZOC

6% Recreation/Sport 6% Lakes and Rivers









Cable Cabin

Forest Lake

Bicycle Paths

Forest Valleys

Description

Most of the greenery in developed area is defined as forest. This also includes recreational zone with forest character. In the zone of campus site there is area of greenery expanding from the top part of the site. Small river also crosses developed area but it is not significant. Goal in final proposal is to recreate this small water element and bring recreational lake into the site.



Comunications

Sorting and analysing main connections and comunications.

LEGEND



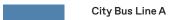


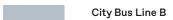




Highways

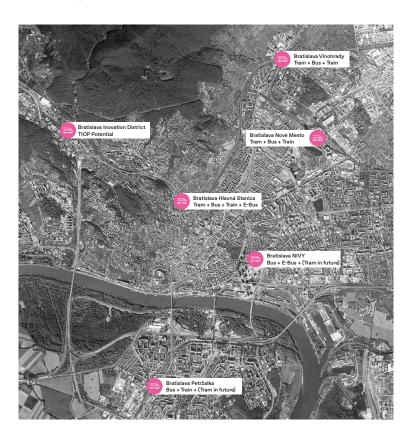








TIOP - Transportation Connections



Innovation District

There is an huge ambition of creating strong Innovation district in Bratislava. By connecting SAV Campus, STU University campus and big company headquarters like ESET or Innovatrics, we can create functional zone with simmilar functions. This could lead to better cooperation and comunication in between companies and university segments.



Height Difference

Steep terrain cutting our site is one of the biggest problems of this developed zone. Problematic acessibility for pedestrians and other forms of transportation.



Fragmentation

As this area developed on connection of different city parts, there is no rational system in positioning transportation points. This creates problematic connection with city, but also developed zone.



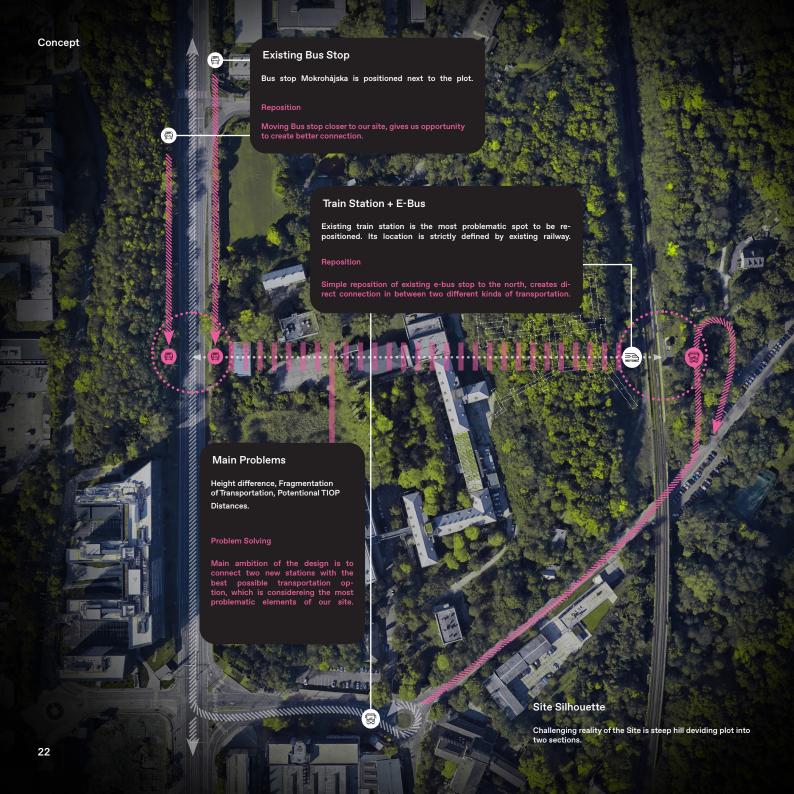
Big Distances

Positions of public transportation stops, are in very uncomfortable distances in between each other, which makes it disfunctional.

20 Main Problems Summary

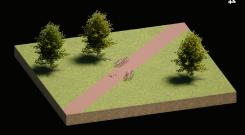
CONCEPT











Cars

Speed				
Effectivity				
Cost				
Comfort			П	

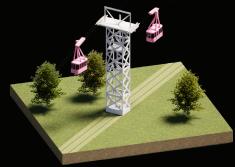


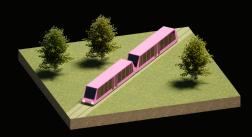
Speed	
Effectivity	
Cost	
Comfort	



Speed	
Effectivity	
Cost	
Comfort	







Bus

Rocket

Speed Effectivity

Cost Comfort Cable Cabin

Speed	
Effectivity	
Cost	
Comfort	



Light Rail







Speed
Effectivity
Cost
Comfort

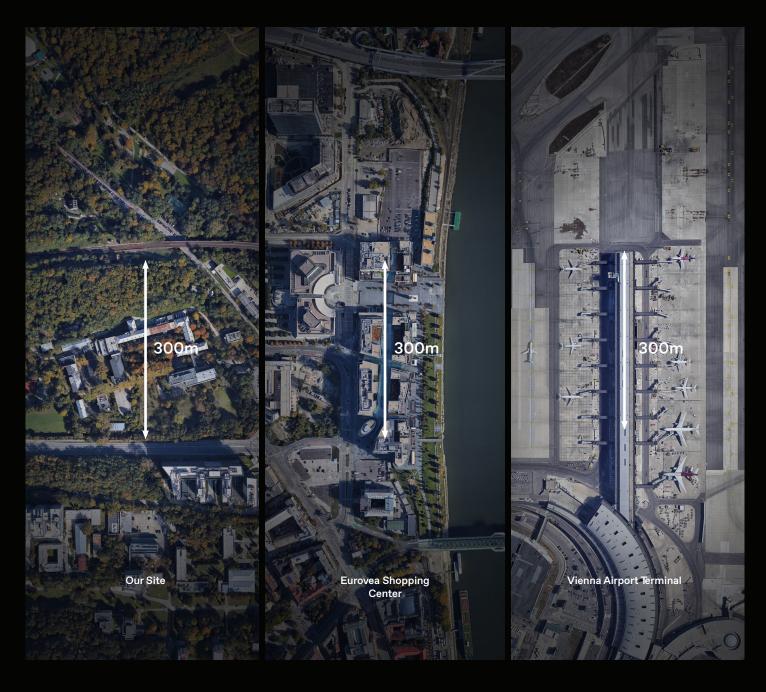




Speed	
Effectivit	y
Cost	
Comfort	

Teleport

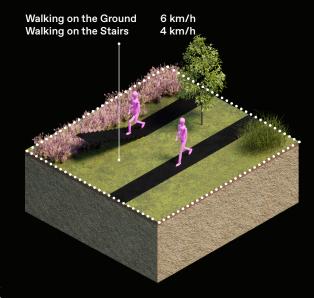






Concept

Average speed Average additional speed Final average speed 300m / 3,36 min 300m / 2 min 300m / 1,17 min



Travelator Speed Escalator Speed

10 km/h 8 km/h

Walking on the Travelator Walking on the Escalator

16 km/h 12 km/h



Summary

Average speed Average additional speed	5km/h 9km/h
Final average speed	14km/h

Speed increase on 300m:

3,5 min → 1,2 min

ARCHITECTURE



Site History



Red Bridge Train Station Mills

Existing Underground



Middle Corridor Underground Art Raw Materials

Underground Entrance



Harry Potter Ministry of Magic

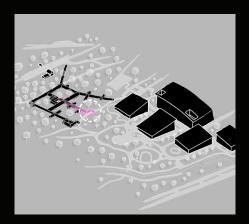
Bratislava Železná Studnička

Lord of the Rings Moria Entrance

Underground Inspiration

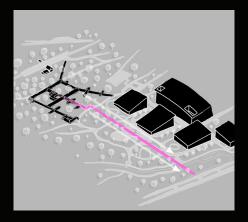


High Ceilings Arcades Skylights



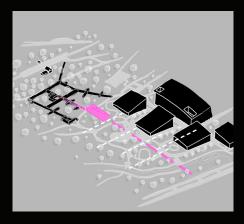
Tunnel expansion

The beginning of the mass becomes the central entry into the existing tunnels. The subsequent expansion creates the primary mass defining the overall approach to the urbanism of the territory and to the creation of the shape of the building.



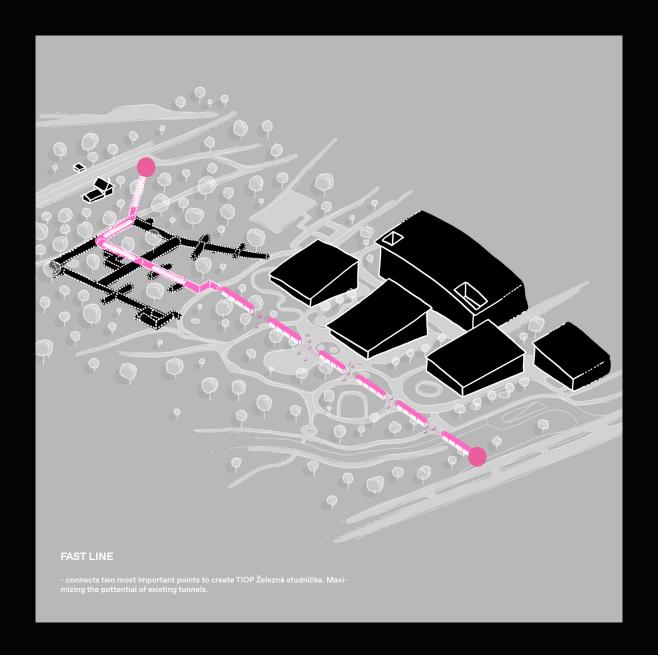
Fast line

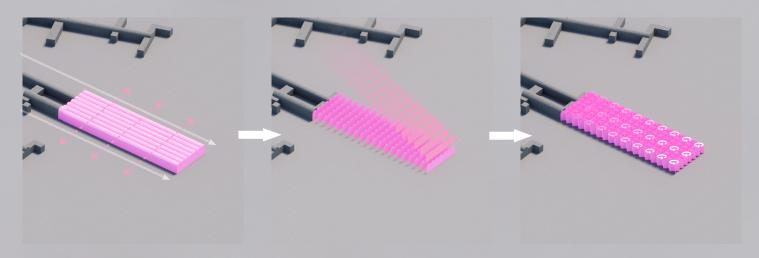
By connecting the two main points in the territory, the Fast Line is created, which serves as the primary communication between the stops at Lamačská cesta and the railway station.



Division

The mass is intersected by the routes emanating from the area, natural elements such as hills, river and greenery in the landscape, with continuity to the existing connection to the surrounding buildings and urbanism.





Multiplying the mass of the tunnel

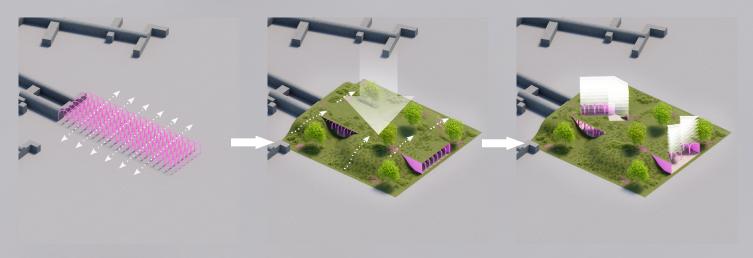
Extending the basic shape of the tunnel and creating a connected unit.

Cutting mass into segments

By creating a number of cross-sections, arcades are created as a basis for the construction of the building.

Animation

By rotating, the arcades turn into a modular system of a vaulted structure, where the element of the curve in the ceiling stands out strongly.



Opening

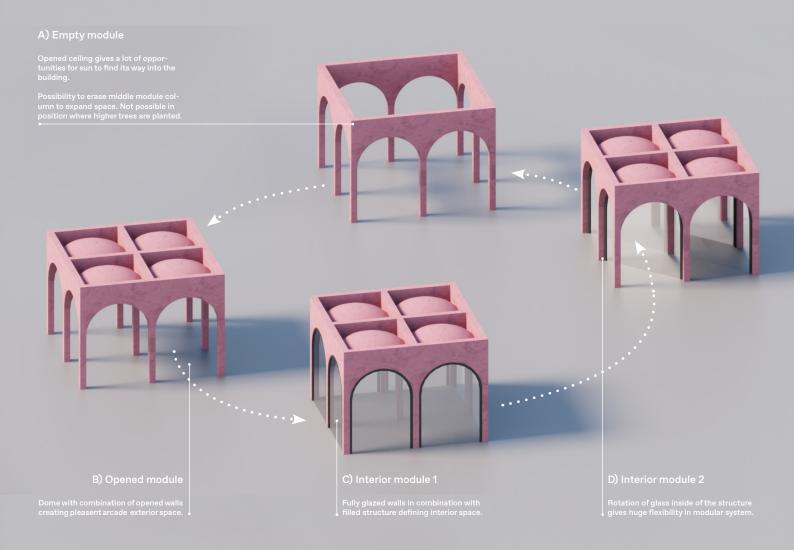
By completely opening the walls, a simple, pragmatic skeleton is created, which is the ideal member of a segmented building

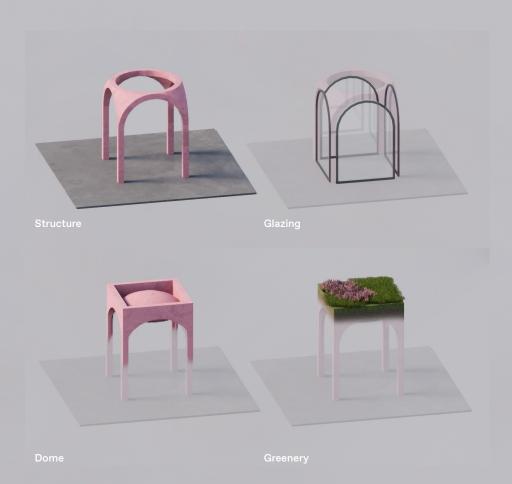
Landscape

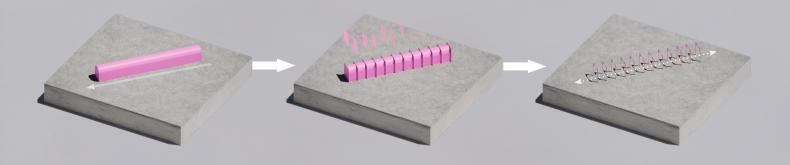
Greenery flows through the building from the north side, and a meadow surrounds the side construction on the west side of the facade.

Atrium

By omitting the modules, an atrium effect is created and thus light reaches the nearest spaces.







Tunnel expansion

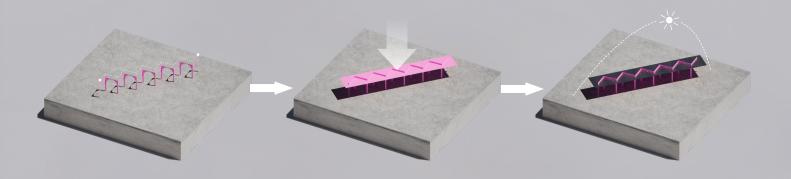
Extending the basic shape of the tunnel and creating a block defining the subsequent usable area for travelers

Division of mass

Dividing the mass into individual segments by simply cutting in the vertical direction.

Arcades

A cutout of the original mass, leaving the elements that define the size of the individual segments.



Rotation

Ensuring stability and continuity effect. Construction with

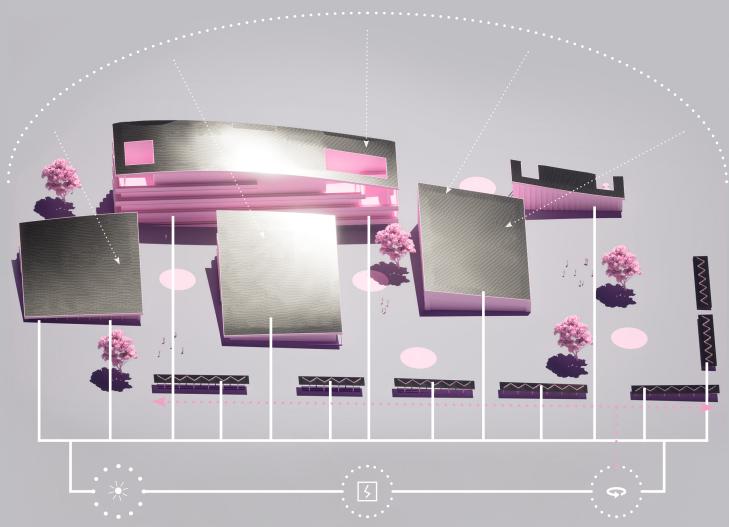
Roofing

A simple steel self-supporting plate cutting zig-zag through

Solar panels

Driving travelators on a sustainable ecological basis and thus on the principle of solar roof panels





Collecting Energy

Campus is collecting huge amount of energy by using it solar panel roof.

Storing Energy

Such amount of energy needs to be stored to reduce waste of energy generated in sunny days.

Active Storage

Travelator also creates its own energy, but also uses energy waste collected by Campus roof.

MASTERPLAN

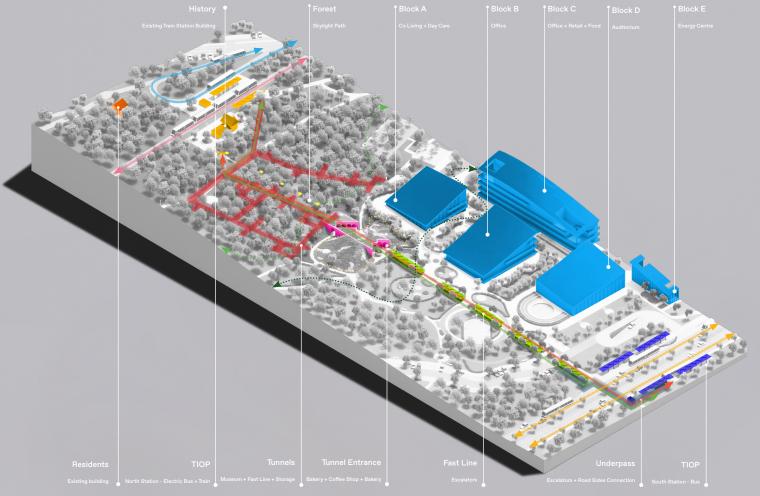




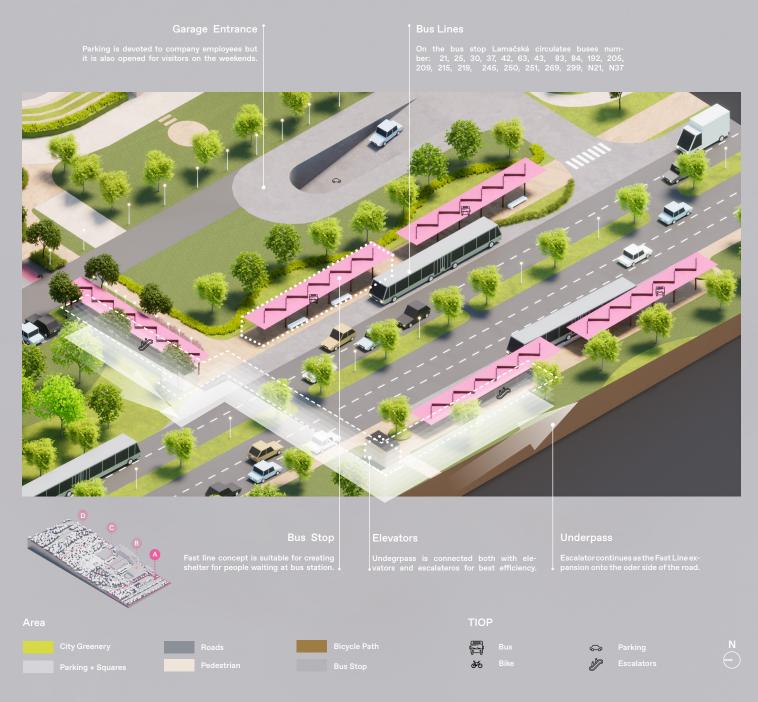


Axonometry









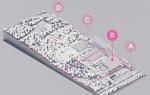
Central Rings

Fast line spills out at main connection points and it creates small plazas for people to enter

Connectivity

Whole area is interconnected with a lot of pedestrial paths and roads cutting trough plazas and greeners





Park and Greenery

Greenery concept is based on gradient in between forest and city greenery. This gradation creates natural connection in between nature and city .

Sport and Recreation

Sport court from original masterplan keeps its function and it also becomes part of the Fast Line.

Area







Functions



Sport



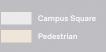
Bike















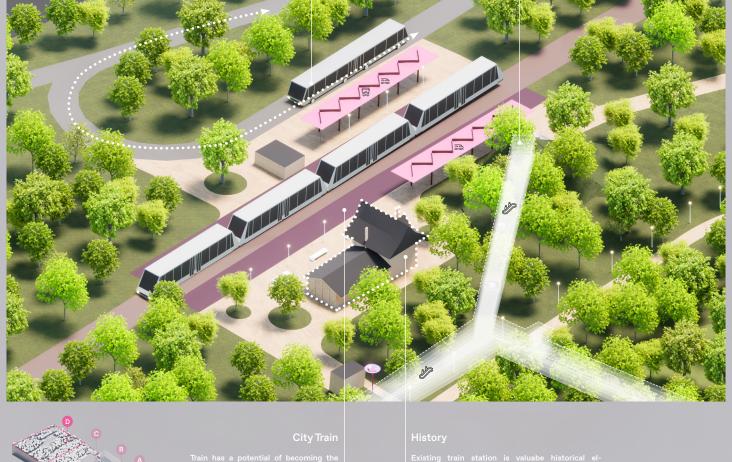






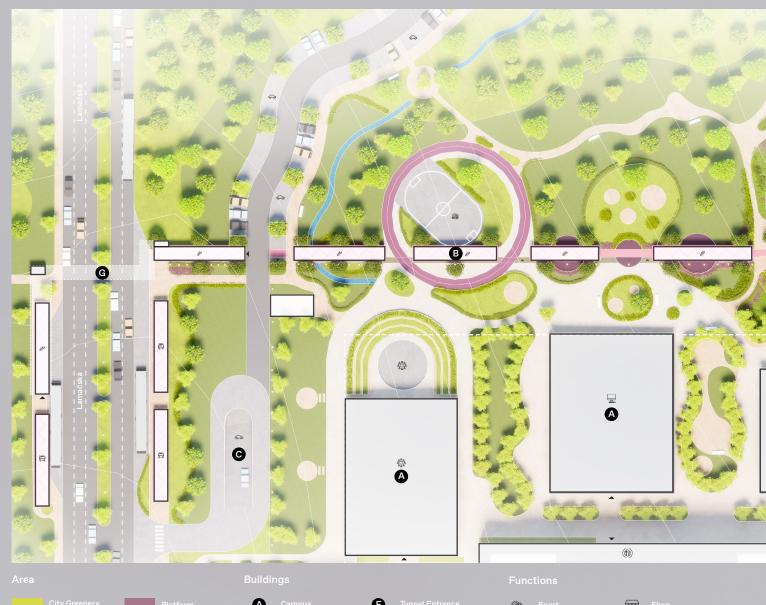












A 翻 8 0 0 ₩



TIOF



Bus



Electric Bus



Bike



Escalators



Parking

Masterplan

Area was design to complete existing urbanism of Campus and existing structures next to developed zone. Creating ma composition ax is helpful in closer definition of whole zone functions.

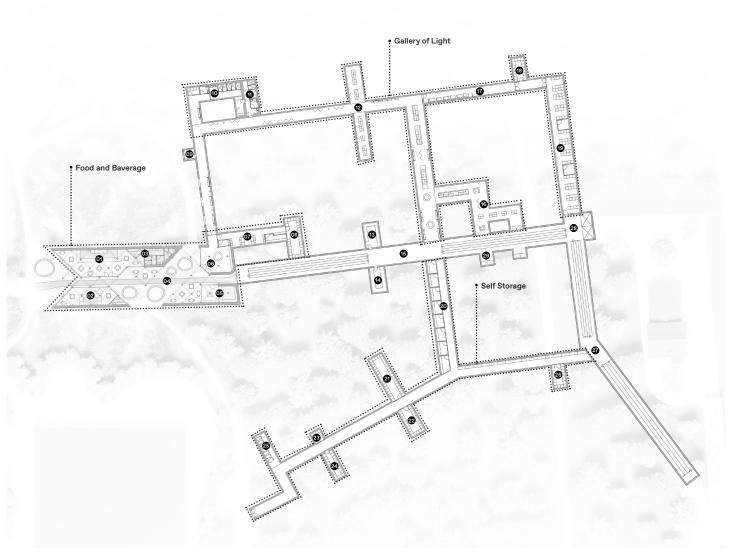


100m

50m

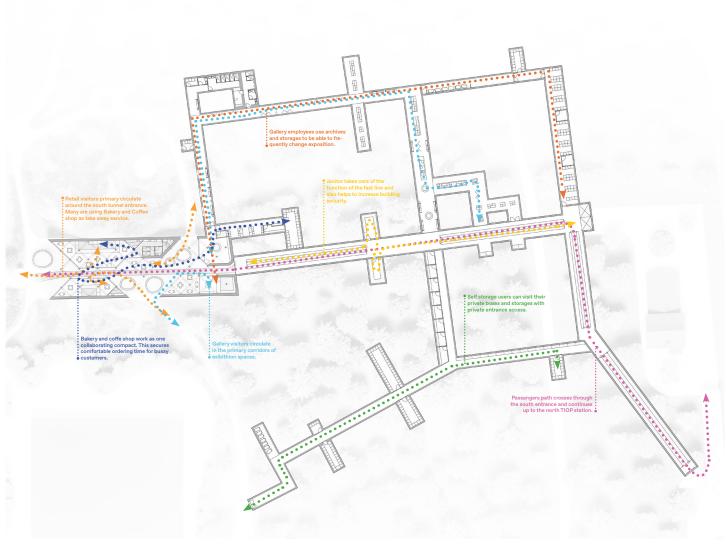
10m

Floorplan



Floorplan

0 Coffee shop Gallery shop Hygiene Fast line corridor Self storage units Cart zone Bakery Gallery entrance Hygiene Exposition B Self storage A Self storage E Hygiene Bakery storage + tech Exposition Cart zone Self storage B Fast line corridor 04 Elevator hall Atrium Coffee shop storage Technical Storage Self storage C Back entrance Technical Archive Self storage D Vending machines 52



Users







Retail Visitor



Gallery Visitor



Storage Visitor



Retail Employee



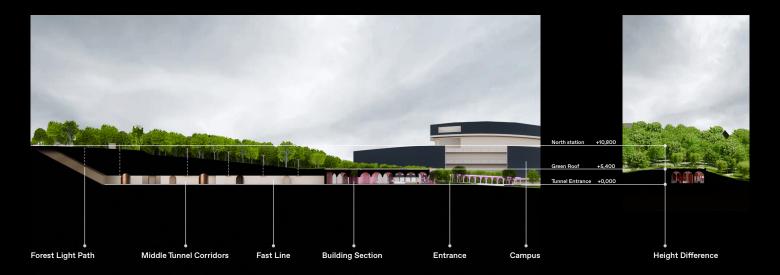








Sections





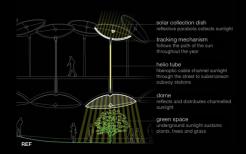
Description

Combination of pillars, domes and glazing in two directions creates rational and flexible scheme. Main height difference of the site is overcomed in existing tunnels by using stair case and transforming it in Fast Line element.









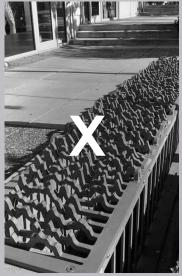
Lowline NEWYORK

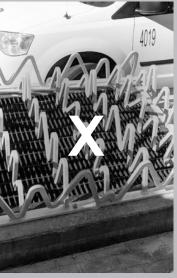
In July, the New York City Economic Development Corporation (NYCEDC) approved the development of the Lowline, soon to be the world's first underground park. In a few years you'll be able to walk into an abandoned Manhattan trolley tunnel filled with exotic flora from around the world, all sustained by natural sunlight channeled into the cavern by an intricate arrangement of solar collectors, mirrors, and a transparent tube system. Conceived by James Ramsey and Dan Barasch, the Lowline collects light at street level by using a system of mirrors—similar to concentrated solar power mirrors—that pivot and rotate to follow the sun's journey across the sky.

57

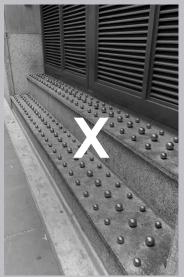
Hostile design

Negative References









Bench Spikes

Air ventilation barie

Pedestrian bari

Shopfront barier

Positive approach









\ lot of light

Visible security and monitoring

Classical Mus

One Continual Corridor

VISUALS















Adjaye associates, the architecture firm led by David Adjaye, has completed a groundup retail development adjacent to the beverly center in los angeles. The project, which is the firm's first in LA, is defined by its use of tinted concrete. 'there are fashion stores that are made with so many materials, and so much waste; david adjaye told surface magazine in an in-depth article on the project. I wanted to see if I could just use one colorway for the primary palette as a background to the multi-colored clothes and merchandise featured in the store.



Snøhetta Aesop store in London's Chelsea

Twelve rose-tinged clay arches fan out over a huge stainless-steel sink in this Snøhetta-designed Aesop store in west London, designed in tribute to Brazilian modernist Oscar A large column set in the centre of the 108-square-metre shop dictated the starting point of the design for Snøhetta's Oslo office



Villa Berg / R21 Arkitekter

The house in Nils Lauritssøns is located on a narrow plot in a residential area on Berg in Oslo It is placed in a secluded position, withdrawn from the road. The building has a homogeneous, clear, and precise shape. It follows the rhythm of the neighboring houses in the area with a narrow facade facing the road.

A long body takes advantage of the sloping terrain on the site. The narrow building volume contributes to shaping a private, enclosed outdoor space in-between the neighboring houses The courtyard is given its form by encircling brick walls, an outdoor kitchen, and a pool.





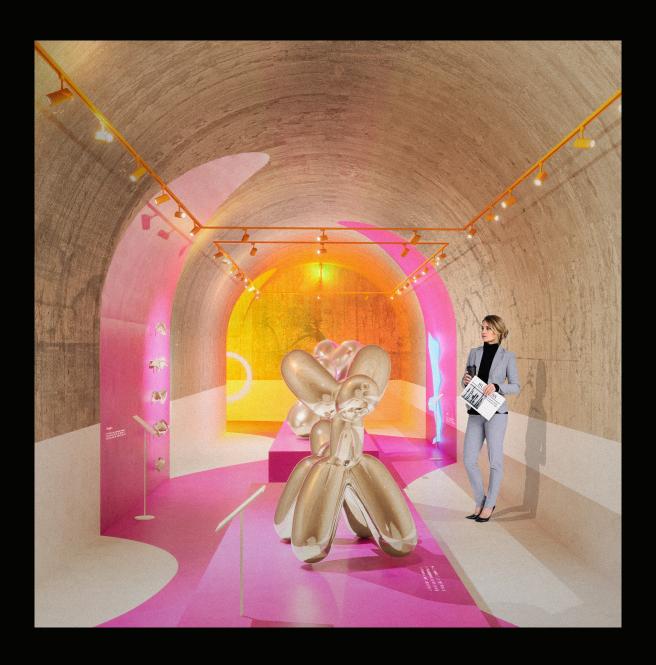




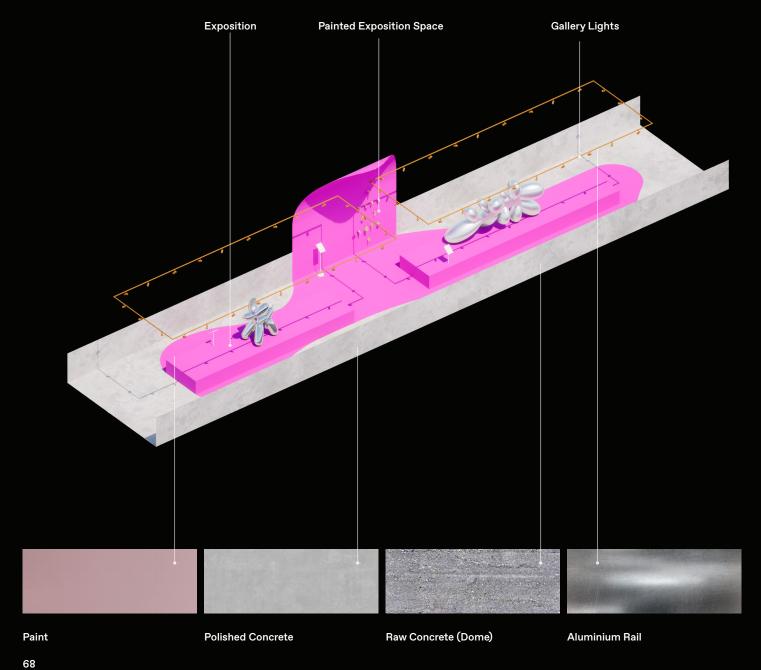


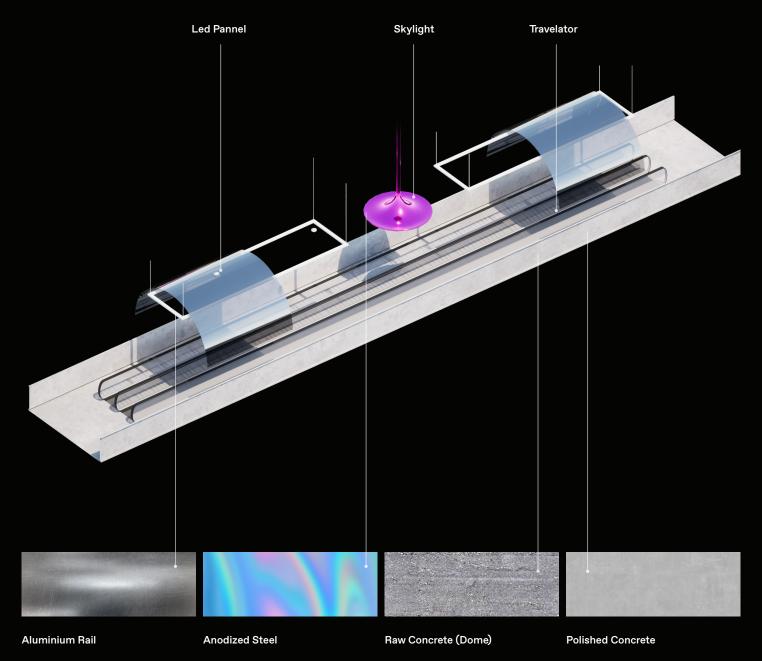
Before Before

67



After







70 Before







Take Away Strategy

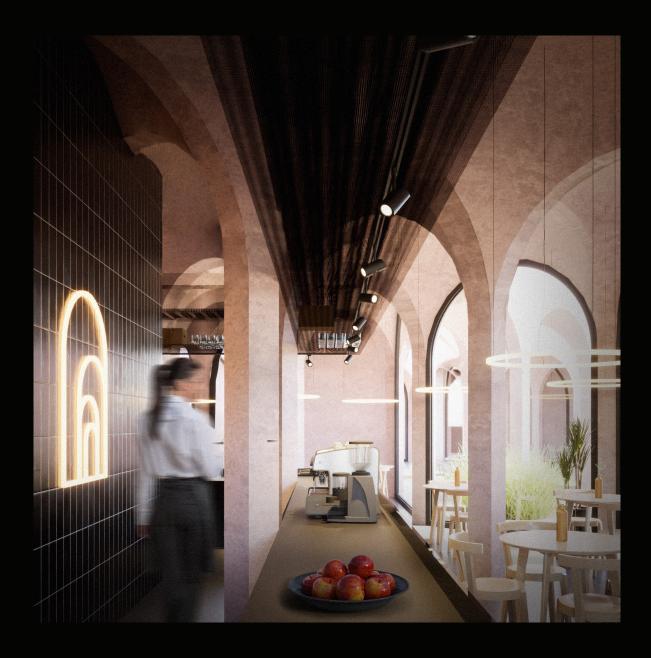
The location of the cafe is on a busy traffic route. The main requirement is to ensure the minimum waiting time for the ordered product.

The online ordering method allows you to pick and order your favourite beverage, and be ready to go while you pass through the Fast Line.



Visuals





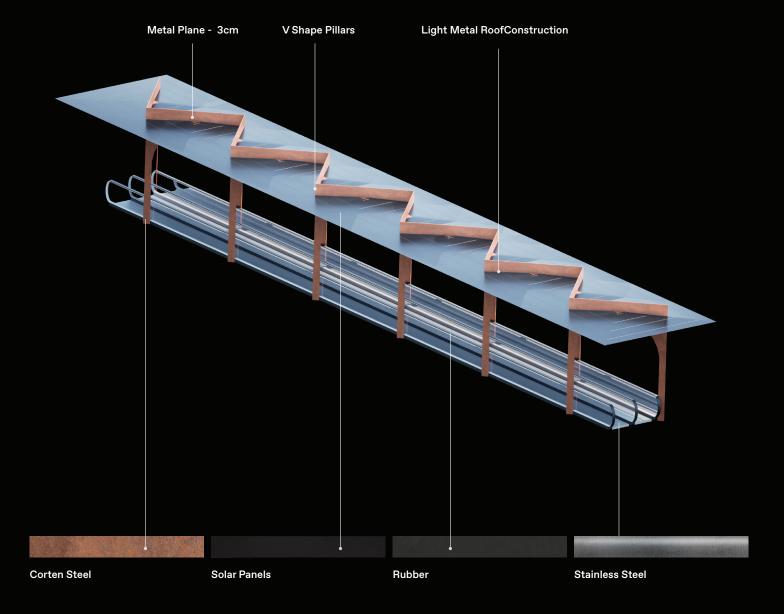


Colaboration Strategy

The cooperation of two services working as one unit is essential at the speed of orders. Before entering, the client chooses the type of service he is looking for and has the opportunity to choose a service, which rapidly decreases waiting time.



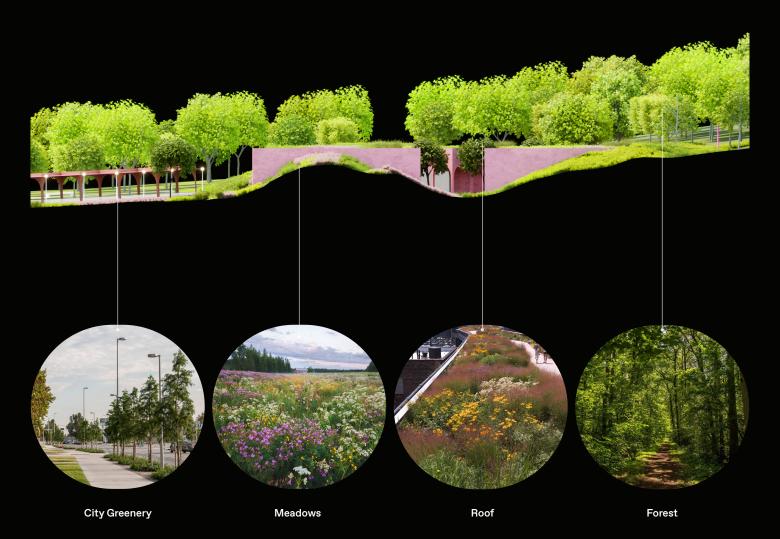




View C

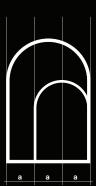


View A













MODEL

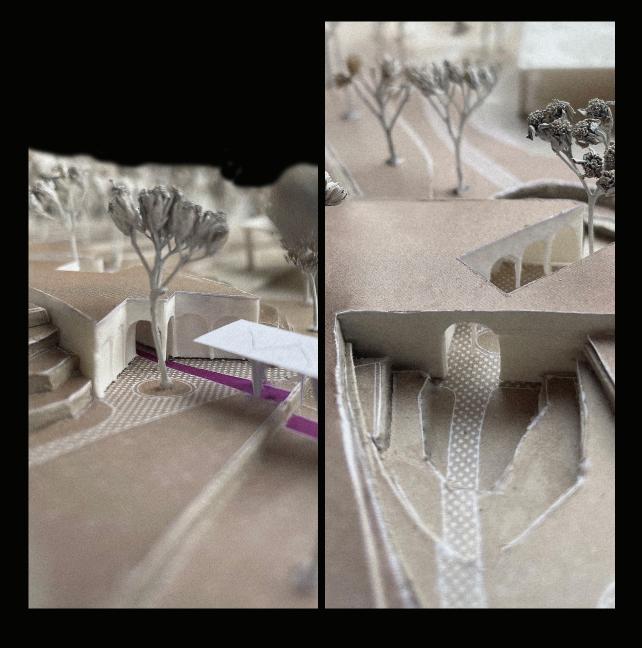


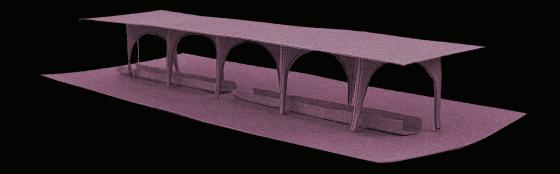


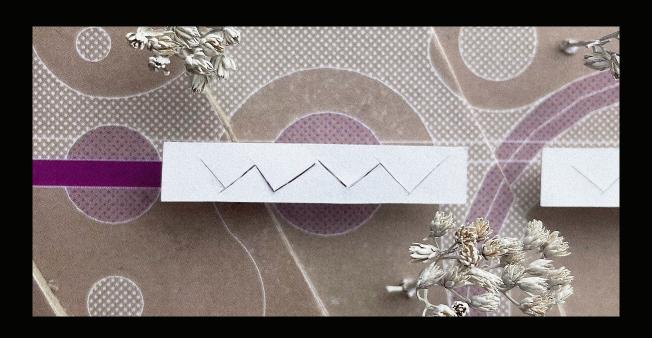
















Epilogue

An architect performs a balancing act on the edge of three worlds. One of which is his own, which is the world of creativity, the second realm is the constant struggle between form giving and functionality - the technical issue of his creation. The third and final intersection is the most distant and challenging realm of business and empathy - and that is the world of our clients. The problematic combination of these three segments is what makes our position many times unbearably difficult. We put our heart into creating art, but the final creation ends up being used by someone else, who can either understand and appreciate it or destroy it. Running in circles of intellectuality can be crucial for our best attempts to create something beautiful. And as in the past simplicity evolved in pursuit of creating something incredibly complicated as universe yet simple as one atom, our joy is in mimicking nature in its very nature. Each of us, no matter if we love kitsch or classic art, we once were children. Everyone can understand what the flower or house or car or square or circle is. The power of collective understanding is placed in simplicity of our concept. Our goal should be to make things easy to understand because when its simple, it becomes valuable, because most people can own it, and give it its value. Without understanding there is no value in art. The paper which carries Van Goghs watercolours burn the same way as the one you throw into fire after reading news from it. Alvar Alto once said that words of architects are useless. Simple pictures and shapes are the language of all and simplicity in understanding is what creates our humanity.

Special Thanks

Matthew Oravec, Ioanis Gio , Jan Baska, Michal Rachela, Andrej Boros



